

Pediatrics

Babies Eat Before They're Born

By

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All young things, plants, animals and children need special care in their early days. Just as the young plant needs a soil containing a mixture of different substances in certain proportions, and protection from various hazards, so the child depends for its survival and growth on the quality and quantity of food it receives from the first moment of life, and on its protection from harm during its tender years.

Nutritionally a child is at least nine months old when it is born, and we have to begin thinking about its nourishment and the prevention of malnutrition long before its birth.

The unborn child draws its nourishment from the mother's body, which has the ability to convert the food the mother eats into food suitable for the baby. Moreover, during the last months of its life inside the mother's body, the child builds up a store of specially valuable substances in its own body to see it through the first few months of infancy.

In many parts of the world the infant continues to depend almost entirely on the mother's body for its nourishment for several months after birth. Its survival and healthy growth depend on the quantity and quality of the breast

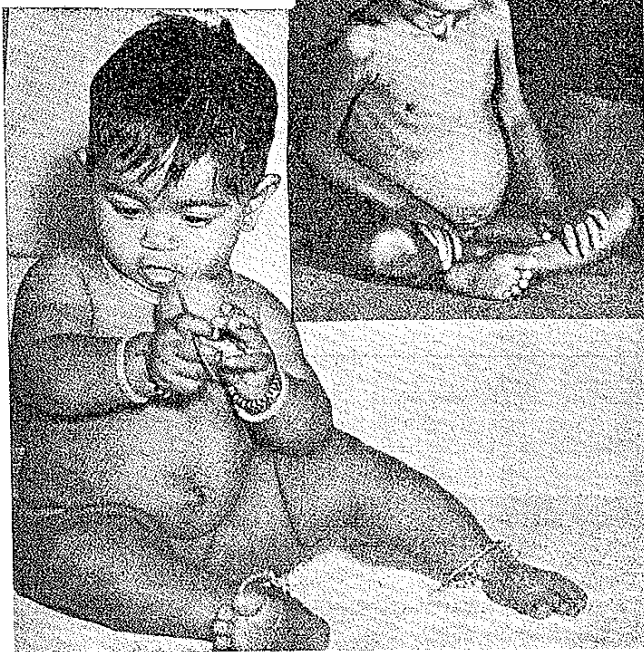
milk which the mother can provide, and this in turn depends largely on the quantity and quality of the food the mother eats.

If the mother does not get enough of certain kinds of food—the protein foods—her breast milk tends to diminish in quantity, though the quality may remain good.

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Where it is easy to buy or to get animal milk such as cow's milk, and easy to prepare and give it safely to the baby, the inability of the mother to provide entirely for the baby's needs presents no great problem.

But in many countries animal milk is difficult to get, too expensive to buy, or not traditionally used. Often there is no suitable way to store it, and the lack of cooking utensils and clean water makes it difficult to prepare milk which can safely be given to the young baby. In these conditions an insufficient quantity of breast milk can be a tragedy.

In some parts of the world, the tragedy may spring from changes in the quality of the breast milk, due to the kind of food the mother eats during her pregnancy and lactation.

In rice-eating countries there is frequently a preference for highly milled rice. This rice keeps better than the undermilled variety, but during the milling process it loses a valuable food factor—vitamin B₁.

Where the people eat large quantities of highly-polished rice, and little else except perhaps a little dried fish and vegetables, the deficiency disease, beri-beri, occurs frequently.

The disease sometimes shows itself only in vague feelings of ill-health which give no hint of the real danger. But then, suddenly, an apparently healthy infant being nursed by an apparently healthy mother may become gravely ill with infantile beri-beri, due to changes in the breast milk caused by the mother's vitamin-deficient diet.

Similarly, when the diet of the pregnant or nursing mother does not contain enough of the foods which provide, either directly or indirectly, another vitamin (vitamin A) for the body's use, the baby may be born with an insufficient store and then be fed on breast milk deficient in this necessary vitamin.

This deprivation affects the child's eyes and, if severe and prolonged, may result in blindness. It is thought that about six cases in ten of the blindness

found in Ceylon and South India are due to this cause.

The prevention of a certain kind of anaemia ("suckling anaemia") also depends largely on the quality of the mother's diet.

Breast milk normally contains little of the iron which is necessary to prevent this type of anaemia, so it is particularly important that the child should be able to build up an adequate store before birth, and this it cannot do if the mother is poorly nourished.

It seems obvious then that *any effort to ensure that the infant and young child will be well fed, and, therefore, capable of healthy growth must be directed first to establishing and maintaining the nutritional health of the mother.*

There are two main reasons why mothers, and people in general, suffer from malnutrition.

In several regions there is an absolute lack of the necessary foodstuffs—due to climatic, or economic and social conditions. In some parts of the world, however, valuable foods are at hand but are not eaten for various reasons.

These foods may be avoided because of beliefs handed down from generation to generation that they are harmful in certain circumstances or responsible for causing disease. (Many, for example, are rejected because it is believed that they affect sexual potency.)

It may be considered that certain foods are suitable only for certain groups of people—old men, children, priests, or pregnant women—or for certain occasions; that they cannot be combined, or taken in sequence, with other foods. They may have a special significance in relation to the prevailing religion, or they may be considered, for no explicit reason, as merely disgusting.

Whatever the reason for this avoidance it is always part and parcel of the whole fabric of beliefs and everyday life of the people concerned, and give rise to habits which will, therefore, not be lightly relinquished or changed in isolation from other aspects of living.

