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*Breast-milk and Infant Nutrition in Nigeria**

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ON 21st May 1981, the governments of the world, through their representatives at the World Health Assembly in Geneva, approved an International Code of Marketing of Breast-milk Substitute . The code was meant to control the excesses which had been noted in the aggressive advertisements and advertising methods of the multinational Baby Food Manufacturing Organizations over the previous years. The approval of this code as well as the worldwide controversy that led to it, generated a great resurgence of interest in breast-milk and breast-feeding. Between 1975 and the present, the Department of Human Nutrition, University of Ibadan, in collaboration with the World Health Organization, UNICEF and other organizations, have been looking at breast-feeding and breast-milk in Nigeria. This paper discusses some of the results of our studies and highlights some of the prevailing and anticipated problems. From these studies, we hope that it may be possible to develop a workable package that will ensure that more and better use is made of breast-feeding and breast-milk.

Duration of breast-feeding

One study was to find out the present state of breast-feeding in the country; whether breast-feeding was decreasing and why. Almost all mothers in Nigeria—whether elite, rural or urban, still start their newborns on breast-milk. The incidence of breast-feeding at birth is still about 99%. This is in spite of the practice of separating mother and infant immediately after birth in most hospitals, as well as the indiscriminate use of "bottle-feeding" for newborn babies by the staff of the midwifery departments. The 'loss' that has occurred in breast-feeding in the country is however, in the length or continuance of the act. In the elite and working mothers who have to go back to work by the third month of parturition, breast-feeding is stopped by the first month and replaced by breast-milk substitutes. This practice allows the mother to return to work, having established her baby on artificial feeding. The provision in the Government General Orders that allows mothers, one hour off for breast-feeding does not in practice, encourage breast-feeding, because in towns such as Lagos and Ibadan, working mothers have to travel long distances to get to work and most of them cannot get home to breast-feed and return to work in one hour. So, most of them take the last hour of work off, so as to arrive home before the homeward transport rush. The use of *creches* has also been suggested as a way of getting working mothers to continue breast-feeding after the 3 months maternity leave. Again, distance from work and transportation militate against the use of *creches* in most of our towns.

Supplementation of breast-milk

Most mothers start supplementing their infants feeds with breast-milk substitutes by the

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second month of life. Traditionally and in most rural areas, the supplement is a gruel-maize, millet or guinea-corn pap. In the urban areas, artificial milk is now the rule rather than the exception. The milk or pap is given whilst breast-feeding is continued; the milk or pap is used as a supplement. Pap is not a good supplement for infant feeding because it is low in both calorie and protein. Artificial milk has about the same calorie and protein values as breast-milk and may satisfactorily be used as a supplement.

Breast-feeding and sexual abstinence

In rural and unsophisticated urban areas, breast-feeding and the traditional abstinence from intercourse ensure a good interval between births. In one rural area that was studied, it was found that breast-feeding as well as abstinence continued for 15 months or more. During this time, ovulation and menstruation did not occur in the mother. It was not until the 18th to 24th month that menstruation recommenced. The child was then weaned from the breast and intercourse started. On the other hand, amongst the elite and middle class women who work and who stop breast-feeding by the 1st month, menstruation had returned and intercourse started by the 3rd month.

It is still not clear how important the nutrition of the mother is, in the early return of menstruation. Two factors that have been identified are (*a*) breast-feeding at least, 4 times or more daily and (*b*) intercourse. The difference in nutritional intake between the mothers of the elite and the rural poor groups was not wide—2500 kcal and 1850 kcal at the most.

One can say that breast-feeding is still with us in Nigeria; 99% of all Nigerian mothers still breast-feed their infants immediately after birth. It is the duration of breast-feeding that has been reduced and that drastically. Why?

Reasons for decline in the duration of breast-feeding

If one should listen to the non-governmental organisations of Europe and America, the extensive and aggressive advertising and selling methods of the multinational Baby Food companies play a large part in convincing mothers to turn to artificial milk and reduce the length of breast-feeding. In a study of over 2500 mothers from the city of Ibadan and the surrounding villages, most mothers felt that the change was their own decision, "the child needed it". Others commenced artificial milk because of "advice from nurses, doctors and health centres" or "advice from friends or husband"; but not one mother mentioned advertisements or hard selling by baby food manufacturers. The advertisements were so well put across; for instance, advertisements like "if your breast-milk is not enough, give...........", could encourage a mother to question the adequacy of her milk. Once the doubts started, mother soon believed that the addition to breast-feeding was all her own idea. Examples of hard selling also abound especially in the rural villages. For example, in 1968, whilst carrying out a nutrition survey with students in a village about 20 kilometres from Abeokuta, involving clinical examinations of infants and children in the village with height and weight measurements and asking questions about the children's health, a mother with a 1-year old child stated that her baby had been crying at night until a week before our visit, when a salesman came to the village and advertised his wares. She took her baby to the salesman's van and asked if the product could help stop her child's crying at night. The salesman confirmed that if she gave his product every night, the child would be satisfied and would stop crying. So, the mother bought some of the product which she had been giving the child every night; the child had since gone to sleep every night. She then produced one of the products; it was a bottle of *Guiness Stout*! Once the child drank

a few gulps of the stuff at night, he got drunk and slept!

