[*March* 26, 1943]

JOINT MEETING WITH THE MATERNITY AND CHILD WELFARE GROUP OF THE SOCIETY OF MEDICAL OFFICERS OF HEALTH

DISCUSSION ON THE DECLINE OF BREAST-FEEDING (*Abstract*)

Dr. V. Mary Crosse: Since the Middle Ages there has been a definite decline in breast-feeding, both as regards the proportion of children breast-fed, and the length of period of feeding.

In the early twentieth century, the increased safety of artificial feeding and more scientific methods led to better results with such feeding. This caused a further decline in breast-feeding which had already been gradually reduced by the introduction of artificial feeding in the nineteenth century.

The period of breast-feeding had also been reduced to six months.

If, however, one is only considering the recent years, i.e. since the beginning of the War, the answer is probably not the same. The following figures are available from Birmingham and were collected by Dr. Ethel Cassie.

(1) 1938: An inquiry into the method of feeding of 4,378 children born between January and June 1937 and who were alive in January 1938.

(2) 1941-2: An inquiry into the methods of feeding of 1,937 children born during first quarter 1941; 2,698 children born during first quarter 1942.

This was undertaken for the British Pædiatric Association.

The findings are as follows:

	1938	1941	1942
(*a*) Children artificially fed by age of 1 month	13%	7·9%	7·2%
(*b*) Children breast-fed 3 months or more	51%	53%	52%

Finding (*a*): It is interesting to note that in 1938, out of nearly 17,000 cases only 2·6% were artificially fed at the age of 2 weeks, i.e. when discharged from hospital or left by the midwife, yet by the age of 1 month this figure for artificial feeding had risen to 13% —and in nearly all cases the infant had been weaned before the health visitor had called, or the child had been taken to a welfare centre, i.e. in the absence of skilled advice.

The improved findings of 1941 and 1942 at this early stage may be due to the effort to close the "gap" by means of early visits, special clinics for very young babies, and better co-operation between hospitals, midwives and health visitors.

Finding (*b*): The figures for breast-feeding in 1941 and 1942 show a slight improvement on those of 1938.

Effect of work on breast-feeding.—It seemed probable that owing to so many of the mothers doing war-work, breast-feeding would be decreased. This has not proved to be the case in Birmingham. In 1938 11% of artificially fed babies were weaned because the mother was going to work. In 1941 12·8% and in 1942 11·7% of artificially fed babies were weaned for this reason. This group consists largely of unmarried mothers—and as the number of illegitimate births has risen in Birmingham during 1942, the number of married women weaning their infants for this reason has probably fallen.

	Illegitimate births		
	1938	1941	1942
1st quarter	180 ...	169 ...	239

The general opinion of the superintendent health visitors of Birmingham is that married women not used to working in factories before the war, are not working now while their child is under 1 year—and that women used to working in factories are not starting work any earlier than before the war, i.e. not before the child is 2 to 3 months old. This opinion is borne out by the figures which show that 70% of the women who go to work, go after the child is 3 months old; and by the fact that there are relatively few applications for admission to the wartime nurseries for babies under 3 months.

Other war conditions which might reduce breast-feeding are queueing for shopping, anxiety for husbands, and air-raids. On the other hand, certain war factories may tend to increase breast-feeding. Husbands, who are at home, working on munitions, &c., are earning better wages, and their wives can afford to stay at home and look after the children. Better wages can also mean a better diet, thus leading to better breast-feeding. The supply of milk to expectant and nursing mothers and the extra vitamins should also prove helpful.

However good artificial feeding may be, it can never give the immunity to disease that breast-feeding can give. As an example to prove this, I can quote some figures from the Birmingham Premature Baby Ward.

While the mortality rate of the babies during their stay in the ward is identical, whether they are fed with breast-milk or are artificially fed, the results after discharge from the ward show great differences according to the feeding.

Of all babies discharged alive and well from the ward:

4% are dead at 1 year of those breast-fed (i.e. entirely breast-fed six months).
6% are dead at 1 year of those partly breast-fed (i.e. breast-fed three months only, or breast + complement).
10% are dead at 1 year of those artificially fed.

Dr. H. K. Waller: Evidence of a decline in breast feeding can only be deduced from statistics, and I know of none which can claim to show it. On the other hand figures are available from many sources to show the current proportion of failures. Thus Dr. G. Walker found at Bournemouth that 23% of babies attending infant welfare centres in 1941 were breast-fed for less than two weeks, and a further 30% for less than three months. In my own clinic in East London roughly 25% are bottle-fed by the age of 1 month. No one is anxious to accept responsibility for them. The clinics are presented with an established failure; the mother says she has lost her milk and in a high proportion the statement is strictly true. "All was well," say the obstetricians and ward nursing staffs, "when they left us." "All is amiss," say the health visitors and clinic physicians, "when we follow them up." Is it possible there are factors causing these failures whose effects are only revealed in the second and third weeks? I believe it is so, and shall attempt to define two such common hindrances to success.

When active milk secretion begins on the third or fourth day after delivery, the baby is often reluctant to feed, sleeps after spending a few minutes at the breast, mouths and fumbles at the nipple, and gets only small quantities of food. In a favourable case, such as I want first to describe, these difficulties pass quickly; so that by the sixth or seventh day matters are greatly improved. The baby's grasp is more secure, it applies itself to its task with greater energy, a good and sufficient intake is registered. The loss of weight is checked and begins to be replaced by a daily gain. In such cases also it is usual for the breasts to leak freely in the intervals of suckling, and if a careful watch is kept, it can be observed that the leakage is not continuous, as it is often said to be, but tends to occur periodically—perhaps every hour or so. Any overfulness of the breasts subsides quickly, and by about the tenth day the mother is aware they are softer after the child has fed; that suckling in fact results in a definite emptying which brings her relief. This is specially the case in the morning if, as is customary in hospitals, no feeds are permitted during the night and the breasts have become overloaded.

