

Department of Health and Social Security

Breast Feeding

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Department of Health and Social Security
(Committee on Medical Aspects of Food Policy: Panel on Child Nutrition)

Breast feeding

(including a summary of the report of a survey entitled:
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Preface

At a time when many people are realising that responsibility for good health lies at the door of each individual, it seems wise to begin at the beginning by ensuring that the new baby is given the best possible start in life. Those professionally concerned are increasingly taking the view that breast feeding for even a short time is better than not at all.

A survey of infant feeding practice in England and Wales, which was commissioned by this Department from the Office of Population Censuses and Surveys, aroused great interest, and a high response rate was achieved. We are grateful to the mothers for the information they provided.

The report of the survey was thought to be too long for busy professional people, and to include perhaps too many statistical tables to make easy reading. A summary of breast feeding practice was therefore written for those who are concerned with young babies. In the final chapter, attention is drawn to some of the main conclusions to be derived from the survey. The findings provide much food for thought and hopefully for future action. There is already some evidence of a return to breast feeding.

We are once again indebted to the members of the Panel on Child Nutrition of the Committee on Medical Aspects of Food Policy. It was on their advice that the survey was initiated, and we are most grateful for the way in which they continue to give of their time and expertise in the service of the public health.

H YELLOWLEES
Chief Medical Officer

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Part I Introduction

1.1 Until the early years of this century there was no question about how to feed the new-born baby. If, for any reason, the mother could not or did not want to breast feed, a 'wet' nurse had to be found. Foods based on cows' milk have been available in this country only for some 50-60 years and before the Second World War their use was comparatively rare.

1.2 In 1940, the introduction of the Welfare Food Scheme and of a subsidised cheap National Dried Milk ensured the health of expectant mothers and their infants in the light of such knowledge as was then available. After the war mothers resorted more and more to artificial feeding using cows' milk preparations. The number of artificial baby milks on the market increased, and it is possible that the trend to bottle feeding was encouraged not only by attractive advertising but also by a decreasing interest of all branches of the medical and nursing professions in breast feeding. This lack of interest may have been because the problems of adapting cows' milk to the needs of human babies provided a fascinating research field and an interesting subject for teaching. There was also a change in attitude to woman's place in the home and to sexuality, which is likely to have had an important influence in accelerating the trend away from breast to bottle feeding.

1.3 As more and more mothers preferred to bottle feed, the disadvantages of the greater protein and mineral content of cows' milk became increasingly apparent, especially when infant milks were relatively 'unmodified' as were most of the more popular and cheaper products, including National Dried Milk. In the late 1960s and early 70s during a period of relative affluence, those who made up the feeds tended to put in an extra spoonful 'for love' and so increased the mineral content of the feed. Reports in the medical journals of convulsions, brain damage and even of death in babies increased. Problems occurred not only among infants who were already ill with, for example, a chest infection or with gastro-enteritis, but also among infants who were otherwise well.

1.4 Recent research has emphasised that in composition human milk is a much more suitable food than the most carefully modified preparations of cows' milk, and that human milk has a built-in protection against infection which is not found in artificial feeds. Breast feeding has other advantages for both mother and child in addition to providing the foundation for good health. All this is hardly surprising when one considers the long period of evolution during which mother's milk has adapted to the needs of the baby.

1.5 In May 1972 the Committee on Medical Aspects of Food Policy set up a Working Party to advise about infant feeding practice. The Working Party reported in October 1974⁽¹⁾ and was strongly in favour of breast feeding for all healthy infants. The report stressed the importance of education in schools

and clinics of all prospective parents so that the facts about human milk and breast feeding would be known. Parents could then make an informed choice in the matter of how to feed their baby well before the birth. The report advised that only modified milks with a low mineral content should be available for infants up to about 6 months of age who are not breast fed, and that the introduction of solid foods should be postponed until about 4-6 months of age in order to avoid the onset of allergic diseases.

1.6 The Working Party also stressed that there was a lack of reliable nationwide information about infant feeding practice. Accordingly early in 1975, three months after the publication of the Report⁽¹⁾, the Department of Health and Social Security asked the Office of Population Censuses and Surveys (OPCS) to undertake a national survey. The aims of the survey were two-fold: first, to find the reasons why mothers choose to breast or bottle feed and the factors which influence the duration of breast feeding; second, to provide base-line statistics of infant feeding practice so that a further review after a few years could monitor progress.

1.7 The Report of the OPCS study was published by Her Majesty's Stationery Office in February 1978 and is entitled *Infant Feeding 1975: attitudes and practice in England and Wales*. The survey describes the attitudes of mothers about infant feeding and records a summary of the experiences recalled by the mother of events before, during and after the birth of her baby.

1.8 The survey involved an interview (in some cases on more than one occasion) by an experienced trained interviewer. This took place in the privacy of the mother's own home at a time convenient to her so that she could answer questions and give her account of events in an unstressful atmosphere.

1.9 The findings of the survey provide much useful and interesting information about the attitudes of mothers and of their husbands and relatives which, in turn, have important implications for those who are responsible for providing professional advice and support. This booklet summarises the main findings of the OPCS survey and each of the sections which follow this introduction corresponds approximately to one of the chapters of the OPCS report. The final section presents an overall view together with a short bibliography.

1.10 A fuller discussion of the new knowledge in relation to infant feeding is to be found in the booklet *Eating for Health*⁽²⁾, which has recently been published by the Health Departments.

Part II Summary of survey findings

2 The sample

2.1 The sample for the survey was 2304 births which were taken from the Birth Register. The sample was representative of all births occurring in England and Wales between 26 September and 23 October 1975. The mothers of sample babies were first interviewed in November and December 1975 and interviews were arranged so that all the mothers were seen when their babies were as nearly as possible 6 weeks of age. An explanatory letter was first sent to the mother asking for her co-operation, and the interviewer then made a convenient appointment. These first interviews on average lasted for about 70 minutes. There was a high overall response rate of 91 per cent, that is to say, 2103 mothers were interviewed. Of these 2086 mothers agreed to be included in a further study.

2.2 The follow-up study was an interview when the baby was 4 months old. Half the original 100 areas were selected. Within these areas all the mothers who had been breast feeding at the time of the first interview and one-third of the other mothers (one-sixth of the total) were selected (535 mothers). Of these mothers 95 per cent agreed to the second interview which lasted for only 15-20 minutes.

2.3 When the babies were 6 months and again when a year old, all mothers who were breast feeding at the preceding stage were sent a questionnaire. Thus a postal questionnaire was sent to 154 mothers when their babies were aged 6 months and to 97 mothers when their babies were a year old in November and December 1976.

2.4 Checks on the follow-up sample did not reveal any significant difference between its composition and that of the main sample which might have affected the validity of the results.

2.5 In this survey no information was obtained from doctors, midwives or health visitors.

3. Incidence and prevalence of breast feeding at various stages of the first year of life

3.1 *Definition.* A decision was made to define *the incidence of breast feeding as the proportion of babies who were put to the breast at all*, that is to say on even one or two occasions. It might be argued that if a baby were put to the breast only once or twice he/she should not be included as being breast fed, but any definition would involve a decision about how many attempts to breast feed must have been made before breast feeding could be said to have

occurred. In addition, the reasons for ceasing to breast feed which were given by those of the women who abandoned breast feeding after only one or two attempts are of as much interest as those given by mothers who stopped after a longer period.

