

# Mothers' attitudes to and experience of breast feeding: a primary care study

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**SUMMARY.** This study investigated the attitudes to breast feeding of women registered with 24 general practitioners in Nottingham. A total of 514 women were interviewed in the antenatal period and then followed up at six weeks and six months after the birth of their child. Seventy per cent of the women planned to breast feed their baby, 23% planned to bottle feed and 7% were undecided. Only 26 women changed their plans. Although 73% of the women interviewed began breast feeding, this had fallen to 49% by six weeks and 26% by six months. Logistic regression analysis showed that multiparae who had bottle fed or stopped breast feeding their previous child during the first six weeks were 5.15 times more likely to stop breast feeding in the first six weeks, than those who had breast fed their previous child for six weeks or more. Primiparae in social classes 3M, 4 or 5 or who were unemployed were 3.68 times more likely to stop than women in higher social classes, while those who said they had considered bottle feeding were 2.40 times more likely to stop. Most women gave an inadequate milk supply as a reason for stopping, but sore nipples were also a problem in the first six weeks. Of all the women who had started breast feeding 46% felt they did not have enough milk at some stage and despite the finding that 49% of those who sought advice from a health professional were advised to feed more often, 42% said they had been advised to give bottle feeds.

The primary care team is likely to be more effective in promoting breast feeding if it concentrates on trying to help those women who want to breast feed. This study has shown how those women who are most likely to have difficulties can be targeted during the antenatal period, allowing the primary care team to make a greater contribution to helping women breast feed.

**Keywords:** breast feeding; infant feeding practices; patient attitude; patient beliefs; health professionals role; primary health care team.

## Introduction

INFANT feeding practices have varied over the years. Social pressures and advertising have played a role in shaping women's decisions about feeding their children. So too have professionals, whether by prescribing rigid feeding regimens, or more recently by encouraging a return to feeding on demand.

In 1748, William Cadogan's *Essay on nursing and the management of children from their birth to three years*<sup>1</sup> had a profound influence on infant feeding practice. At that time, women commonly gave the child a purge of sweetened oil or butter for the first few days of life, and it has been suggested that Cadogan's advocacy of colostrum as the best first milk played a major role in reducing early infant deaths.<sup>2</sup>

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In the late 1940s, three surveys reported breast feeding rates of 57%, 42% and 48% at three months,<sup>3-5</sup> but by 1959-60, only 29% of women in Nottingham were still breast feeding their child at three months.<sup>6</sup> As more women turned to bottle feeding, the disadvantages of the high concentrations of sodium and proteins in the early formula feeds became apparent and prompted the Committee on Medical Aspects of Food Policy<sup>7</sup> and the World Health Organization<sup>8</sup> to advocate breast feeding in 1974. Subsequent national surveys showed a rise from 24% of women breast feeding at six weeks in 1975 to 42% doing so in 1980 and slightly fewer (40%) in 1985.<sup>9-11</sup>

There is good epidemiological evidence that breast feeding protects against infection in developing countries, but in developed countries, the evidence is less clear,<sup>12</sup> with some studies showing no association.<sup>13</sup> However, a carefully controlled study in Dundee recently reported that breast feeding was associated with fewer episodes of gastroenteritis and, to a lesser extent, respiratory infections.<sup>14</sup> It has been claimed that breast feeding can reduce the incidence of atopic conditions, although this has been disputed.<sup>15,16</sup> The Dundee study showed no such reduction, possibly because women need to exclude allergens from their own diets if they want to reduce the risk of atopy in their child.<sup>17</sup>

Various authors have reported that socioeconomic and other factors are associated with choice and outcome of infant feeding,<sup>14-20</sup> but it is midwives and health visitors who have the main responsibility for translating these findings into practical advice. Groups like the La Leche League and the National Childbirth Trust and books such as *Breast is best*<sup>21</sup> also provide invaluable support for women wishing to breast feed.