By the time she is due to go home about the twelfth day, her baby has probably regained its birth weight. It has begun to display hunger coinciding with the time fixed for its feeds, and to sleep between whiles; though most newborn infants, I fancy, find the long night interval an unnatural infliction.

If we see this woman a fortnight later at the welfare clinic, we may find the child has already gained a pound, or as much as a pound and a half, in the interval. We shall hear, if we ask the question tactfully, she feeds it once during the night, but that she has observed the same feed-times during the day as were instituted in the ward. Questioned about her yield, she will very likely state with confidence that it has increased considerably; and that, though the spontaneous leakage has ceased, or nearly so, she can now recognize, just before or just as the child begins to feed, a sensation in the breasts which she describes variously as a "drawing pain", an aching, a prickling, pins and needles, and sometimes as a hardening. She quite likely offers the opinion that the baby now "gets his milk too fast", and that "he chokes himself". We hear also that soon after the start of the feed he withdraws from the breast to get his breath, and that when this happens the milk is spurting a considerable distance from the duct openings. There has now developed, in fact, a reflex mechanism whereby milk is expelled from the breast when a certain degree of tension is produced by accumulated secretion. It may later respond to other stimuli, such as the mouthing of the nipple, or the drinking of water preparatory to nursing.

The existence of this reflex compels us to reconsider the child's contribution to withdrawal of milk, usually thought of in terms of suction. I believe suction to be the force which draws the nipple far back towards the pharynx and not the force which extracts milk from the depths of the gland. In this position the ampullæ are squeezed empty by the rhythmic action of the mandible after the first outrush has subsided.

The draught reflex and its conditioning constitutes one of the main factors in the success or failure of breast feeding. It is appropriate to recall the Russian physiological school on conditioned reflexes and to remember how external influences such as pain,

fear and distracted attention act as inhibitors and how punctual repetition of stimuli and familiar environment assist the physiological processes. Mindful of this, is it not possible we underestimate the effect on some of the strangeness of entering hospital, the need for the patient to accommodate herself to its routine, to the alteration of diet, and to the personalities of the nurses and their professional ministrations? Then again, should we not remember that barely has she become familiar with all these when the process is reversed and she changes back to her home with the resumption of its duties and, for the first time, the full responsibility of tending her baby? The discovery that her baby screams a short while after she has fed it and exhibits violent contortions of pain may mean little to a woman of placid disposition, or to one who has had the experience before and has learnt to deal with it. To one of the opposite type these may assume a terrifying significance and play a great part in inhibiting the secretion.

Another cause of failure can be adduced from the mother whose yield is extinguished within a few days of the start of active secretion and whose baby is already bottle-fed before she makes her first attendance at the infant welfare centre. She asserts that she lost her milk soon after she got home and that this was clear to her because the baby was always crying, never satisfied and was hungry within an hour of taking the breast. A source of great anxiety to her was the infrequent green stools. The breasts had shrunk and often the child would not even attempt to feed when she tried to suckle it. She experimented with the bottle and found the feeds were eagerly taken and were followed by sleep. In these cases the history is significant. Lactation began in the same way as in the successful mother, but by the fifth day the breasts were tense, lumpy, painful and unyielding. The baby's efforts resulted in no more than half an ounce of milk being withdrawn. The sequelæ of increased tension, breast pumping without relief and damaged nipples became a dreaded torture. This was usually relieved by the eighth day but the baby had lost weight and the nurse had been obliged to supplement the feeds. All degrees of overloading may occur, and I am anxious to emphasize that it may involve the failure of milk to escape with sufficient freedom to reduce the tension within safe limits. Safe—because if the retention and overload persist, production declines, almost certainly due to excessive pressure within the alveoli upon the secretory cells. Moreover, the whole breast, including the nipple, may become œdematous, a clinical fact which is insufficiently recognized, and the nipple rendered specially liable to damage as the force of the child's suction falls upon it. This is nearly inevitable, since by reason of the tautness of the skin covering the breast, the nipple cannot be drawn into a position of safety but rests in the forepart of the mouth where it is not only sucked but bitten. The next stage is the absorption of the milk—there is no other explanation of its disappearance—and the return to the resting stage. This is the identical process which takes place when a baby is stillborn and the breasts are not used and are bandaged to the chest wall. Were I asked to define criteria by which satisfactory management of the first fortnight can be judged, I should largely disregard statements of the percentage of infants still being put to their mother's breasts and ask for a conscientious reckoning of the frequency of "cracked" nipples, of mastitis, and of breast abscess. They will indicate the success with which overload is prevented or checked, and so the possibility of the "draught" reflex being enabled to come into operation.

At the British Hospital for Mothers and Babies we set ourselves this standard. We found that relief by manual expression was too time consuming, and that teaching each mother on admission and before delivery was too heavy a task for the nursing staff, and so we began tuition on how to remove colostrum during the last three months of pregnancy. This ensured that the manipulations were learnt and practised daily, and the results were soon apparent in that the incidence of overloading was strikingly diminished. I cannot tell you how prenatal removal of colostrum assists the initial outflow of milk, but after we began it I found it is well-recognized as a preventive of mastitis in dairy farming. Since using it we have had only one breast abscess in the last 4,500 consecutive deliveries and no case of notifiable pyrexia due to breast conditions.