3.2 In practice only 1 per cent of all mothers gave up breast feeding after trying for one day or less, and fewer than 1 per cent abandoned breast feeding after only one or two attempts. Thus the definition given above did not significantly affect estimates of the incidence of breast feeding.

3.3 *Incidence of breast feeding.* Half the babies in the sample (51 per cent) were put to the breast. This is a higher incidence than might have been expected from studies quoted in *Present-day practice in infant feeding*. The figure may therefore suggest that, by 1975, there was already an increase in the proportion of mothers who attempt to breast feed. However, the other regional differences in the incidence of breast feeding affect the validity of comparisons between other local studies and the nationally representative sample.

3.4 *Regional differences.* London and the South East had the highest incidence of breast feeding (62 per cent), then the South West and Wales (53 per cent), then the Midlands and East Anglia (48 per cent) and the smallest incidence was in the North (41 per cent).

3.5 *Social class differences* showed a gradual decline in the incidence of breast feeding from mothers in social class I (77 per cent) to social classes IV and V (39 per cent). Social class was based on the occupation of the husband/baby's father. Where there was no father in the household the incidence was 29 per cent.

3.6 *Age at which mother finished full-time education.* When the mothers had continued their full-time education until they were over 18 years of age, 85 per cent tried breast feeding but only 38 per cent of the mothers who left school before they were 16 years had breast fed at all.

3.7 *Birth order.* When the baby was a first born, 62 per cent of mothers had attempted to breast feed but if the baby were a second or later child only 42 per cent of mothers breast fed. Mothers of more than one child were asked which method they had used with their first child, and 55 per cent of them said that they had breast fed. The difference between 62 per cent and 55 per cent would be consistent with an increase in breast feeding over the past few years.

3.8 *Mother's age.* The findings apply only to mothers of first babies. Of the very young mothers (under 20 years of age) only 36 per cent tried breast feeding, but there were more of the older mothers who breast fed: 61 per cent of those aged 20-24 years, 74 per cent of those aged 25-29 years and 68 per cent of those aged 30 years or more.

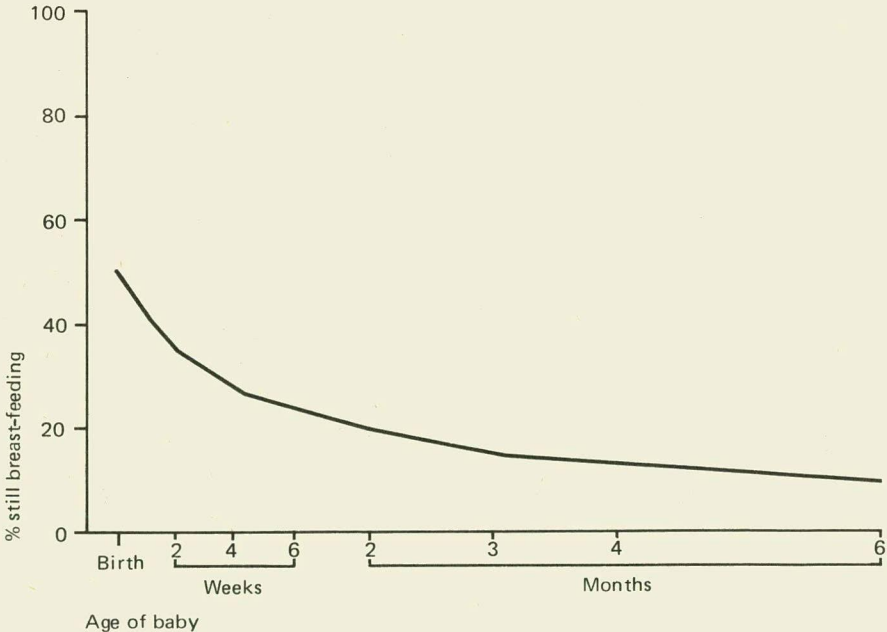
3.9 *Income.* It has been suggested that mothers may be deterred from bottle feeding by the cost of buying powdered artificial milk but there was no

evidence that mothers from low income families were more likely to breast feed.

3.10 *Return to work.* Mothers were asked whether they worked or not and how old the baby was when they returned to work. An analysis of the results provided no evidence that mothers who returned to work in the first 4 months were less likely than other mothers to attempt to breast feed. At 4 months, 3 per cent of the mothers were working full time, 7 per cent were working part time and 90 per cent were not working. In each group 50 per cent or more were breast feeding initially, and at 4 months 13 per cent of those not working and 16 per cent of those working part time were breast feeding.

3.11 *Decline in breast feeding with time.* During the first interview the babies were in their sixth week of life. All mothers who said that they had tried to breast feed were asked whether they were still doing so and, if they had stopped, how old the baby had been when they last breast fed. From this information the prevalence of breast feeding up to 6 weeks was calculated for the whole sample. Only half the mothers who were breast feeding at the time of the first interview were re-interviewed when the baby was 4 months old, thus the prevalence figures for breast feeding after 6 weeks are based on a smaller sample. All mothers who were breast feeding at 4 months were followed up by post until they had stopped breast feeding or the baby was 1 year old. The rapid decline in breast feeding is shown in Figure 1.

Figure 1 *Proportion of babies still breast-fed at different ages up to 6 months*



3.12 When these percentages are considered it is important to remember that the results relate to infants who were being breast fed at all. Some of these infants were also receiving artificial milk and some were on a mixed diet (milk and solids). When the mothers were asked about bottle feeding it became clear that, although at 6 weeks 24 per cent of the babies were breast fed, only 18 per cent were having no artificial milk (apart from occasional bottles given less than once a day). Similarly at 4 months, although 13 per cent of all the babies were having some breast milk 2 per cent were partly bottle fed and only 11 per cent of the whole sample were breast fed without additional bottles more than once a day.

3.13 *Prevalence of breast feeding completely.* By 6 weeks many mothers had started giving their babies solid food and the majority had done so at 4 months. If babies who were having artificial feeds or solids were omitted, then at 6 weeks only 4 per cent of all babies in the sample were fed entirely on breast milk and the proportion of babies who were completely breast fed at 4 months was less than 1 per cent.

4 Duration of breast feeding

4.1 Figures for the prevalence of breast feeding (given in section 3) relate to all the mothers in the survey. To study factors which affect how long mothers continue breast feeding only those mothers who started breast feeding need to be included.

4.2 Over half the mothers who started breast feeding had stopped by 6 weeks after the birth; almost a third stopped in the first 2 weeks and only a quarter were still breast feeding at all at 4 months.

4.3 Not only were mothers in the non-manual social classes and those whose education continued longest more likely to start breast feeding, but they also continued for longer than mothers in the manual social classes and those who left school at the minimum age. For example, of the mothers who started breast feeding, 38 per cent of those in social class I were still breast feeding at 4 months compared with 14 per cent of mothers in social classes IV and V. Similarly, 43 per cent of mothers whose education had continued beyond 18 were still breast feeding at 4 months compared with 16 per cent of mothers who left school under 16. Differences between the social class and education groups in the proportion of mothers who had stopped breast feeding were apparent as early as one week after the birth.

4.4 Mothers of first rather than later babies were more likely to start breast feeding but they were also particularly likely to stop in the first 2 weeks.

5 Mothers' previous experience

5.1 Mothers of second or later babies were asked how they had fed their first child. The results showed that most mothers who chose to bottle feed the first child kept to the same method subsequently. Of the mothers who had bottle

fed all their previous children, 82 per cent said that they had intended to bottle feed the latest baby; only 18 per cent planned to try breast feeding and many of these said that they had been prevented from breast feeding their previous child by medical problems.

