Decline in breast feeding

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Abstract

Information on whether mothers intended to breast feed and whether they actually did so one month after delivery has been recorded for all mothers in Sheffield during the last 15 years, and changes in the last 10 years have been reported. There was a steady increase in the percentage of mothers intending to breast feed and in those who did so in the 1970s. From 1984-8, however, there has been a rapid and progressive decline, despite an increase in mean maternal age and a reduction in the number of non-white births. The decline in the percentage of mothers who intend to breast feed has been greatest among those whose education did not extend beyond the age of 18, and among Asian mothers.

During the 1970s there was much interest in breast feeding and the salt content of milk fed to babies. During the period 1974 to 1977 in Sheffield there was a progressive increase in both the intention and the achievement of full breast feeding,¹ but by 1977 there seemed to be some levelling off. In 1988 concern was expressed in the *Lancet* about the failure of progress in breast feeding that had been reported by the DHSS the same year.^{2,3} The breast feeding rate in this country had been static during the previous five years.

Recently we resurveyed the breast feeding pattern in Sheffield and were disturbed to find that since 1981 there has been a rapid and continuous decline both in the intention and achievement of breast feeding, and in this paper we record both this observation and our attempt to identify the groups concerned and the factors that may have been influential.

Patients and methods

As part of the Sheffield Child Development Study, information is obtained on every baby born to residents of Sheffield. This includes the age of the mother, her intention to breast or bottle feed, the age at which she completed full time education, her previous pregnancies and their outcome, and her ethnic group. One month over delivery the health visitors do a home visit at which they collect data that includes the baby's feeding regimen. There are roughly 6000 births a year, and this study comprises birth and one month data on 55 100 mothers, over 98% of all mothers delivered during the period July 1979 to May 1988.

Results

Sheffield has three main maternity units in which over 98% of all babies are delivered. One unit (Nether Edge Hospital) is on the west, close to the more affluent areas of the city; the second unit (the Northern General Hospital) on the opposite side of the city serves the inner city areas and the east and, in the centre of the city, is the Jessop Hospital for Women within the university campus, which contains the main neonatal intensive care unit.

As these hospitals serve different populations, the breast feeding achievements have always been different. This can give insight into what is happening in the city, and therefore—in addition to the overall figures—we present the data from the three units separated. The proportion of births in the three units has changed during the 10 years of the study; births at the Nether Edge Hospital have decreased from 30% to 25%, those at the Jessop Hospital for Women have increased from 31% to 37%, and those at the Northern General Hospital decreased from 37% to 35%.

The trends in intention to breast feed and achievement of full breast feeding for the whole city for the period 1979-88 are shown in fig 1. The figures in all the illustrations are presented in percentages, the number of observations in

Figure 1 Percentage of mothers who intended to breast feed (upper graph) compared with percentage who were actually doing so at one month (lower graph), 1979-88.

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each year group being about 6000. The intention to breast feed in 1981 was a little over 70%, and the achievement at one month nearly 40%. By 1988 the intention to breast feed had dropped by roughly 10%, and achievement from 39% to 32%, which means that about 400 fewer mothers were breast feeding their babies at one month in 1988 than in 1982.

There was a reduction in intention to breast feed in all three units, but the greatest reduction occurred in the Jessop Hospital for Women (fig 2). Achievement produced a different pattern.

Figure 2 Percentage of mothers who intended to breast feed, and hospitals at which their infants were delivered, 1979-88.

Figure 3 Percentage of mothers who were breast feeding at one month, and hospitals at which their infants were delivered, 1979-88.

In the unit in the more privileged part of the town (Nether Edge Hospital) achievement remained static, but fell in the academic unit (Jessop Hospital for Women) at a greater rate than in the less privileged Northern General Hospital (fig 3). Factors which might have influenced this decline were investigated.

PARITY

During the past eight years there had been no appreciable local trend in parity. There has, however, been a rapid and parallel reduction in intention to breast feed, whatever the mother's parity, since 1984. The comparatively higher rate of intention to breast feed first babies has continued, but achievement rates are similar for first, second, and third children. Mothers with more than three children have maintained their previous rates of achievement.

MOTHERS' AGE

The average age of mothers increased slightly but steadily throughout the period. The number of mothers under the age of 20 remained almost constant at around 10%. Those aged between 20 and 25 fell from 33% to 28%, and those over 25 rose from 55% to 62%. There has been a consistent association between mother's age and both intention to breast feed and achievement, the older the mother the greater both intention and achievement. The fall in intention after 1983 was the same in all age groups. The percentages of mothers achieving full breast feeding have shown a tendency to diverge, the percentage of mothers under the age of 20 being below 15%. That in mothers aged 20 to 29 is 30%, and in those over 30 around 45%.

EDUCATIONAL LEVEL OF PARENTS

The intention to breast feed among women whose full time education continued after their 18th birthday has remained almost static at around 90%, whereas the intention to breast feed in women completing their education before their 18th birthday was static at about 68% from 1979-83, and then declined to about 58% in 1988.

