PAPERS AND ORIGINALS

Further decline of breast-feeding

E EASTHAM, D SMITH, D POOLE, G NELIGAN

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Summary

In a personal survey, by structured interview, we have investigated some of the factors which led 100 healthy mothers (63 primiparae) to decide to breast-feed their healthy babies, and 100 comparable mothers (43 primiparae) to decide to bottle-feed. Past experience (either personal or that of their family and friends) was of considerable but not overriding importance, and the decisions were apparently made surprisingly early in most cases. But much more effective educational approaches are needed, perhaps starting in the schools, and concentrated in the antenatal clinic, to allow mothers to reach the right decision for themselves and their babies. The reasons for early cessation of breast-feeding were also investigated, and suggested that those mothers opting for breast-feeding need better technical information and support.

Introduction

In an article bemoaning the modern decline of breast feeding Spence¹ reported that the proportion of mothers who were fully breast-feeding their infants at the time of discharge from the Princess Mary Maternity Hospital had fallen from 87.8% in 1933 to 74.6% in 1936. Believing that it was advantageous for the baby to be breast-fed at least while in hospital, and that it was perfectly possible for (almost) every mother to breast-feed if she wanted (or could be persuaded) to do so, the staff arrested this decline over the next 20 years. It was realised, however, that this caused considerable distress and was contrary to the real

wishes of many mothers, who promptly switched to bottle-feeding as soon as they got home: only 30% were breast-feeding one month later. The hospital's policy was, therefore, consciously modified, avoiding undue pressure on any mother to breast-feed, but giving all possible encouragement and help to those who wished to try. This change was followed by a fall in the proportion of mothers who attempted to breast-feed their babies, to about 30%, a level which has remained steady over the past 15 years or so.

We decided to investigate why mothers feed their babies by breast or by bottle in our hospital because if we seriously believe that there are advantages in breast-feeding, when it is managed successfully,²⁻⁵ and if we therefore wish to increase the proportion of the mothers under our care who succeed in breast-feeding we clearly need to know as much as possible about the factors which affect their choice and the chances of success if they attempt to breast-feed.

Subjects and methods

Our survey covered 200 healthy married mothers, each of whom was interviewed using a standard proforma, between 24 and 48 hours after delivery of a baby weighing over 2500 g who had not been admitted to the special care nursery. The index cases were 100 consecutive mothers who were breast-feeding their babies at that stage, and for purposes of comparison we selected the next similar mother who was bottle-feeding her baby. Those who were breast-feeding at the time of the first interview were interviewed again on the day of discharge from hospital, and those who were still breast-feeding then we planned to interview again at home when the baby was 4-6 weeks old. The questions asked in the first interview were designed to throw light on the reasons for the mother's initial choice of breast or bottle, and those in the second two were relevant to the success or failure of those who had elected to breast-feed.

The routine practice of the hospital involved no special attention to antenatal preparation for breast-feeding unless the mother asked for help. Within 24 hours of delivery each mother was seen by a paediatrician and her feeding preference noted. If she wished to breast-feed (and had not done so previously) her breasts were assessed by change in brassiere size during pregnancy, and of clinical nipple protraction, and she was given a few words of advice and encouragement, or of warning if special difficulties were expected. Feed times were decided on the "demand" principle, the babies usually being in cots beside their mothers' beds. Breast-fed babies were given complementary feeds when their behaviour indicated it. The midwives and paediatric staff gave technical help whenever they thought it necessary,

Princess Mary Maternity Hospital and the University of Newcastle upon Tyne, Newcastle upon Tyne NE2 3BD

E EASTHAM, MRCP, paediatric registrar

D SMITH, MRCP, paediatric registrar

D POOLE, MB, BS, paediatric senior house officer

G NELIGAN, DM, FRCP, reader in paediatrics

and routinely to those who were attempting to breast-feed for the first time.

Results

FACTORS INFLUENCING CHOICE OF METHOD

Past experience—Among the 100 breast-feeding mothers 63 were primiparae, of whom 11 (17%) stated they had bottle-fed other people's babies previously. Of the 37 multiparae 33 (89%) had previously breast-fed successfully. Among the 100 bottle-feeders only 43 were primiparae, of whom only one said that she had bottle-fed a baby before. Of the multiparae two had successfully and nine unsuccessfully attempted to breast-feed previous babies, and 46 had never attempted to breast-feed. There were no significant differences between the breast and bottle groups with respect to the numbers, age, or sex of other children in the household.

The ages of the mothers showed no overall difference between the two groups (mean 26.4 ± 4.0 years in the breast-feeders, and 25.0 ± 4.4 in the bottle-feeders).

Knowledge of their families' or friends' choices could have influenced our mothers. The 100 breast-feeders knew about 251 close relatives or friends, of whom 141 had fully breast-fed all their babies: the corresponding figures for the bottle-feeders were 245 and 67 ($\chi^2 = 42.3$; $P < 0.001$). Our mothers' knowledge of how they themselves had been fed showed a similar positive relationship with their own choice (table I; for the cases where the answer was known $\chi^2 = 13.88$; $P < 0.001$).