5.2 Whether those who breast fed their first child did so for subsequent children depended on their success with the first. Overall 64 per cent of mothers with previous experience of breast feeding intended to breast feed again, but those who had experienced feeding problems with an earlier child and who had given up after a short time were much less likely to make another attempt. Thus among mothers who had not breast fed any previous child for longer than 4 weeks only 38 per cent had intended to breast feed the latest baby compared with 96 per cent of the mothers who had breast fed at least one child for longer than 2 months.

5.3 Previous experience of feeding a baby not only affected which method the mother chose, but also, for those who chose to breast feed, the length of time for which they continued. Mothers who had previously breast fed a child for longer than 6 weeks were significantly more likely than other mothers to breast feed the latest baby for at least 6 weeks. Of the mothers who had breast fed a previous child for more than 4 months, 71 per cent were still breast feeding the latest child at 4 months, and over half were still breast feeding at 6 months. Mothers who had previously tried breast feeding but had not continued for longer than 2 weeks did not manage to continue breast feeding their latest child any longer than those with no previous experience of breast feeding.

5.4 The method of feeding chosen for the first child and the length of time for which breast feeding continues has such a major effect on the feeding of later children that, if breast feeding is to be encouraged, special attention must be given to mothers of first babies and emphasis placed on the ways by which lactation can be satisfactorily achieved.

5.5 Since the method of feeding chosen for second and subsequent children is largely determined by experience of feeding earlier children the survey confined detailed consideration of mothers' choice of method of feeding to mothers of first babies.

6 Choice of method of feeding

6.1 *Limitations of the survey.* Mothers were interviewed 6 weeks after they had given birth. It is therefore possible that their attitudes and beliefs about methods of feeding and the attitudes of other people with whom they discussed how they would feed the baby while they were pregnant may all have been affected by their experience of feeding a baby in the 6 weeks prior to the interview. Many of the conclusions drawn from the results of the survey must necessarily be regarded as tentative until confirmed by a prospective study of women who are expecting a first baby. Other research would also be needed to investigate how the attitudes and beliefs of women during pregnancy had originated earlier in life.

6.2 Two-thirds (64 per cent) of the mothers of first babies had planned to breast feed. About one-third (30 per cent) of the mothers had decided on their method of feeding before they became pregnant, most decided at some time during their pregnancy, but a few only decided when faced with having to feed the baby. Whether they had decided to breast or bottle feed most mothers (93 per cent) who had made plans before the birth, carried out their intentions.

6.3 The mothers who were most likely to say that they had planned to breast feed were those who had continued their full time education until at least 17 years of age, had husbands in the non-manual social classes, lived in London or the South East and were aged 20 years or older at the time of the interview. Conversely, those who planned to bottle feed were more likely to be younger, to have left school at the minimum age, to have husbands in the manual social classes and to live in the North.

6.4 The reasons given by the mothers of first babies for choosing either (a) to breast feed or (b) to bottle feed are given below. The percentages do not add up to 100 because some mothers gave more than one reason.

(a) <i>Choice of breast feeding</i> (458 mothers of first babies)	per cent
Breast feeding is best for baby's health (provides immunity, less risk of cot death, etc)	83
Breast feeding is natural	39
Convenient (no bottles to make up or sterilise)	38
Emotional satisfaction (closer relationship between mother and baby)	20
Influenced by friends and relatives	20
Influenced/advised by health personnel (doctor, midwife, health visitor)	18
Cheaper	17
Helps mother to get her figure back	8
Can't overfeed the baby	8
Don't know/no particular reason	3
Other reasons	4
(b) <i>Choice of bottle feeding</i> (253 mothers of first babies)	per cent
Don't need privacy for bottle feeding/would be embarrassed to breast feed in front of others	43
Not tied to the baby because others can feed it	38
Don't like the idea of breast feeding	25
Put off breast feeding by the experience of others	17
You know how much milk the baby has had/don't need to worry whether he has had enough	14

Can't breast feed for medical reasons/advised to bottle feed by health professionals	9
Expecting to return to work soon	6
Don't know/no particular reason	5
Other reasons	7

6.5 Thus, while mothers who planned to breast feed gave positive reasons on the whole for doing so, those who planned to bottle feed gave their answers in terms of the negative aspects of breast feeding rather than the positive aspects of bottle feeding.

6.6 Mothers who had made up their minds about feeding before they became pregnant were more likely to carry out their intentions than those who had not decided until they were pregnant.

6.7 *Conclusion.* Efforts by professional advisers to encourage more mothers to breast feed should take account of the survey findings that decisions about feeding made by mothers of first babies were of particular importance. Decisions and experience about feeding the first child were likely to determine the method used for later children. Mothers who were least likely to breast feed were those who left school at 16 years or under, had husbands in manual occupations, were under 20 years of age and living in the northern part of the country.

7. The role of the health professionals in relation to mothers' choice of method of feeding

7.1 Routine antenatal care is available to every expectant mother and almost all take advantage of it. Therefore nearly all mothers come into contact with at least one doctor and one midwife who may influence their choice of feeding. To decide accurately whether or not this happens, it would be necessary to study the mother's plans as to feeding her baby both before and after contact with the doctor or midwife, but in the OPCS survey this was not possible. Mothers of first babies were asked where they attended for antenatal care, whether they discussed infant feeding with any of their professional advisers and what they thought was the attitude of the professionals towards breast and bottle feeding.

7.2 Fewer than 1 per cent of mothers who were expecting their first baby had not received any care and three quarters of the mothers had attended more than one place for antenatal care:

- 86 per cent attended a hospital clinic
- 82 per cent attended their own GP surgery or clinic
- 8 per cent attended a community clinic
- 1 per cent had private care or had been abroad

7.3 *Antenatal clinics.* Although most mothers had been in contact with

several members of the health professions, over a quarter said that they had not been asked by anybody how they planned to feed the baby. Although 70 per cent had been asked about their plans only 29 per cent said that they had discussed feeding the baby. Mothers were more likely to have had some discussion about how they would feed the baby at a community clinic than at a hospital clinic and least likely at a GP surgery or clinic.

7.4 All mothers who said feeding had been discussed with them were asked whether they thought the professional person would prefer them to breast or to bottle feed or showed no preference either way. The answers showed that at hospital antenatal clinics the midwives were the most likely people to discuss feeding with the mother and at the GP surgery or clinic the doctor was more likely to do so but the attitudes of the professionals were remarkably similar. The majority (81 per cent) were seen as being in favour of breast feeding, only 2 per cent seemed to prefer the mother to bottle feed and 17 per cent of the doctors and midwives appeared to show no preference either way. Mothers who planned to breast feed were more likely to think that the staff they talked to in antenatal clinics were in favour of breast feeding, whereas those who planned to bottle feed often thought that no preference had been expressed.

7.5 *Antenatal classes.* Most antenatal clinics advertise antenatal classes of various kinds run by hospitals or community clinics or by organisations such as the National Childbirth Trust and the La Leche League. The classes include instruction to help with labour and birth and various aspects of caring for the new born baby.

7.6 *Attendance.* Not quite two-thirds (61 per cent) of the mothers having a first baby attended a course of antenatal classes, and the husbands of 37 per cent of these mothers went to at least one class.

7.7 *Location.* Just over half (53 per cent) of the classes were held at community clinics or GP surgeries; 43 per cent at hospitals and 4 per cent run by other organisations.