ETHNIC GROUP

The only non-white group big enough to show useful trends was the Asian group. The intention to breast feed among both Asian and white mothers shows a pronounced fall since 1984, the Asians having their highest peak in that year, a year when the intention levels of the two groups were not significantly different (fig 4). The degrees of achievement of both Asian and white mothers decreased, among Asian more than among white mothers.

WEIGHTS OF BABIES

The mean weight of babies born during this period has remained static. There was an initial increase in the proportion of babies weighing

Figure 4 Percentage of white and Asian mothers who intended to breast feed, 1979-88.

less than 2000 g, but this stabilised after 1983. When we related breast feeding intention and achievement to birth weight we found a clear correlation between birth weight and both intention and achievement. Among babies weighing less than 1000 g the achievement was nil; among those between 1000 and 2000 g, 13%; among those between 2000 and 3000 g, 29%; and among heavier children, about 37%. The intention rate showed a similar correlation.

LENGTH OF STAY IN HOSPITAL

The mean length of mother's stay in hospital has been getting progressively less over the last 10 years in all three units. Though the intention to breast feed in full and short stay mothers has decreased in all groups, the level of intention was similar. The achievement of both groups fell, but the achievement of the long stay mothers was consistently lower than that of the short stay mothers.

Discussion

The breast feeding rates in this country fell from around 50% in 1930 to 10-20% in the early 1970s, and then rose rapidly in the later 1970s.⁴ There was a similar pattern in the United States with a similar levelling out about 1982.^{5,6}

Sheffield experienced a steady rise in the proportion of mothers successfully breast feeding during the 1970s,^{1,7} but the years 1981-7 have shown a progressive and rapid decline in both the number of mothers intending to breast feed and the number fully breast feeding at one month. This decline has taken place during a period of time when factors such as increasing maternal age and birth weight (which are known to enhance breast feeding rates) have either increased or remained static.

Many studies have shown a strong correlation between social class and both intention and success in breast feeding.^{5,7,8} We did not record social class, but the age at which the mother completed full time education probably reflects this. The discrepancy between the success rates

from the three different maternity units during the earlier study¹ could be entirely explained by this single factor.⁹ In the present study the effect of continuing education remains pronounced, with mothers whose education continued after their 18th birthday being more than twice as likely to breast feed as those completing their education earlier, and the decline in breast feeding over the study period was almost completely confined to the latter group (fig 5). It is notable that the one unit with a high proportion of mothers who had had further education was the only unit in which there was not a decline in breast feeding achievement.

A possibility is that the decline in intention and achievement in the Jessop Hospital for Women (which houses the regional neonatal intensive care unit), could be the result of the concentration of births of small babies and mothers with obstetric problems in this unit. The total number of babies weighing under 2000 g born in 1983 was 143; in 1984, 140; in 1985, 163; in 1986, 170; and in 1987, 151. In 1987 there were roughly 230 fewer mothers achieving breast feeding from the Jessop Hospital unit than there were in 1983. Thus if every low birthweight baby in the city was born at the Jessop Hospital, the numbers could not account for the overall pattern of change in that unit. It is possible that the recent emphasis on the disadvantages of breast feeding for specific groups such as very low birthweight babies, or the babies of HIV positive mothers,¹⁰ has influenced the attitudes of staff towards breast feeding in units in which such babies are concentrated. Conversely, the unit with greatest success in maintaining breast feeding (Nether Edge Hospital) is the one concerned principally with normal mothers and babies.

Social factors that may affect rates of breast feeding are the proportion of mothers returning to work¹¹ or a reduction in the availability of maternity leave.^{12,13} In Sheffield the recent

Figure 5 Percentage of mothers who intended to breast feed divided according to the age at which they finished full time education: 18 years and over (upper graph) and under 18 years (lower graph), 1979-88.

decline in breast feeding has taken place during a period of high unemployment and these factors are not likely to have been important.

The lower rate of intention and achievement in Asian mothers could be explained by an influx of Asian mothers into the city. The proportion of Asian mothers varied between 5.3% and 6.2%, with a tendency to decline towards the end of this period, which should cause the trend to be in the opposite direction from that observed.

Most studies of intention to, and success in, breast feeding are of mothers and babies attending a single maternity or paediatric unit. The study reported here is a 'population study', information being recorded about all babies born to parents resident within the city boundaries during the period of the study. We therefore feel that we have identified a true population trend.

Earlier studies have shown that the decision to breast or bottle feed is usually taken before conception,¹⁴ and that family rather than professional influences are paramount. The discrepancy between intention and success, however, must at least be partly because professionals are unable to give adequate time to the active promotion and encouragement of breast feeding. Pressure on community based services to place their priorities elsewhere and the trend promoted by the government towards larger lists for family doctors must mean that family doctors, midwives, and health visitors will have less time to spend on this aspect of primary preventative paediatrics, and there is evidence that—at least in some countries—promotion by manufacturers of milk products is increasing.¹⁵

We have not been able to identify a single cause for the recent decline in breast feeding in Sheffield. The biggest decline in intention and

achievement has been among Asian mothers and among mothers who did not receive further education. The decline has taken place over a period of time when the city itself was under stress from unemployment, during which the health care services have been increasingly stretched, and when postperinatal mortality stopped decreasing.¹⁶

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