A quinquennium in infant feeding

*Infant feeding 1980*¹ has recently been published. It is the report of a survey carried out by Jean Martin and Janet Monk of the Office of Population Censuses and Surveys, Social Survey Division, on behalf of the Department of Health and Social Security and the Scottish Home and Health Department. A similar survey but covering England and Wales only was performed in 1975.² How are babies in Britain being fed and what lessons can we learn?

Changes 1975-80

The Figure summarises how young infants were fed in 1975 and 1980.

The breast feeding curve has moved up by 15-20%, or in proportional terms, in 1980 one-third more babies were breast fed at birth and at 4 months the number being breast fed was twice that in 1975. Looking at the cohort of babies who started breast feeding, many more were still breast fed 4 and 6 months later.

Figure Proportion of babies in England and Wales breast feeding and receiving solid foods during the first 6 months of life in 1975 and 1980 (abstracted from Tables 3.1, 4.1, 4.6, 8.4).¹

The 'introduction of solid foods' curve has moved to the right by 3-4 weeks; the median age for having introduced solids has moved from 8 to 12 weeks. Introduction of solids occurs later in breast-fed babies than in bottle-fed ones—for example at 6 weeks 20% of bottle-fed babies receive solids but only 4% of breast-fed ones; this differential is not shown in the Figure.

The 1975 report did not state what the bottle-fed babies had in their bottles but the 1980 report gives more detail. Nearly all of them were receiving a suitable infant formula—98% at 6 weeks, 94% at 4 months.

Cereals and rusks remain the most popular initial solid foods although (to my surprise) rusks rather than cereals were in 1980 more often (46%) the initial choice. Dried food has third place (13%). In recent years many of the initial weaning foods have become gluten free—for example maize- and rice-based cereals rather than wheat—but details are not given in the report.

There has been little change in the use of vitamin supplements. At 6 weeks about a half of breast-fed babies and three-quarters of the bottle-fed ones were not receiving supplements, at 4 months about one-third breast fed and two-thirds bottle fed were not.

The evidence that these substantial changes in infant feeding practice have been responsible for contemporary improvements in child health has been reviewed elsewhere.³ The arguments, necessarily circumstantial but persuasive, are that reductions in neonatal hypocalcaemia, deaths from gastroenteritis, excessive weight gain, and prevalence of coeliac disease are related to these changes.

Breast feeding in the 1980s

Does the report give any clues on how we might increase the incidence of breast feeding to, say, Scandinavian levels (one-third of mothers in Uppsala are still breast feeding at 6 months).⁴ The averages summarised in the Figure of course cover up considerable variation. The mother most likely to breast feed lives in south east England, continued education after her 18th birthday, is in social class I (97% fed their first baby); whereas among social class IV and V Scottish mothers who had left school at age 16, 47% feed their first baby and only 27% feed a subsequent one. These 'inequalities in health'⁵ are well known but give no immediate guidance to our clinical practice. Other inequalities may give us a

clue, however. Experiences with the first baby are important, the longer the first baby is breast fed the greater the chance of subsequent lactations being successful, investment in primiparae will have a cumulative effect. It seems that if a mother has planned to breast feed, the chance of failure (as measured by giving up breast feeding within 2 weeks) is almost halved in babies put to the breast within 4 hours of birth, and in those who were demand fed. Similar conclusions were reached in a prospective Newcastle study⁶ also funded by the DHSS. The Newcastle study reaches further important conclusions concerning the initial decision to breast feed. The majority of mothers had decided whether they hoped to breast feed *before* they attended the booking clinic and the views of their husband and mother were important factors in reaching this decision.

It seems therefore, that attempts to increase the incidence of breast feeding should be aimed more widely as part of the overall health education service. Our professional function, once the woman is pregnant, is to help her to success in *her* chosen method of feeding—the time for evangelism has gone. If she is uncertain, informed persuasion has a role. The Newcastle mothers preferred to talk to midwives and health visitors about infant feeding (so much for the paediatrician's role!) but the national survey showed that many women do not attend antenatal classes and only 40% of mothers reported having had discussion about infant feeding during visits to antenatal clinics.