7.8 *Instruction in infant feeding.* 85 per cent of the classes were said by the mothers to have included talks or discussion about infant feeding. Thus only half (52 per cent) of all mothers of first babies (ie 85 per cent of 61 per cent) had any discussion on feeding. These findings held for all social classes and no matter at what age the mother had finished her education. Although the mothers were unable to say whether the person taking the class was a midwife, health visitor or some other person, over two-thirds of the mothers thought the person running the class was in favour of breast feeding.

7.9 *Conclusion.* It was not possible from the study to decide whether or not mothers were influenced in their choice of feeding by their professional advisers. Nevertheless mothers cannot be influenced in their choice if they do not discuss feeding as was reported for over two-thirds of the mothers who attended clinics. Methods of feeding should be discussed at antenatal clinics as

well as at classes, since many of the mothers did not attend classes and these mothers were particularly those who were likely to choose to bottle feed. More effort should be made to persuade mothers to attend classes to find out more about the advantages and technique of breast feeding. Classes will need to be arranged at times when working mothers can attend, and some opportunity made for discussions in private with those mothers who are easily embarrassed.

8 Influence of family and friends on choice of method of feeding

8.1 The same limitations in studying the influence of health professionals on the mother's choice in feeding her baby (ie that the mother should be asked both before and after contact with the professional person) apply also to any study about the influence of family and friends. But whereas the mother does not attend an antenatal clinic until she is already pregnant, she is aware of the attitudes of some of her friends and family well beforehand. During the interview mothers were asked what they thought were the views of close friends and relatives (husband, mother) about how they should feed their baby, what methods their friends and relatives had used and how the mother herself had been fed.

8.2 *Husband's view.* Of the mothers of first babies who were married (or living with the baby's father), 84 per cent had discussed with their husband how they would feed the baby, 5 per cent had not discussed but were aware of his views and the remainder (11 per cent) had not talked to their husband and were not aware of his views. Remarkably few mothers (9 per cent) said that their husbands thought they should bottle feed even though 46 per cent of mothers said they planned to do so. 48 per cent of mothers said that their husbands thought they should breast feed. When husbands were reported as having definite views most mothers' plans were found to be in accordance with these views.

8.3 *Own mother's views.* 87 per cent of mothers of first babies had been in contact with their own mother during their pregnancy and about half (49 per cent of the 87 per cent) had discussed feeding. Only 11 per cent of these mothers said that their own mothers thought they should bottle feed, 34 per cent thought they should breast feed. Mostly the mother's plans had been in accordance with those of her mother, but the husband's views seemed to carry more weight. More mothers planned to breast feed despite their own mother being in favour of bottle feeding than did so when their husband favoured bottle feeding.

8.4 *Other people's views.* Just over half the mothers of first babies had discussed with friends or relatives other than their mother or husband and in many cases what the friends or relatives said appeared to be in accordance with what the mother planned to do.

8.5 *Feeding methods used by friends.* Although the majority of mothers said that most of their friends had bottle fed their own babies, more than half of

these mothers had planned to breast feed. It did not appear that having friends who bottle fed was necessarily a deterrent to breast feeding.

8.6 *Method by which mother was fed.* Just under one-third (30 per cent) of the mothers of first babies had been bottle fed, just under two-thirds (61 per cent) had been at least partly breast fed, and 9 per cent did not know which method had been used. In spite of this the mothers in these 3 groups had planned to breast feed in the proportions 47 per cent, 73 per cent, and 63 per cent. Thus the mothers were not necessarily influenced in their choice of feeding method by the way in which they themselves had been fed.

8.7 *Experience of watching breast feeding.* Over a third of the mothers had not seen a baby being breast fed before their own child was born, but the lack of this experience was not found to affect the mother's choice of feeding to any great extent.

8.8 *Conclusion.* When the combined influence of the views and methods used by family and friends were studied, the survey showed that the views of husbands were those most closely related to the mother's plans for breast or bottle feeding. It would seem that the influence of the people with whom the mother comes most closely into contact during her pregnancy should be taken into account in any programme of health education and that to encourage husbands to attend classes with their wives would be helpful.

9 Mothers' attitudes to breast and bottle feeding

9.1 Although mothers were asked about their reasons for choosing breast or bottle feeding (para 6.4 above), their answers did not necessarily reveal their beliefs and feelings about these methods. The survey attempted to find out something more about the attitudes which determined a mother's choice. Mothers were presented with a number of statements about breast and bottle feeding and were asked whether or not they agreed with them. Analysis of their answers enabled three distinct and independent attitudes to breast and bottle feeding to be identified:

- feelings of distaste for breast feeding or lack of such feelings,
- beliefs about whether or not breast feeding is best for babies (either emotionally or physically),
- attitudes to the convenience of bottle feeding.

9.2 Mothers who had attempted to breast feed did not feel a strong distaste for breast feeding and generally thought that breast feeding was best for babies. This result held irrespective of whether or not they had given up breast feeding by the time of the interview 6 weeks after the birth. Mothers who bottle fed were more likely to feel distaste for breast feeding and not to believe that breast feeding was better for babies than bottle feeding. It is likely that the attitudes measured by mothers' answers to the statements about methods of feeding would be predictive of the choice of feeding method, although this could only be proved if the mothers' attitudes had been studied before the birth.

9.3 Mothers' attitudes to the convenience of bottle feeding were different at 6 weeks for mothers who were still breast feeding and those who had stopped. Their attitudes may have been affected by experience of feeding the baby, and it is not possible to say whether attitudes to the convenience of bottle feeding influenced the choice of feeding method or not.

9.4 *Embarrassment about breast feeding* in front of other people was the reason most frequently mentioned by mothers for choosing to bottle feed. In addition, 63 per cent of mothers who planned to bottle feed and 22 per cent of those who planned to breast feed said they would have been embarrassed to breast feed outside their own home. Some mothers mentioned that it was not so much their own feelings as other people's embarrassed reactions to seeing them breast feeding which was the main problem. Mothers who said they would be embarrassed to breast feed were also those whose answers to the statements about methods of feeding indicated that they felt a strong distaste for breast feeding.

9.5 *Comparison of all the attitudes and views which may affect choice of feeding method.* The attitudes most closely associated with mothers' choice of how to feed the baby were feelings of distaste (or lack of such feelings) for breast feeding, and whether or not mothers believed that breast feeding is best for babies. Husbands' views had the next most close association. The views of the mother's own mother, those of her friends, those of doctors and midwives, and how the mother herself was fed were of about equal importance.

9.6 Although educating an expectant mother about the benefits of breast feeding might be sufficient to persuade some to try who would not otherwise have done so, many would remain inhibited by a deep-seated distaste for the idea of breast feeding. Feelings of distaste are likely to have been developed long before pregnancy and are probably part of a whole range of attitudes to sexuality in general. Such feelings were found to be more common in those who left school at 16 years or under, and it may well be more appropriate to pay particular attention to adolescents who only stay at school until the minimum leaving age. Boys as well as girls should be involved in education in infant feeding, and indeed in all health education, since the husbands' views were shown to be associated both with the mothers' attitudes and their choice of feeding the baby.

9.7 *Conclusion.* Deepseated feelings of distaste for breast feeding cannot be overcome overnight, and it may well take a long time before health education and changing attitudes generally make much impact on many women. In the meantime it is important that mothers' attitudes are respected. The mother who has chosen to bottle feed should not be made to feel guilty about her choice. She also requires help and support in feeding her baby.