This study aimed to investigate why women chose to breast or bottle feed, how long they breast fed for and why they stopped, focusing in particular on the role of health professionals in advising them. Whereas most studies have recruited women in hospital, or from birth notifications,<sup>7,9-11,19,22</sup> this study was organized prospectively, to avoid the initial experience of infant feeding modifying the women's responses. Wright and Walker<sup>22</sup> have suggested that midwives can predict those primiparae most likely to stop breast feeding and it was hoped to investigate this in the primary care setting.

## Method

Pregnant women who were registered with 24 Nottingham general practitioners during the study period in 1983-84 were recruited to the study. The women were interviewed in the antenatal period at about 25 weeks gestation by their community midwife and then six weeks and six months after the birth of their child by their health visitor. Structured questionnaires were used which had been piloted in one of the practices. These included closed questions about women's social and family circumstances and how long they had breast fed for. Open questions were used for their choice of feeding method and the problems they encountered. The women's social class was coded by their partner's occupation, using the Registrar General's tables.

## Statistics

The chi square test<sup>23</sup> was used to determine which factors were significantly associated with women stopping breast feeding before six months.

These potential predictors were then considered further, using logistic regression, within the SPSS/PC+ package,<sup>24</sup> to determine which were most strongly associated with discontinuing breast feeding by six weeks. This allowed each predictive variable to be considered simultaneously and took into account the interactions between them. The analysis was done in stages and at each stage, the variable least strongly associated with stopping (using the Wald criterion<sup>24</sup>) was removed from the analysis, until all the remaining variables were significantly associated with stopping breast feeding at the 5% level. This process is called backward elimination.

## Results

A total of 514 women were recruited to the study and completed the antenatal interview — 491 (96%) were interviewed again at six weeks and 463 (90%) at six months (51 women had moved or were lost to follow up for some other reason). Of the 514 women 213 (41%) were having their first child and 301 (59%) already had children. At the time of the antenatal interview 83% of the women were married and a further 7% were living with the baby's father. The family's country of origin was given as the United Kingdom by 92% of the women. Sixty two per cent of the study population were over 25 years of age, compared with 57% of the birth notifications to the Office of Population Censuses and Surveys for Nottingham.<sup>25</sup>

### Feeding plans

By the time they were interviewed, most women had already decided how they would feed their baby. Indeed, 289 of the 514 women (56%) had made their decision before they became pregnant. A total of 359 women (70%) intended to breast feed, 120 (23%) intended to bottle feed and 35 (7%) were undecided. Only 26 women later changed their plans.

The reasons women gave for their choice of feeding method are shown in Table 1. Additionally, all the women were asked which type of feeding would be best for their baby. Of those planning to bottle feed 86 (72%) said breast feeding would be best, 21 (18%) said bottle feeding and 13 (11%) were uncertain.

### Duration of breast feeding

Although 358 of the 491 women interviewed at six weeks (73%) had begun breast feeding, by that stage, only 242 (49%) were

still giving any breast feeds. By six months, only 122 of the 463 women interviewed (26%) were breast feeding. Primiparae were more likely to attempt breast feeding than multiparae, but were less likely to succeed. Of the 205 primiparae interviewed at six weeks 165 (80%) had commenced breast feeding compared with 193 of the 286 multiparae (67%). However, at six months 42 of the 189 primiparae (22%) interviewed were still breast feeding compared with 73 of the 272 multiparae (27%).

### Factors involved in predicting who will stop breast feeding

The responses of women who intended to breast feed or were undecided at the antenatal interview were cross-tabulated with whether they were giving any breast feeds at six weeks. For the 178 primiparae the following responses were significantly positively associated ( $\chi^2 > 3.84$ ,  $P < 0.01$ ) with stopping breast feeding before six weeks: age 25 years or under; social class 3M, 4, 5 or unemployed; age of leaving school 15 or 16 years; having decided to breast feed during pregnancy, not before; having considered bottle feeding; having intended to breast feed for less than four months; and having been bottle fed themselves as an infant. For the 216 multiparae the same responses were significantly positively associated ( $\chi^2 > 3.84$ ,  $P < 0.01$ ) with stopping breast feeding except for being bottle fed as an infant. A further four responses also showed a significant association for multiparae: having a family who usually bottle fed; partner had a preference for baby to be bottle fed or was uncertain; fairly confident or rather anxious about breast feeding; and previous child bottle fed, or breast fed for less than six weeks.