Other lessons

The report is mainly concerned with breast feeding but there are some other useful points. Although nearly all bottle-fed babies received a suitable infant formula even the 6% of bottle-fed babies who at 4 months were receiving unmodified cows' or goats' milk is too many—it would have been interesting to know the factors associated with this choice. Many mothers do not attend antenatal class but even if they did only two-thirds were shown how to make up a bottle of feed—perhaps this is a carping criticism since the instructions on packets and tins of formulae are clear.

The consumption of supplementary vitamins probably still reflects the confusion and ambivalence concerning the subject. *Present day practice in infant feeding: 1980*⁷ tried to clear this up by simplifying the dose and encouraging professional discretion. It recommended 'the dose of the children's vitamin drops to be reduced from a range of 2 to 7 drops to 5 drops per day (that is vitamin A 200 µg, vitamin C 20 mg, vitamin D 7 µg) . . . only when the

mother's professional adviser is sure that an infant is receiving an adequate intake of vitamins from other sources . . . is there no need to advise the use of supplementary vitamins.' One-third of breast-fed children aged 4 months were not receiving vitamin D supplements; should they have been? The subject of vitamin D in breast milk is confused. Water-soluble vitamin D sulphate apparently present in breast milk^{8,9} does not have antirachitic activities¹⁰ and it may have been an analytical red herring. It seems safer to recommend vitamin D supplements for all breast-fed babies. Two-thirds of babies receiving an approved formula at 4 months were not given supplements, but then they would not need them because all the currently available formulae contain 10 µg per litre of vitamin D, although the extra vitamins given to the remaining one-third would not be harmful. The babies who at 4 months were receiving unmodified cows' or goats' milk should have had supplements but half did not; they should of course have been receiving an approved formula anyway with supplements as an option. There is still a long way to go in tidying up our vitamin supplement practice.

A minor point is that nearly all babies receive either water or fruit juice even at 6 weeks. Is this necessary? I suspect it is a hangover from our concerns in the early 1970s concerning the high renal solute load of cows' milk and the risk of obesity.¹¹ However, with our hygienic water supplies, and the disappearance of reservoir feeders,¹¹ I suppose it is harmless.

1985

A further survey is promised for 1985. This sequential series describing infant feeding practice in a national sample is and will prove invaluable: Martin, Monk, and the DHSS are to be congratulated. The 1975 and 1980 reports have dealt mainly with breast feeding in the early months of life. It is to be hoped that the 1985 report will cover all infants through the entire period and will tell us as much about the bottle-fed child and the weanling.

References

- 1 Martin J, Monk J. *Infant feeding 1980*. London: Office of Population Censuses and Surveys, 1982.
- 2 Martin J. *Infant feeding 1975: attitudes and practice in England and Wales*. London: HMSO, 1978.
- 3 Wharton B A. Past achievements and future priorities—a view of present day practice in infant feeding 1980. In: Turner M R, ed. *Nutrition and health, a perspective*. Lancaster: MTP Press, 1980: 169–81.
- 4 World Health Organisation. *Contemporary patterns of breast feeding*. Geneva: WHO, 1981: 37.

- ⁵ Black D, chairman. *Inequalities in health. Report of a research working group*. London: DHSS, 1980.
- ⁶ Hally M R, Bond J, Brown E, Crawley J, Gregson B A, Philips P, Russell I. *A study of infant feeding: factors influencing choice of method*. Newcastle on Tyne: University of Newcastle upon Tyne Health Care Research Unit, 1982: 111.
- ⁷ Oppé T E, Arneil G C, Davies D P, *et al.* *Present day practice in infant feeding: 1980*. DHSS Report on Health and Social Subjects No 20. London: HMSO, 1980: 40.
- ⁸ Sahashi Y, Suzuki T, Higaki M, Ssano T. Metabolism of vitamin D in animals. V. Isolation of vitamin D sulphate from mammalian milk. *J Vitaminol* 1967; **13**: 33–6.
- ⁹ Lakdawala D R, Widdowson E M. Vitamin D in human milk. *Lancet* 1977; **i**: 167–70.
- ¹⁰ Leerbeck E, Sondergaard H. The total content of vitamin D in human and cows milk. *Br J Nutr* 1980; **44**: 7–11.
- ¹¹ Committee on Medical Aspects of Food Policy. *Panel on cariogenic foods: first report*. *Br Dent J* 1969; **126**: 273–80.

BRIAN WHARTON
*Infant Development Unit,
Queen Elizabeth Medical Centre,
Edgbaston,
Birmingham B15 2TG*