COMPLEMENTARY FEEDS—BY SPOON OR BOTTLE?

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It has often been stated that if complementary feeds are given during the period when lactation is established they should only be given by spoon (Naish, 1948, 1952, 1953).

Naish wrote:

'Once a baby is introduced to the bottle, there is a very great danger that it will either refuse the breast entirely, or work the breast insufficiently, so that the milk supply is inadequately stimulated. This happens because the action required to get milk from the rubber teat is quite different and decidedly easier. . . . To maintain breast feeding, it is absolutely essential that all complement should be given with a spoon.'

Evans and Mac Keith (1951) wrote:

'Extra feeds may be given by spoon or bottle. The former is preferred, as sometimes infants who have had a bottle refuse to take the breast.'

It takes much longer to give complementary feeds by spoon, and it was therefore thought worth while to conduct a simple controlled experiment in order to determine whether this method of giving complementary feeds is really necessary.

Method of Study

At the Jessop Hospital for Women at Sheffield complementary feeds are only given on the instruction of the Paediatric Registrar. When it was thought necessary to give complementary feeds, the random sampling method, with the usual packets of sealed envelopes, was used to determine whether the complementary feeds should be given by spoon or bottle. Only full-term babies were used for the experiment, and none of these were excluded. After discharge from hospital, on approximately the ninth day in most cases, all babies who still needed complementary feeds were given them by bottle. The aim was simply to determine whether the use of a bottle for giving complementary feeds had an adverse effect on the establishment of lactation.

The following records were kept on proformas: the weight at birth, the weight on alternate days while in hospital, the type of feeding on discharge and at 1 month (fully breast fed, complementary

feeds, artificially fed), the weight at 1 month and the speed of weight gain between the time of discharge and the follow-up visit at 1 month, with reasons for giving complementary feeds, the quantity of complementary feeds given and the days on which they were given, the parity of the mother and the feeding history in previous pregnancies. In all, 100 babies were studied, 50 being given their complementary feeds by spoon and 50 by bottle.

Results

Comparability of the Two Groups. Thirty-six mothers in each group were primiparae. The average birth weight in group A (complementary feeds given by bottle) was 6 lb. 7 oz., and in group B (complementary feeds given by spoon) 6 lb. 6 oz. The range was as follows:

Birth Weight	Group (Number of Cases)	
	A	B
5 lb. 8 oz. to 6 lb. 15 oz.	20	15
7 lb. 0 oz. to 8 lb. 7 oz.	20	30
8 lb. 8 oz. or more	10	5

There was no difference between the two groups with regard to the quantity of food given as complement or the number of days after birth before complementary feeds were given.

TABLE 1
TYPE OF FEEDING IN RELATION TO METHOD OF GIVING COMPLEMENTARY FEEDS

Type of Feeding	On Discharge (%)		At 1 Month (%)	
	A* (Bottle)	B (Spoon)	A	B
Fully breast-fed	56	62	50	48
Complementary feeds	30	20	16	14
Entirely artificially fed	14	18	34	38

* 50 babies in each group.

TABLE 2
TYPE OF FEEDING AT 1 MONTH RELATED TO DURATION
OF COMPLEMENTARY FEEDING IN THE FIRST
10 DAYS

Duration of Complementary Feeding				Proportion Fully Breast-fed at 1 Month	
				Group A (Bottle)	Group B (Spoon)
4 days or more	..	..	..	9/24	5/19
3 days	..	..	..	9/15	10/19
1 or 2 days	..	..	..	7/11	9/12

TABLE 3
TYPE OF FEEDING AT 1 MONTH RELATED TO QUANTITY
OF COMPLEMENTARY FEEDS IN FIRST 10 DAYS

Quantity of Complementary Feed per Day	A* (Bottle)			B* (Spoon)		
	Fully Breast Fed	Complementary Feed	Artificially Fed	Fully Breast Fed	Complementary Feed	Artificially Fed
Less than 10 oz.	10	5	2	7	1	4
10 oz. or more	15	2	16	17	7	14

* 50 babies in each group.

Relationship of Method to Incidence of Breast Feeding. Table 1 shows that the incidence of breast feeding in the two groups both on discharge and at 1 month was much the same. In group A (bottle) 43 of the 50 babies were fully or partially breast fed on discharge, and 41 of the 50 at 1 month. The corresponding figures in group B (spoon) were 41 and 31. Tables 2 and 3 show that the duration of complementary feeding (in the first 10 days) and the quantity of complementary feed given had no effect on the relative results in the two groups.

There was no evidence that the method of giving the complementary feeds bore any relation to the amount of milk which mothers produced. The mean test feed (including milk expressed) on the eighth day in the case of mothers of babies in group A (bottle) was 14 oz. as compared with 12 oz. for group B (spoon). The average weight gain between the time of discharge and the time of the first follow-up visit at approximately 1 month was analysed in the case of those fully breast fed when

followed up. The average weekly weight gain in that period for the 25 babies in group A was 8 oz. as compared with 6.4 oz. for the 24 babies in Group B.

None of these differences is statistically significant.

Discussion

It will be seen that this simple controlled investigation showed that the giving of complementary feeds by spoon instead of by bottle presented no advantage in relation to the incidence of breast feeding and the effect on the mother's breast milk production. The very slight differences in the two groups, though not of statistical significance, were in favour of the bottle-fed group.

It has been argued that a good reason for advocating that all complementary feeds should be given by spoon instead of by bottle lies in the fact that it takes longer to give them by spoon, and this deters nurses from giving complementary feeds unnecessarily. It seems that the unnecessary use of complementary feeds could be better prevented by proper teaching and supervision of nurses than by a method which merely wastes their time.

Summary

A controlled investigation was carried out in order to compare the effect on the establishment of lactation of giving complementary feeds, where indicated, by spoon and by bottle. There were 50 babies in each group, chosen by random sampling. The experiment failed to reveal any advantage in using the more time-consuming method of giving the feeds by spoon.

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