Following logistic regression, two variables remained after removal of the variables which did not significantly contribute to predicting who would stop among primiparae: lower social class and considering bottle feeding (Table 2). For multiparae, the most effective predictor was how women had fed their previous child followed by leaving school aged 15 or 16 years and considering bottle feeding (Table 2).

Other measures of the effectiveness of a predictive tool are its sensitivity, that is the percentage of those who will stop that the test detects, and its specificity, that is the percentage of those who will continue to breast feed that the test excludes. These are shown in Table 2 for the predictors which the logistic regression analysis suggested were the most useful.

**Table 1.** Reasons given by women for their choice of feeding method.

Reason	% of women giving reason
<i>Women intending to breast feed (n = 359)</i>	
Better for baby	66
Natural	24
Convenient/easy	20
Emotionally satisfying	16
Breast feeding satisfactory previously	11
Cheap	9
Better for mother	7
Other	12
<i>Women intending to bottle feed (n = 120)</i>	
Disliked the idea of breast feeding	34
Convenient	30
Expected/past problems with breast feeding	25
Bottle feeding satisfactory previously	13
Personal preference	11
Other	11

n = total number of women in group. NB: Some women gave more than one reason.

**Table 2.** Effectiveness of predictors of stopping breast feeding by six weeks.

Predictor	Odds ratio <sup>a</sup> (95% CI)	Sensitivity (%)	Specificity (%)
<i>Primiparae (n = 178)</i>			
Social class 3M, 4 or 5 or unemployed	3.68 (1.44 to 6.20)	77	46
Considered bottle feeding	2.40 (1.23 to 4.70)	60	62
<i>Multiparae (n = 216)</i>			
Previous child bottle fed, or breast fed for less than 6 weeks	5.15 (2.53 to 10.66)	70	75
Age of leaving school 15 or 16 years	3.80 (1.60 to 8.99)	84	41
Considered bottle feeding	3.38 (1.62 to 7.02)	63	64

CI = confidence interval. n = total number of women considering breast feeding. \*Odds ratio is the probability that women giving the response shown will stop breast feeding by six weeks, compared with that of women not giving that response.

### Reasons for discontinuing breast feeding

Women who discontinued breast feeding were asked why they stopped (Table 3). The commonest reason given by the women, both during the first six weeks and subsequently, was that they had insufficient milk. Sore nipples, engorgement and other breast problems were common reasons for stopping in the first six weeks, but were less common later. It is also of interest that more women stopped because they themselves were ill than because their baby was unwell.

**Table 3. Reasons given by women for stopping breast feeding.**

Reason	% of women giving reason		
	Stopped before six weeks (n = 109) <sup>a</sup>	Stopped between six weeks and six months (n = 109) <sup>b</sup>	Stopped six months (n = 109)
Not enough milk	51	64	
Breast problems	22	10	
Feeding problems	15	14	
Disliked breast feeding	14	1	
Maternal illness	10	14	
Baby ill	6	5	
Social factors or planned to stop	6	34	

n = total number of women in group. <sup>a</sup>Seven women did not give a reason.

<sup>b</sup>Eleven women did not give a reason. NB: Some women gave more than one reason.

### Common feeding problems

All women who had given any breast feeds were asked about common feeding problems to determine their incidence and both the source and nature of the advice they received.

Of the 359 women who had begun breast feeding 166 (46%) had felt they did not have enough milk at some stage during the first six weeks and 56 gave this as a reason for stopping. When asked why they had felt they had insufficient milk 144 women (87%) said it was because their baby was unsettled, while 18 (11%) said their breasts had felt less firm and 17 (10%) were concerned that their baby's weight gain was poor. Seventy six of the 166 women did not know why they did not have enough milk but 24% felt they were tired or overworked.