TABLE I—Knowledge of how they themselves were fed

	Breast group	Bottle group
Breast	78	49
Bottle	11	29
Unknown	11	22

Social class—The expected skewing of the social class distribution was found, with a relative excess of mothers from classes I and II in the breast group (48 v. 21 in the bottle group) and the reverse in classes IV and V (4 v. 17) ($\chi^2 = 30.43$; $P < 0.001$).

Timing of their own decision, if we were to influence it, was clearly a matter of practical importance. The results (table II) show that a surprising proportion of the mothers (about half) considered that they had decided how they would feed their babies before the start of the pregnancy. We looked separately at the results for primiparae, since their decisions are presumably more amenable to our influence: the results were very similar.

TABLE II—Timing of decision on method of feeding

	Breast group	Bottle group
Before pregnancy	51 } 87	45 } 85
First six months	36	40
Last three months	7	10
After delivery	6	5

ADVICE ON METHODS

The sources of advice about choice of feeding methods which our mothers had received could be classified as lay (table III) or professional (table IV). In the former there was a clear difference between the two

TABLE III—Sources of lay advice about choice of method

Advice given	Breast group			Bottle group		
	Husband	Own mother	Other	Husband	Own mother	Other
None	39	63	59	58	72	79
Breast	41	23	16	9	9	12
Bottle	1	2	14	7	3	3
Neutral	19	12	11	26	16	6

TABLE IV—Sources of professional advice about choice of method

Advice given	Breast group			Bottle group		
	Family doctor	Antenatal clinic	Health visitor	Family doctor	Antenatal clinic	Health visitor
None	91	70	93	96	78	93
Breast	6	17	6	2	6	6
Bottle	0	0	0	1	6	0
Neutral	3	13	1	1	10	1

groups: combining the three categories, the 100 breast-feeders had received advice in favour of breast from 80 sources and in favour of bottle from 17; the bottle-feeders had received positive advice in favour of bottle from 13 sources and in favour of breast from 30. More of the breast-feeding mothers had either sought or gratuitously received advice from their relations and friends, and had reached a decision in agreement with that advice. The source of lay advice with which the breast-feeding mother's decision most frequently agreed was that of her husband.

In table IV the most striking feature is the high proportion of mothers who stated that they had received no advice from any professional source. Perhaps some who had received unpalatable advice which they had rejected suppressed this information; but, of the 21 bottle-feeders who said they had received positive professional advice 14 had rejected it—whereas all the 29 breast-feeders had accepted it. Of those who were bottle-feeding seven had been advised to do so because of definite contraindications to breast-feeding.

We have looked at these two sets of results for primiparae separately, and the most interesting finding was that 19% of the 43 who were bottle-feeding, but only 3% of the 63 who were breast-feeding, stated that they had had no advice from any source, either lay or professional.

No specific literature was supplied by the hospital, but 57% of those who were breast-feeding had read relevant information from other sources, as compared with 30% of those who were bottle-feeding ($P < 0.05$).

REASONS FOR CHOICE

The reasons for their choice of feeding method may be difficult for some mothers to specify, but we inquired about them in every case. So as not to risk influencing the replies, we did not ask any leading questions in this section of the proforma, but wrote down what the mother said and classified the answers later. If a mother gave more than one reason we asked her to say which was the most important (and we called that the "primary" reason, to distinguish it from the "secondary" ones).

In tables V and VI we have summarised the "primary" reasons given by the mothers in the two groups.

TABLE V—Primary reasons for deciding to breast-feed

	Primiparae	Multiparae
Better for baby's health	24 (38%)	15 (49%)
Natural thing to do	23 (37%)	9 (24%)
Closer relationship	8	7
More convenient	3	4
Husband's wishes	2	0
Don't know	3	2
Total	63	37

TABLE VI—Primary reasons for deciding to bottle-feed

	Primiparae	Multiparae
Embarrassed to breast-feed	24 (56%)	17 (39%)
Not capable of breast-feeding	5	12 (21%)
To avoid restricting social life	6	4
Considered breast-feeding repulsive	4	3
Because of other children	0	5
Because of husband's wishes	0	3
For fear of losing figure	0	3
Misinformation about breast-feeding	2	2
Because of others' bad experiences	0	2
Don't know	2	6
Total	43	57

Secondary reasons were given by 59 of the breast-feeders and were similar—except that more (16) mentioned convenience, three mentioned the lower cost, and two thought it would help them to regain their figures. Among the 50 bottle-feeders who gave secondary reasons 10 mothers mentioned that they thought it was an advantage to know how much the baby was getting at each feed.

Only four of the 100 mothers in each group were intending to return to work within three months, and none gave this as a reason for their choice of feeding method.