Stumbling-blocks to breast-feeding

One of the important stumbling-blocks to breast-feeding is for mother or doctor to be sure that the child is getting enough breast-milk for its needs. The only way a mother or doctor can be sure, is to find out by serial weighings that the child is growing well and following its line of percentile growth. It is usually difficult for a paediatrician, seeing a child for the first time, to decide whether mother's milk is enough for the child or not. If the child's weight is much below the average weight for its age, a supplement may be prescribed after the exclusion of other causes of "failure to thrive". When the weight of the child is 'borderline', the experienced paediatrician knows that he/she can wait for a few days and get serial weighings from which a diagnosis can be made. Unfortunately, most young paediatricians and a lot of general practitioners advise an immediate change to artificial feeding as they can then know how much feed the child is getting.

Our studies have however, shown that most mothers rarely give breast-milk alone. During the first few weeks of birth, water is used both as a supplement or as a replacement of a feed. Later, gruels are used either as a supplement to breast-milk, or to replace a feed so as to allow mother to rest or work.

Many doctors and paediatricians trained outside Nigeria, as well as those trained in Nigeria but who learnt 'nutrition' from textbooks, have been brainwashed to believe that the milk yield of the average Nigerian mother is very low and inadequate. However, our studies indicate that this is not so. There is a lot of difference between the milk yield of mother and the milk intake of the baby. Expressing milk from the breast either by hand or by pump gives the milk yield of the mother. This does not tell us how much the baby will take. The amount of breast-milk taken by a child on the breast depends upon the weight of the child as well as his needs.

The requirements of a child for energy and food depend on the needs for (*i*) basal metabolism (*ii*) exercise and (*iii*) growth. An infant that is snugly tied to mother's back is warmed by the mother, thus reducing the baby's basal metabolism. Tying the baby to the back also restricts the child's exercise and movements of hands, neck or body. All the child needs then, will be mostly its requirements for growth and this is small. Thus, babies that are tied on mothers' backs for most of the day and sleep under the same sheets as mothers, need very little energy and protein. The nutritional requirements of these babies are adequately met by relatively small amounts of breast-milk. The babies are satisfied and grow very well. Babies that are not tied to mothers' backs and live in cots, carriers and playpens, move about a lot, have higher nutritional requirements and would therefore, need more breast-milk. Thus, the average Nigerian infant who is on the mother's back does not need a lot of breast-milk; he therefore, takes relatively little. A baby cannot overfeed on breast-milk. As long as babies are growing well, they must be getting all they need, and it is known that for the first few months of life, breast-fed Nigeiran babies grow at a faster rate than babies in Europe and America.

Paediatricians must learn to trust the baby. The baby takes only what it needs and as long as baby is growing well, we should not worry about the actual amounts of milk taken.

Contents of breast-milk

Analyses of samples of breast-milk collected were carried out at our laboratories and also at the International Atomic Energy Agency (IAEA) in Vienna. In Ibadan, samples of breast-milk were analysed for ash, energy, protein, fat and vitamins; it was found that the levels of these components in all the specimens analysed were within the normal international

ranges. Analyses carried out at the IAEA, Vienna, also compared Nigerian breast-milk samples with samples from Guatemala, Phillipines, Zaire, Sweden and Hungary for their contents of minor nutrients and trace elements. Twenty-four minor nutrients and trace elements were studied and the results of the samples from Nigeria compared favourably with those from the other countries. There was however, more iron in the breast-milk from Nigeria than that from Hungary, but less lead than in samples from Hungary, Sweden and Phillipines. Of the samples from the 6 countries, Guatemala had the highest calcium content of 200 mg/litre whilst Nigeria had the lowest of 136 mg/litre (recommended daily intake is 360 mg/day). By and large therefore, the breast-milk of Nigerian mothers, whether elite or poor, rural or urban, compares favourably with breast-milk from other countries.

To encourage breast-feeding, there is a need to work out a package that will include:

(*i*) Proper training of medical doctors in Nutrition especially Infant and Child Nutrition so that they can give advice. Knowledge of the art and practice of breast-feeding should also be mandatory. The time has come for us to take over the nutrition education of our students and colleagues from the Baby Food manufacturing agencies.

(*ii*) Proper education of all health staff—midwives, nurses, aides, community workers etc, to give support to breast-feeding. Mothers who breast-feed need both moral and psychological support from us all. Mothers should be encouraged to go on breast-feeding for as long as possible, although appropriate supplements may be added. There is an adage in Infant Nutrition that I will like to leave with you—"A child on the breast does not get kwashiorkor". This is true under all normal circumstances.

(*iii*) Encourage members of the family—husbands, children and mothers-in-law, to help the young mother by giving support in the house. Help her do some of her work. Relieve her of one or two burdens so that she may give just that little extra attention to her baby.

(*iv*) Make it a national programme to help the breast-feeding mother—give up your seat so she can seat; help her with her load; look after her work so that she may rest for a minute or two. Give her a smile of appreciation and a word of support.

At present, a lot of the food produced in this country never get to the table. Insects and pests destroy a good percentage whilst lack of storage or good packaging make a lot of produce rot and waste. Breast-milk should not be wasted; it is an important commodity for our infants.