Ninety six of the women who felt they had insufficient milk (58%) sought advice from the following professionals: community midwives (56 women), health visitors (53), hospital staff (16) and general practitioners (five). The advice they received was: to persevere or feed more often (47 women, 49%), to give a bottle feed as a supplement or substitute (40, 42%) and to rest or drink more (21, 22%). Eighteen women (19%) received reassurance or support and eight (8%) were given advice on breast feeding technique.

Of the 166 women who felt they had insufficient milk 85 (51%) gave bottle feeds in response to the problem. Of these 85 women only 38 (45%) were still breast feeding at six weeks, compared with 67 (85%) of the 81 who did not bottle feed.

One hundred and fifty eight women (44% of all those who began breast feeding) had sore nipples during the first six weeks and 21 gave this as a reason for stopping. Of the 158 women 134 (85%) sought professional advice — 77 consulted their community midwife, 46 hospital staff, 30 their general practitioner and 13 their health visitor. The advice they received was largely physical in approach. Ninety two of the 134 women (69%) were advised to use creams, 38 (28%) to use a disinfectant spray and

16 (12%) to use a breast shield. Other breast care was recommended to 15 women (11%), nine women (7%) were told to persevere or to feed more often and seven (5%) were given advice on feeding technique.

### Discussion

The results of this study may be of value to members of the primary care team. The finding that many women had decided to breast feed before becoming pregnant suggests that health professionals can have only a limited influence on women's choice. It would therefore seem sensible for midwives to concentrate on helping those women who want to breast feed.

Women who chose to bottle feed did so largely because they disliked the idea of breast feeding. However, of those planning to bottle feed 72% believed that breast feeding would be best for their baby. This suggests that professionals who want to overcome women's objections to breast feeding should promote it as natural and convenient, rather than just as better for the baby.

It is possible to identify women who are more likely to stop breast feeding. Multiparae who were considering breast feeding, but had bottle fed or stopped breast feeding their previous child before six weeks, were five times more likely to stop than those who had breast fed their previous child for six weeks or more. Primiparae in lower social classes were nearly four times more likely to stop than those from higher classes. The simple question 'Have you considered bottle feeding?' was also shown to be valuable and by asking it, 60% of the primiparae who would stop could be identified and 62% of those who would continue to breast feed could be excluded. It may not be possible for midwives to assign women to social class groups accurately without using the Registrar General's tables and therefore asking women whether they have considered bottle feeding may be more useful in routine antenatal care. However, the observation that social class was related to stopping breast feeding does have important implications for the allocation of resources and suggests that those organizing antenatal classes should target those in lower social classes. They should be offered education and encouragement, whether by giving them time to discuss breast feeding, providing literature or introducing them to other mothers through antenatal classes or a support group.

The rapid decrease in the numbers of women breast feeding in the first few weeks of the postnatal period and the observation that most women who discontinue do so because of a feeding problem suggest that women who want to breast feed need more help. Successful breast feeding can play an important role in the bonding process between mother and baby, but having to stop may undermine a mother's confidence with her child.<sup>26,27</sup>

Concern about inadequate milk supply was the commonest reason given for stopping breast feeding, but there has been some debate about what this really means.<sup>6,9</sup> The women in this study appeared to become concerned because their baby was unsettled, but that is not necessarily a sign of hunger. More controversially, Newson and Newson have suggested that women sometimes gave physical problems as a justification for stopping when the underlying reason was their ambivalence about breast feeding.<sup>6</sup>

In physiological terms, lactation is stimulated by the infant sucking at the breast; if the baby sucks for longer, the breast will be emptied more effectively, more oxytocin will be released and more milk will be produced. 'Not enough milk' can therefore be seen as a stage in the feedback between mother and baby. This concept may be the most important thing for health professionals to convey. However, the finding that 42% of women had been advised to give a bottle feed as a supplement or substitute would seem to undermine this. This highlights the

problems which can be caused by conflicting advice which could be avoided if primary care team members were to discuss their approach to common problems more often.

Although health professionals should encourage women to breast feed, women must be free to make their own decisions. Midwives, health visitors and general practitioners are likely to be more effective if they concentrate on trying to help those who want to breast feed. This study has demonstrated how those women who are most likely to have difficulties with breast feeding can be targeted during the antenatal period and offered more support in the first few weeks after the birth. By doing so it should be possible for members of the primary care team to make a greater contribution to helping women breast feed.