10 Reasons given by mothers for stopping breast feeding

10.1 Paragraph 3.11 shows that the great majority of mothers who attempted to breast feed had stopped breast feeding before their baby was 4

months old and nearly all mothers had stopped breast feeding by 6 months after the birth.

10.2 Those mothers who had stopped breast feeding either before the first interview at 6 weeks or between the first and second interview at 4 months were asked their reasons for stopping. The interviewers could ask for clarification if necessary. The postal questionnaire also asked mothers who stopped breast feeding between 4 and 6 months to say why they did so but no clarification of these answers was possible.

10.3 All the reasons given by mothers have been listed regardless of their importance and inter-relationships. Some mothers gave more than one reason. The percentage of mothers who gave each reason for stopping breast feeding are shown below:

<i>Reason given by mother for stopping breast feeding</i>	<i>Stopped by 6 weeks per cent</i>	<i>Stopped between 6 weeks and 4 months per cent</i>	<i>Stopped between 4 and 6 months per cent</i>
Insufficient milk	61	71	46
Painful breast or nipples	19	8	6
Baby would not suck/ rejected the breast	12	7	11
Mother had inverted nipples	7	—	—
Mother ill	8	11	4
Baby ill	4	2	4
Had breast fed long enough/ as long as planned	1	13	30
Breast feeding tiring/ taking too long	9	9	8
Domestic reasons	6	12	7
Embarrassment	4	6	—
Baby can't be fed by others	3	10	—
Didn't like breast feeding	3	—	1
Going back to work	—	5	—
Other reasons	8	11	10

10.4 The most frequently mentioned reason given by mothers for stopping breast feeding was insufficient milk. Answers ranged from those of mothers who said that their milk dried up completely to those who assumed that the baby's crying indicated hunger and therefore that they did not have enough milk to satisfy their child. The most common answer was that the mother did not have enough milk and so had to give bottles as well and then preferred bottle feeding to using both methods. A few mothers thought the quality of their milk was the source of their problem. It seems unlikely that such a high proportion of mothers as was found in the survey were really incapable of producing enough milk for their babies.

11 Events at the time of the birth and the commencement of breast feeding

11.1 Nearly one-third (31 per cent) of the mothers who started breast feeding stopped in the first 2 weeks.

11.2 Mothers who breast fed at all were asked questions about the events immediately prior to, during and after the birth of their baby in order to try and identify factors associated with difficulties in starting to breast feed and in particular to find out what led so many mothers to stop breast feeding in the first 2 weeks of the baby's life.

11.3 *How soon the baby was put to the breast.* Mothers who breast fed at all were asked to estimate the time which elapsed between the birth of their baby and the baby being first put to the breast. The percentage of the 789 mothers who put their babies to the breast at the various times were as follows:

	per cent
immediately	3
within 1 hour	8
after 1 hour up to 4 hours	13
4-8 hours	23
8-12 hours	17
12-24 hours	23
after 24 hours	12

These findings show that only one-quarter of the babies had been put to the breast within 4 hours of birth.

11.4 The mothers were also asked how long a time elapsed after the birth before they held their baby. The percentage of the same 789 mothers who held their babies at the various time intervals was as follows:

	per cent
immediately	49
within $\frac{1}{2}$ hour	20
after $\frac{1}{2}$ hour up to 1 hour	4
1-4 hours	4
4-8 hours	6
8-12 hours	6
12-24 hours	5
after 24 hours	6

Three-quarters of the mothers, and these were mothers who tried breast feeding, had held their babies within 4 hours of the birth and so would have had the opportunity to put the baby to the breast if they had wanted to do so or if it had been suggested to them.

11.5 When these findings were related to the percentage of mothers who stopped breast feeding during the first week and the first 2 weeks, the results indicated that the mothers who breast fed within 4 hours of the birth were less likely to stop within the first one or two weeks than mothers of babies who

were not breast fed for 4 hours. Mothers who did not put their babies to the breast until after 24 hours were much more likely to stop feeding within the first 2 weeks.

11.6 The percentage of mothers who said that they stopped breast feeding within 2 weeks either because the baby would not suck or because they had insufficient milk was much smaller if the baby had been put to the breast within 4-8 hours than if 12 or more hours had elapsed before breast feeding. The time interval appeared to be unimportant when sore nipples were the reason given for stopping breast feeding.

11.7 Of all the mothers who breast fed, 30 per cent said they had problems with the baby learning to suck. About one-third of these babies were too sleepy to suck properly and about two-thirds had difficulty in getting hold of the nipple and sucking correctly. A larger proportion of mothers reported difficulties if the baby had not been breast fed within 8 hours of birth.

11.8 *Avoidable delays in starting breast feeding.* Some delays before mothers first breast feed are unavoidable because of the condition of either the mother or the baby or both. Other delays could be avoided if the importance of putting the baby to the breast as soon as possible after birth were recognised.

11.9 From the mothers' replies to questions about the time of birth and how long afterwards they first put the baby to the breast, the times of the first attempts to breast feed could be calculated.

Figure 2 Time of first breast feed for a sample of 431 mothers who first breast-fed within 24 hours of birth.

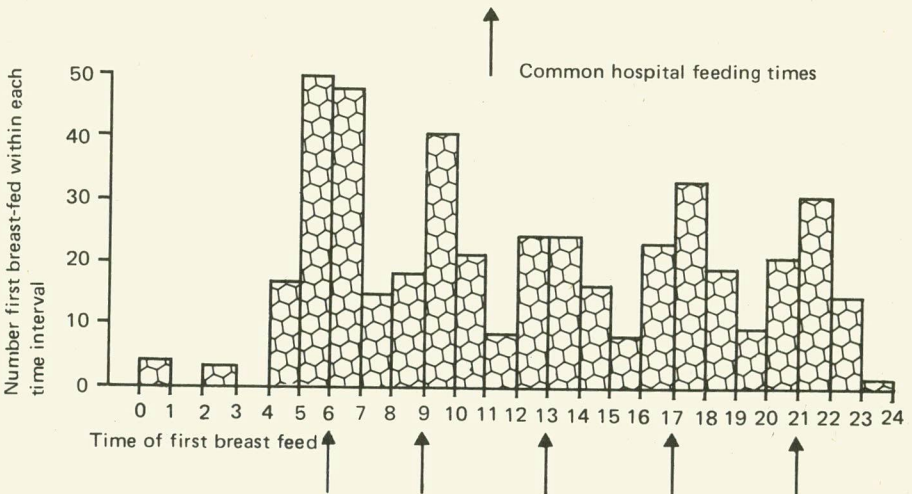


Figure 2 shows clearly that few babies were first breast fed during the night. Most first feeds occurred around the times which most hospitals adopt as standard feeding times — 600, 900, 1300, 1700 and 2100 hours. Thus a baby born in the morning was put to the breast fairly soon as there were several feeds during the day, but a baby born in the evening who 'missed' the 2100 feed often had to wait a further 9 hours. Most of the mothers said they thought the nurses gave a bottle feed during the night if necessary.

11.10 *Intervention in the process of labour and delivery.* The percentage of mothers who first breast fed within 8 hours of birth was determined in relation to the different events of labour and delivery, that is to say,

- (a) the onset and process of labour — whether spontaneous or induced, or accelerated,
- (b) the kind of analgesia given — whether nothing, pethidine or a similar drug, inhalation of 'gas and oxygen', epidural block, general anaesthetic etc,
- (c) the method of delivery — normal, forceps or vacuum extraction, caesarian section, and
- (d) whether or not the baby was admitted to a special care unit, and whether this was within 4 hours of birth or later.