EARLY CESSATION OF BREAST-FEEDING

By the time they went home 17 mothers had stopped breast-feeding altogether. We have attempted to assess the factors which resulted in their failing so soon.

Mother's technical knowledge—Of the 63 primiparae only 38 had ever seen a baby breast-fed, 12 had had advice from a professional source, and 12 from books. At the time of the first interview we asked what each breast-feeder knew about physiology and technique and rated the answer as either "well informed," "uninformed," or "intermediate." Of the 63 primiparae only 14 were rated as "well informed," and 13 were still breast-feeding on discharge; of 21 rated "intermediate," 16 were still breast-feeding; and of the 28 rated "uninformed," only 20 were. Clearly those who were better informed were more likely still to be breast-feeding at the time of discharge. Not surprisingly, a higher proportion of the multiparae were rated as "well informed," but 14 of the 37 were rated as "uninformed."

Clinical assessment of each breast-feeder's chances of success, based on physical criteria (change of brassiere size during pregnancy, nipple protrusion) and psychological ones (anxiety, expressed motivation), showed a positive relation with the outcome. Only 10% of those whose chances were assessed as "good," compared with 30% of those assessed as "fair" or "poor," had stopped breast-feeding by discharge, but the differences were not statistically significant.

Reasons for early cessation of breast-feeding, as judged by the mother and by the interviewer, were recorded on the day of discharge in the case of the 17 who had stopped breast-feeding altogether. The reasons given by the 14 primiparae, with the interviewer's assessment in parentheses, were insufficient milk 6 (2); nipple damage 4 (3); baby's behaviour 3 (3); psychological factors 0 (5); other 1 (1).

LATER CESSATION OF BREAST-FEEDING

Four to six weeks after the patients' discharge from hospital we managed to visit only 26 of the 83 who had been breast-feeding when they left hospital so that no statistical analyses of our findings are justified. We found that 11 of these had stopped breast-feeding and only two simple statements concerning our observations seem worth recording here. Firstly, a health visitor's advice had been received by only 11 of the 26, and nine of these stated that they had acted in accordance with that advice. Secondly, feeding equipment (bottle and teat) and milk had been purchased by 20 of the 26 even before the baby's birth, "just in case." Of the six exceptions, five were still breast-feeding when visited.

Discussion

The results of our survey indicate several ways in which we may hope to produce a soundly based increase in the proportion of mothers who successfully breast-feed their babies. If the findings recorded in table II can be believed, however, any influence which we wish to exert should be introduced early—certainly before the end of the second trimester of pregnancy, and preferably much earlier, possibly beginning as part of health education in schools. The fact that mothers who chose to bottle-feed had in general received advice from fewer sources—

particularly lay (table III), but also professional (table IV)—and the absolute figures in table IV, suggest that lack of relevant advice may have been an important factor in many of the decisions to bottle-feed.

When we come to the stated reasons for the choices made (table V and VI) it looks as if two of the most important call for education in early life ("natural thing to do" and "embarrassed to breast-feed"), and many could be affected by education during pregnancy ("better for baby's health," "more convenient," and "for fear of losing figure").

An important factor in determining whether mothers who had decided to breast-feed succeeded in doing so seems to have been the extent of their technical knowledge; and the relative numbers of mothers receiving different ratings point clearly to the need for better education during the antenatal period (of multiparae as well as primiparae). The proper educational methods of such an approach clearly need to be thought out, bearing in mind the findings of two investigations which act as a warning against uncritical enthusiasm. Engel⁶ found that among 26 women who died at or about the time of delivery the breasts of 11 contained so little secretory tissue that their capacity to produce enough milk to feed a baby was clearly in doubt. Hytten *et al.*⁷ studied 106 breast-feeding primiparae for three months after they had left hospital and found that 74 had experienced difficulties sufficiently severe to cause them to abandon breast-feeding by that stage. A recent report⁸ supports the clinical experience that when the mother's decisions have been consciously modified during the puerperium breast-feeding is less likely to be continued after discharge. Each mother's decision is essentially personal, and an imposed "choice" of breast-feeding may be both cruel and unsuccessful.

Our practical conclusions are that we must make two facilities routinely available for all mothers in the antenatal clinic, to help them to reach a decision which is in their own and their baby's best interests, and to succeed in putting that decision into practice. The two facilities are: (a) appropriate literature, for those mothers capable of benefitting from the written word, concerning the physiology, technique, and advantages of breast-feeding, and of bottle-feeding, and (b) a nurse with special training in the feeding and general care of babies, who can help other mothers to acquire the necessary information during the antenatal period, and who can help the staff to ensure that adequate technical help is available to all those who need it during the first few days after delivery.

We have suggested, however, that much of the educational approach to this problem can be effective only if applied before the start of the pregnancy, and the schools would be an obvious place for it. Our findings on the importance of the husband's advice (table III) suggest that boys should be included as well as girls.

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