## References

1. Cadogan W. *An essay on the nursing and management of children, from their birth to three years*. London: Roberts 1748; 12-16, 28.
2. Fildes V. Neonatal feeding practices and infant mortality during the 18th century. *J Biosoc Sci* 1980; 12: 313-324.
3. Dykes RM. *Illness in infancy: a comparative study of infant sickness and infant mortality in Luton*. Luton: Leagrave Press, 1950.
4. Joint Committee of Royal College of Obstetricians and Gynaecologists and Population Investigation Committee. *Maternity in Great Britain*. London: Oxford University Press, 1948.
5. Spence J. *1000 families in Newcastle upon Tyne*. London: Oxford University Press, 1954.
6. Newson J, Newson E. Breast feeding in decline. *BMJ* 1962; 2: 1744-1745.
7. Department of Health and Social Security. *Present day practice in infant feeding. Reports on health and social subjects, no 9*. London: HMSO, 1974.
8. Twenty seventh world health assembly. *Part 1. Infant nutrition and breast feeding. Official records of the World Health Organization, No 217*. Geneva: WHO, 1974: 20.
9. Martin J. *Infant feeding 1975: attitudes and practice in England and Wales*. London: HMSO, 1978.
10. Martin J, Monk J. *Infant feeding 1980*. London: Office of Population Censuses and Surveys, 1982.
11. Department of Health and Social Security. *Present day practice in infant feeding: third report. Reports on health and social subjects, no 32*. London: HMSO, 1988.
12. Baucher H, Leventhal JM, Shapiro ED. Studies of breast-feeding and infections; how good is the evidence? *JAMA* 1986; 256: 887-892.
13. Rubin DH, Leventhal JM, Krasilnikoff PA, et al. Relationship between infant feeding and infectious illness: a prospective study of infants during the first year of life. *Pediatrics* 1990; 85: 464-471.
14. Howie PW, Forsythe JS, Ogston SA, et al. Protective effect of breast feeding against infection. *BMJ* 1990; 300: 11-16.
15. Matthew DJ, Taylor B, Norman AD, et al. Prevention of eczema. *Lancet* 1977; 1: 321-324.
16. Kramer MS. Does breast feeding help protect against atopic disease? Biology, methodology and a golden jubilee of controversy. *J Paediatr* 1988; 112: 181-190.
17. Chandra RK, Puri S, Hamed A. Influence of maternal diet during lactation and use of formula feeds on development of atopic eczema in high risk infants. *BMJ* 1989; 299: 228-230.
18. Hally MR, Bond J, Crawley J, et al. What influences a mother's choice of infant feeding method? *Nursing Times*. 1984; 80(4): 65-68.
19. Treherne J, Cullinan TR, Saunders DI. Determinants of infant feeding practice in east London. *Human Nutrition: Applied Nutrition* 1982; 36A: 281-286.
20. Winikoff B, Baer EC. The obstetrician's opportunity: translating 'breast is best' from theory to practice. *Am J Obstet Gynecol* 1980; 138: 105-117.
21. Stanway P, Stanway A. *Breast is best*. London: Pan books, 1978.
22. Wright HJ, Walker PC. Prediction of duration of breast feeding in primiparas. *J Epidemiol Community Health* 1983; 37: 89-94.
23. Matthews DE, Farewell VT. *Using and understanding medical statistics*. Basel: Karger, 1988.
24. Advanced statistics: SPSS/PC+ for the IBM PC/XT/AT. Chicago (IL): SPSS, 1986.
25. Office of Population Censuses and Surveys. *Birth notifications for Nottingham, 1983 and 1984*. Titchfield, Hampshire: OPCS, 1983 and 1984.
26. Newton N. Psychologic differences between breast and bottle feeding. *Am J Clin Nutr* 1971; 24: 993.
27. Klaus MH, Jerauld R, Kreger NC, et al. Maternal attachment: importance of the first post-partum days. *N Engl J Med* 1972; 286: 460.

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