11.11 The findings showed that mothers who had normal deliveries rather than a caesarian section, or whose babies did not go to a special care unit within 4 hours of the birth, or who were given 'gas and oxygen', or epidural anaesthesia rather than pethidine, and mothers who went into labour spontaneously and whose labours were not subsequently accelerated were all more likely to put their babies to the breast sooner and for this reason more likely to establish breast feeding.

11.12 *Birth weight.* Low birth weight (under 2500g) babies, who are known to be at risk and to have feeding problems, were usually bottle fed, or if not were breast fed only for a short time. Most of the low birth weight babies were admitted to a special care unit and the delay which this caused may in itself be associated with delay in starting to breast feed and a separation of mother and baby, quite apart from any feeding problems caused by the condition of the baby. When the baby weighed more than 3000g, birth weight had no effect on the duration of breast feeding.

11.13 *Conclusion.* Every effort should be made to ensure that breast feeding is started as soon after birth as possible providing the condition of the mother and baby is satisfactory. Even a delay of 4 hours had some effect on the duration of breast feeding. Delays of 24 hours or longer made lactation more difficult to establish.

12 Breast feeding in hospital

12.1 Most of the babies in the sample (96 per cent) were born in hospital; in the survey, mothers reported what they had experienced, the hospital practices

they encountered and what help and advice they received in hospital about breast feeding.

12.2 *Duration of stay in hospital.* Mothers of first babies stayed in hospital on average longer than mothers of second or subsequent babies. There appeared to be no relationship between the length of stay in hospital and the proportion of mothers who stopped breast feeding within 2 weeks except that mothers who stayed in hospital for only 2 days or less were less likely to stop breast feeding in the first 2 weeks.

12.3 Of the mothers who started to breast feed, 18 per cent had stopped before leaving hospital, that is to say, one in five of those willing to try breast feeding did not get started. These were more likely to be mothers who were breast feeding for the first time.

12.4 *Feeding schedules.* In the survey, 64 per cent of the mothers said that they kept to the hospital set four-hourly feeding times, 13 per cent said that although there were set times they did not keep to them, and 23 per cent said they fed on demand although for many this was only during the day because the baby was in a nursery at night. A smaller proportion of the mothers who were feeding on demand gave up breast feeding in the first 2 weeks (23 per cent), but a third of the mothers who fed at set times (33 per cent) gave up breast feeding.

12.5 About half of the 64 per cent of mothers on a rigid schedule were critical of the hospital regimen and said that they objected to leaving a hungry baby to cry and to having to waken a sleeping baby in order to feed. In both cases mothers said they had difficulty in getting the baby to feed properly. Many of the mothers who were not critical felt that the routine was for the benefit of the nurses rather than the babies.

12.6 *Contact between mother and baby.* Over the first week after the birth between 9 per cent and 15 per cent of the mothers had their babies in a nursery or special care all the time usually because the mother or the baby was ill.

12.7 On the first day only 4 per cent of the mothers had their baby with them all the time, due apparently to the practice of keeping the baby in a nursery for some hours after the birth so that the mother could recover. The proportion of mothers who had their baby with them all the time increased steadily over the 7 days from 4 per cent to 32 per cent but between 58 per cent and 81 per cent of mothers had their baby with them for only part of the 24 hours. Close proximity between mother and baby increases the opportunity for breast feeding on demand which is known to be of great importance in establishing lactation especially in the early days.

12.8 *Giving bottles of milk to breast fed babies.* From what mothers said about breast and bottle feeding while in hospital, only 14 per cent of all breast fed infants were not given artificial feeds during the first week. There was

widespread bottle feeding in the early days in hospital by mothers who were trying to breast feed, and by the 7th day, 22 per cent of the breast feeding mothers were still giving a bottle at each feed.

12.9 Although some breast fed babies may have needed complementary artificial feeding, breast feeding is difficult to establish if artificial feeds are given routinely. Some mothers said the reason given for bottle feeding on the first day was that it was necessary as milk is not produced for several days, and the baby must be fed so that not too much weight is lost. The importance of colostrum for the new-born infant was apparently not realised, at least by the mothers, neither was the importance of putting the baby to the breast in order to stimulate milk production.

12.10 Mothers also reported that bottle feeding, when they were trying to breast feed, undermined their confidence in their capacity to produce milk — an important point. The technique of feeding from a bottle is much less demanding for the baby and feeding from the breast has to be learnt by baby and mother. Mothers said that the baby seemed to take to the bottle more easily than to the breast. This influenced some mothers to stop breast feeding.

12.11 . Although some babies may have needed the complementary feeds, it is difficult to establish this if artificial feeds are given routinely, and if the benefits of colostrum to the baby and of feeding 'on demand' for the establishment of lactation are not appreciated.

12.12 *Privacy in breast feeding.* 82 per cent of the mothers who breast fed were not in a single room, and 62 per cent of these mothers said they were screened off while breast feeding. The remaining 38 per cent said they were not screened. However, only 6 per cent of the mothers objected to the arrangements and mostly would have preferred not to be screened. The survey findings imply that privacy for breast feeding while in hospital was not an important issue.

12.13 *Expressing milk.* A mother needs to be taught how to express her milk correctly and without pain in order to relieve engorgement, to maintain her supply if the baby is unable to take the breast or to put it in a bottle so that somebody else can feed the baby. Only 36 per cent of mothers said that they had been shown how to do this.

12.14 *Help and advice on breast feeding.* Over 90 per cent of mothers found that there was somebody to help them both on the first and subsequent attempts to breast feed but they often found the advice to be conflicting. In general the mothers thought nurses and midwives to be in favour of breast feeding but were not aware of the views of the doctors in hospital as few were said to have mentioned feeding.

13 Difficulties in breast feeding

13.1 *Sources of help and advice: visits from the midwife.* Most mothers encounter some difficulties in breast feeding and need help, advice and encouragement. In hospital this is given by the staff. After a home confinement, or if the mother is discharged from hospital before the 10th day after delivery, the midwife normally visits daily. Of the survey mothers who had breast fed at all at home 72 per cent had received a visit from a midwife and the majority of these were visited each day until the 10th day after the birth. Most of the other 28 per cent were in hospital for a 'full-stay' length of 7-10 days.

13.2 *Visits from the health visitor.* After the 10th day following the birth of the baby, mothers can expect a visit from the local health visitor. She is likely to be the chief source of advice about infant feeding once visits from the midwife have ceased. Of all the mothers who breast fed at home 95 per cent said at the first interview (6 weeks after the birth) that the health visitor had been to see them; 72 per cent had been visited within 2 weeks of the birth and the other 23 per cent between 2 and 6 weeks after the birth. There was possibly a gap of several days after the last visit of the midwife before the health visitor called.

13.3 *Help at home after the birth.* Most mothers (83 per cent) said that their husbands were the chief source of help at home after the arrival of the new baby, and 80 per cent said that their husbands took time off work although this was only for 1 or 2 days in some cases. 58 per cent of the mothers had help from relatives, 15 per cent from friends and 4 per cent of mothers said that they had no extra help.

13.4 *Problems with breast feeding during the first week were:*

(a) *Getting the baby to take the breast.* 69 per cent of the mothers had no difficulty in getting the baby to feed for the first time, but 31 per cent did have some difficulty and many more of these mothers stopped breast feeding by 2 weeks after the birth.

(b) *Painful engorgement of the breasts.* This was experienced by 60 per cent of the mothers as milk production started. Half of them had relieved the engorgement by expressing milk or by feeding the baby more often. These mothers were more likely to continue breast feeding than those who attempted to deal with the engorgement by applying hot flannels, taking hot-baths, wearing a tight bra or binder or taking pain killers.

(c) *Painful stitches.* Nearly three-quarters of all the mothers who attempted to breast feed had needed stitches in the perineum and 21 per cent said that this made breast feeding difficult because they could not sit comfortably. It is possible to feed when lying down but few mothers mentioned that this had been suggested to them. 22 per cent of mothers with painful stitches stopped breast feeding in the first week compared with only 16 per cent of those whose stitches were not painful and 16 per cent of those who had no stitches.

(d) *Insufficient milk* was reported by 13 per cent of mothers as a problem during the first week and two-thirds of these mothers stopped feeding within 2 weeks. Most changed to bottle feeding without any further ado, but some tried at first to top up with artificial feeding and then gave up the breast. Some did nothing and continued breast feeding — ie presumably their milk supply increased. Only a few mothers said that they fed the baby more frequently. Some mothers complained of insufficient milk and even stopped breast feeding for this reason in the first 3 days. Presumably these mothers were unaware that they should not expect to produce any milk so soon.

(e) *Sore nipples* were said to occur by 41 per cent of the mothers — usually in the first week, and more frequently where mothers fed by a rigid time-table. The frequent small feeds characteristic of 'on-demand' feeding in the early days are less likely to cause sore nipples.

13.5 *Problems with breast feeding after the first week.* Many of the problems were the same whether the baby was breast fed or not, for example, the baby had *wind* or *colic* or a *cold* making it difficult for him to suck or *brought back milk* after a feed.

13.6 By far the most common problem between one and six weeks concerned breast and bottle feeding alike and was that the baby *appeared hungry* either immediately after a feed or sooner than the mother thought he should be before the next feed. This was interpreted by breast feeding mothers to mean that they were producing *insufficient milk*. 34 per cent of mothers who were still breast feeding after the first week either mentioned this as a problem or stopped breast feeding for this reason. Nearly all (92 per cent) of those who had stopped breast feeding, and 60 per cent of those who had not stopped, said they had started artificial feeding. In each of these two groups only 6 per cent of the mothers had tried feeding the baby more often in order to increase their milk supply. Of the mothers who stopped breast feeding by 6 weeks due to lack of milk, 87 per cent had asked advice — 56 per cent from a health visitor, 28 per cent from a midwife, 18 per cent from a doctor and 13 per cent from a friend or relation; nearly all (90 per cent) of these mothers took the advice they were given which was generally to give bottles of milk. Few mothers were advised to feed the baby more often (6 per cent).

13.7 *Conclusions.* Most mothers were in contact with a midwife and then a health visitor in the early weeks after birth, but some mothers mentioned that the help given was limited by availability. Problems which arose on a Friday evening might sometimes have to wait until Monday. Some help in solving this kind of difficulty could be achieved if mothers were prepared beforehand about the likely problems particularly that of 'insufficient milk', especially if they were taught about the importance of feeding 'on demand' including the fact that very young babies often demand frequent small feeds in the early days of breast feeding.

14 Patterns of feeding and the introduction of solid food

14.1 Mothers who breast feed may in addition give their babies artificial feeds of modified cows' milk. At six weeks, 75 per cent of the babies who were breast fed either had no artificial feeds or less than one a day. But when the babies of all mothers were taken into account at 6 weeks, although 24 per cent were receiving some breast milk, only 18 per cent were having breast milk and no artificial milks. Many babies were already taking solids even at 6 weeks and only 4 per cent were having breast milk alone without artificial feeds and without solids. At 4 months, 13 per cent were having some breast milk, 4 per cent breast milk and no artificial feeds and less than one per cent were completely breast fed without artificial feeds and without solids (paras 3.12 and 3.13, p. 6).

14.2 *Age at starting solids.* Babies were introduced to cereals or other solids at any time between the 1st week and 4 months, by which time most of the babies were on mixed feeding. The proportion of all the babies who had been given solid foods at various ages was as follows:

<i>Age</i>	<i>Percentage of babies who had been given cereal or other solid foods</i>
1 week	1
2 weeks	3
4 weeks	18
6 weeks	40
8 weeks	49
3 months	85
4 months	97

14.3 *Solids in bottle or by spoon.* Solids were given much sooner to bottle fed babies. Only 17 per cent of babies who were breast fed at six weeks were having solids compared with 47 per cent of bottle fed babies. Most mothers gave commercially prepared baby cereals or rusks that are mixed with milk as the first solid food. Of the mothers who had started solids by six weeks 44 per cent had introduced solids by putting it in the bottle and 56 per cent had given it on a spoon.

14.4 *Reasons for starting solids.* Various reasons for introducing solid foods were given. Some mothers gave more than one reason. The proportions of mothers who gave these different reasons is shown below for those who had started solids by 6 weeks, and for those who started solid foods between 6 weeks and 4 months:

<i>Reason</i>	<i>Started solids by 6 weeks per cent</i>	<i>Started solids between 6 weeks — 4 months per cent</i>
The baby seemed hungry/ was waking early for feeds	61	68

<i>Reason</i>	<i>Started solids by 6 weeks per cent</i>	<i>Started solids between 6 weeks — 4 months per cent</i>
To get the baby to sleep through the night	31	14
Thought it was the right age to start/started other children at that age	11	26
Other reasons	10	9

The answers given by mothers reflect certain expectations of the baby's behaviour at different ages and beliefs about certain feeding practices. Many mothers who gave solids by 6 weeks appeared to believe that by this age, if not before, babies should be fed no more than 4 hourly and should sleep through the night without a feed in the early hours. Mothers who started solid food early also thought that giving solids was the answer to crying which was interpreted as due to hunger. Others thought that too much milk would make the baby fat, or that solids would stop the baby bringing back milk after a feed.

14.5 *Fluids.* 91 per cent of the babies had been given additional fluid when they were on solids by six weeks. This was either water or fruit juice. But 6 per cent of the babies had solids and no additional fluid. The fluids were given in a 'dinky' feeder to 8 per cent of the babies on solids — in half the cases the dinky feeder contained water and in half it contained fruit juices.

14.6 *Conclusions.* The results presented in this section show that the majority of mothers, particularly mothers who bottle fed, introduced solid food to their babies long before the recommended age of about four months. Although members of the health professions and in particular the health visitors, may be able to influence some mothers to delay giving solid foods, consideration must be given to the most appropriate advice to bottle feeding mothers who say that their baby appears still to be hungry after receiving the correct amount of milk calculated according to age and weight. It must be remembered that the mothers most likely to start solid food early will probably be amongst those least likely to attend any antenatal classes. Attention also needs to be paid to mothers' ideas about what constitutes 'normal' behaviour of babies of different ages. This topic might be discussed during pregnancy at mothercraft classes.

Part III Commentary

15 The significance of the survey

15.1 The survey gives, for the first time, a comprehensive picture of how babies in Britain are fed. The survey was particularly concerned with breast feeding and showed that in 1975 only about half of the large, representative sample of mothers attempted to breast feed their babies at all and that, of these, less than half succeeded in maintaining lactation for more than 6 weeks. These findings correspond with clinical impressions and the results of similar though smaller investigations in the United Kingdom and other industrialised countries.

15.2 It might be questioned whether the undoubted decline in breast feeding which has occurred over the past 20-30 years⁽³⁾ is an event of much more than historical and sociological interest. If this were so it would be right to leave the choice of feeding method entirely to the mother although it would still be the duty of professional advisers to use their skills so as to enable mothers to achieve their wishes. But there are good reasons for the belief which is now increasingly held by doctors and midwives, and a growing number of mothers, that breast feeding has so many positive advantages for the health and welfare of the baby that a neutral position is no longer justifiable^(4, 5, 6).

15.3 The survey not only provides information which describes infant feeding practice, but also indicates three areas of particular importance. First, how the mother comes to a decision about feeding her baby, second the period immediately after the baby's birth when feeding begins and third, the maintenance of adequate lactation during the first few weeks. In each of these areas the survey underlines the importance of the attitudes and knowledge of the mother's professional advisers.

15.4 *The mother's choice.* It is not unexpected to find from the survey that the stated intention of women who have already had one or more children is to a large extent fixed by their remembered experience of feeding their babies. It is therefore obviously sensible to take particular care with mothers of first babies. The survey gives important details about primiparous mothers and it shows that three main factors determined the intention to breast feed. The women wanting to breast feed were generally those who did not dislike the idea, understood that breast feeding was better for the baby, and were encouraged by their husbands, relatives and friends. Professional advice had little influence if only because it was found that the matter of feeding had rarely been a subject of personal discussion between the expectant mother and her professional advisers during the pre-natal period! Such a discussion is unlikely to change a woman's profound feeling that breast feeding is distasteful but it could at least present the facts about feeding fairly and convince the mother that the persons looking after her will have a real concern for this aspect of child rearing.

15.5 *Initiation of breast feeding.* The crucial importance of the immediate handling of the mother and baby after delivery is underlined by the survey. The results confirm those of clinical and experimental studies which show that mothers and babies should have close and frequent contact with each other if breast feeding is to have the best chance of success. Delay of even a few hours lessens the likelihood of lactation becoming established. The beneficial effect of putting the baby to the breast immediately after birth is powerfully reinforced when the subsequent feeds are frequent and regulated by the baby's needs rather than by a rigid schedule^(7, 8). Knowledge from other sources, which demonstrates the complexity of the neuro-endocrine mechanisms involved in milk production⁽⁹⁾, the anatomy and physiology of the feeding process, and the way in which the composition of human milk is adapted to frequent feeding⁽¹⁰⁾, provides explanations for these clinical findings. It also helps in understanding why the common hospital practices of complementary feeding, four-hourly schedules and routine test-weighing may do more harm than good⁽¹¹⁾. These practices, instituted in the lying-in wards of the 1920s, have been continued largely because the rise in the proportion of hospital confinements took place at much the same time as breast feeding declined with the result that hospital practice has become geared to artificially fed babies and their mothers⁽¹²⁾. The mothers in the survey reported a number of well-known physical problems which are associated with breast feeding such as cracked nipples, breast engorgement and the discomfort of feeding while the perineum is painful. It is regrettable that the action taken by mothers while still in hospital was often ineffective, and as a result many of the mothers resorted to artificial feeding. This is an area which would repay further study by midwives, obstetricians and pædiatricians in order to ensure that the best help is given to breast feeding mothers and to those who find themselves, for one reason or another, unable to breast feed.

15.6 *Maintenance of lactation.* Recent studies of infant nutrition, the immunological properties of breast milk⁽¹³⁾, and the development of the mother-infant relationship strongly suggest the advisability of continuing breast feeding for 4-6 months. By this means hazards associated with artificial feeding, gastro-enteritis^(14, 15), hypernatraemia, obesity and allergic disorders are also minimised. The survey confirms both the short duration of breast feeding generally in Britain and the early introduction of solid foods. The reasons offered by the mothers for relinquishing breast feeding were mainly associated with failure of lactation. Either 'the milk went' or the baby showed signs of unsatisfied hunger or failure to thrive. Rather unexpectedly, few mothers gave up breast feeding because of a return to work outside the home, and dislike of breast feeding was not admitted as an important factor.

15.7 Some mothers sought help before giving up breast feeding and according to their accounts the advice usually given was to put the baby on the bottle. In some instances it is probable that the mothers did not accurately represent or recall the advice which they received from the midwife, health visitor or general practitioner. But the experience of most people working in the field would tend to support the conclusion that doctors and nurses

commonly advise the change to complete artificial feeding when lactation appears to be insufficient, without offering any help in trying to improve the secretion of milk.

15.8 There seems to be a widely held belief that once lactation is established it will continue naturally for as long as the mother wishes to breast feed and the baby is able to suck. However the work of social anthropologists ⁽¹⁶⁾ has shown that this is not the case and, in almost every culture, it is found that inexperienced mothers need much help and continuous encouragement in order to maintain lactation. This sort of close personal support is not always provided by our maternal and child health services and there is a need for more active self help groups on the lines of the La Leche League and of the National Childbirth Trust.

15.9 *Attitudes to breast feeding.* It is more difficult to change attitudes than it is to impart knowledge and to teach skills; nevertheless it is clear from the survey that a number of attitudes must be changed if we are to succeed in re-making breast feeding the preferred and accepted means of providing the infant with the best start in life. While the survey gives much interesting information on mothers' attitudes to breast feeding it tells us nothing directly about the reasons why doctors, midwives, and health visitors seemed so reluctant to get positively involved with the business of infant feeding. Perhaps they feel embarrassed about the process of breast feeding and do not wish to get personally involved with the participants. Or is it that after decades of being able to take the easy option of recourse to the bottle, they have lost the skills needed to manage their breast feeding patients successfully?

15.10 *Education.* Nowadays one would expect that few people would think the display of the breast for the purpose of suckling is repugnant or obscene but our society remains hesitant to accept without excitement or concern the sight of a mother feeding her baby naturally. It would be sound biology as well as good home economics were school-children to get more opportunities to learn about human lactation, and many mothers and would-be mothers might feel less embarrassed if breast feeding was represented in the media as being a natural and unremarkable happening.

15.11 *The future.* Although it is too soon to have documented information, there is a strong impression that in many parts of the country breast feeding is on the increase due to the application of newer knowledge, changes in feeding regimens and not least an increasing desire among women to breast feed. It is to be hoped that further surveys will be done to monitor progress. All those concerned with the prevention of disease and the promotion of health should be following with great interest the effects of changes in infant feeding practice.

15.12 This booklet is an invitation to all doctors, health visitors, midwives and teachers to consider what part they can play in helping mothers to make an informed choice about feeding the new baby, and then in supporting the mother so that she gains in confidence and in the ability to continue with the method of feeding which she has chosen.

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The British have been described as a bottle-fed nation. New discoveries about human milk are being made, many of them by British scientists, and it is now widely accepted that human milk is the best possible food for young babies.

The booklet gives the results of a survey in which mothers were interviewed to find out whether they breast- or bottle-fed their new babies, what made them choose, why they stopped breast feeding, and what sort of help they obtained from doctors and nurses. In many cases mothers did not get all the help that is available, and some hospitals had feeding schedules and other routines which made it difficult for a mother to breast feed.

The final section highlights the ways in which breast feeding can be helped rather than hindered. Parents and doctors, midwives and health visitors should all find this booklet a valuable aid to understanding the advantages of this most natural human process.

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