Unfortunately, a great many of these beliefs affect the pregnant or nursing mother, to whom many especially valuable foods are expressly forbidden.

The task of improving the nutritional health of the mother by encouraging her to make more use of the foods at her door is, therefore, not an easy one. Success will depend not only on the mother's willingness to try out unaccustomed foods and new ways, but also on the willingness of the neighbours and friends whose approval she values to replace traditional by scientific knowledge.

One striking example of the difficulties to be overcome is the resistance found in western countries against the use of the knowledge available about the control of the most prevalent disease of childhood there—dental decay.

It is well known that a decrease in the consumption of the sweet and starchy foods is always accompanied by a decrease in the incidence of decay.

But to improve their children's health in this way the people of these western regions would have to change many of their cultural customs: their habits of child feeding, their tokens of affection, reward and prestige, their feast and anniversary foods.

The economy of these countries, for instance, would be gravely disturbed if sweets, cakes, white bread and refined sugar were no longer in demand, while this change might also have repercussions on the economic situation in some remote areas where sugar-growing provides a livelihood for many.

Here also where a high standard of public health is valued and maintained, improvements involving changes in traditional tastes and habits that are part of the whole way of life of the people, are not easily achieved.

In spite of the tenacity with which most people cling to their beliefs and habits regarding food, changes for the better are being made. Already, for example, cow's milk is becoming a valued food for children in countries where twenty years ago it was never used.

In all parts of the world, practical

measures are being taken to encourage people to make *more use of foods available locally* or easily grown in their own fields or gardens. Better quality seeds, better agricultural methods to improve the familiar crops, plans for drainage or irrigation of the land and better husbandry of animals are slowly being introduced, and dairy farming expanded wherever possible.

Research is also going on into the various ways and means of developing from local resources, such as plants or fish, protein foods suitable for the young child.

The fact that it is possible to feed the child by feeding the mother is a tremendous asset in the attempt to solve one of the most widespread nutritional problems affecting child health today.

In many parts of the world and particularly in tropical countries, breast-fed children grow well for the first six months of life and then begin to show signs of a slowing down of growth and a failure to gain weight. This tendency increases with weaning and may result in various degrees of ill-health and finally in the severe illness known as kwashiorkor.

The graduated weaning process from breast milk to cow's milk and then to adult foods has become so firmly established in Europe and America that many people find it difficult to remember that in other parts of the world quite a different pattern has long been accepted as normal.

There, when the child is weaned from the breast, the only foods available to it are certain of the adult foods.

In many cultures, indeed, tradition decrees that the males or the elders are the privileged people who have first claim on the scarce protein delicacies, and the child has to be content with the everyday starchy foods.

These are often too bulky and indigestible for the child's digestive system, and the resultant diarrhoeas, together with prevalent intestinal infections, deprive the child still further of the nutrients he so badly needs for his growth and activity.

But although the child's body cannot cope with a sufficient quantity of the coarse cereal foods, or with the vegetable foods which might be used as substitutes for the animal protein which it lacks and needs, the mother's body can, and can convert these foods into protein in the form of breast milk for the child.

One way, therefore, of dealing with this world-wide problem—the lack of suitable protein foods for the weaned child—is to try to improve the diet of the mother so that she will be able to breast-feed her child adequately and long enough to allow its digestive system to become sufficiently mature to cope with the usual adult foods.

Unfortunately the problem of the nutritional health of the child will not be solved by ensuring an adequate supply of a variety of foods for the mother and her child—difficult though that may be in itself. Other aspects of the child's life and environment menace the maintenance of a good nutritional state.

Probably three-fourths of the world's population, it has been said, drink unsafe water, dispose of human excreta carelessly, prepare milk and food dangerously, are constantly exposed to insect and rodent enemies and live in unfit dwellings.

Under such circumstances the child is constantly exposed to the danger of various kinds of food poisoning, causing diarrhoea and vomiting and a further loss of precious nutrients.

In addition, nearly every child carries its load of intestinal parasites, which grow and multiply at the expense of the child's nutrition. Some parasites (for instance, the round worm) set up a vicious circle whereby the worms thrive more actively when the child is severely malnourished, and decrease in numbers and strength when the child's nutrition improves.

Others, namely the hookworm, create a constant drain on the child's scarce reserves of protein and iron by attaching themselves to the intestinal wall and feeding on the child's blood.

It is evident then, that safe water to

drink and use, the disposal of excreta so that the ground on which the child plays or the river in which he bathes are free from the danger of parasites, and clean habits in the preparation and eating of food are also urgently necessary to protect and improve the nutrition of most of the world's children.

It seems, in fact, that there are very few aspects of living which do not have some influence on the nutritional health of the child.

In many countries children suffer from rickets, due partly to the lack of foods which contain the necessary vitamin but mainly to the fact that the other source, the action of the sun on the skin, is limited in several ways.

Babies and young children, even in tropical countries, may sometimes be deprived of sunshine because of the seclusion of women in crowded urban conditions, sometimes because the houses are built on high stilts and the child cannot crawl in and out of the sunshine at will, sometimes because a fair skin is valued as a sign of beauty, sometimes because the child is carried about all day on the mother's back, completely covered with the carrying cloth, and occasionally because of the constant shade of the forest in which they live.

These hazards to child health are closely bound up with the whole way of life of a people. On the other hand, there are some conditions which are beyond the control of the individual.

In some areas, the lack of an essential substance in the soil or water can produce disease or disability in a whole population, including the children.

Here the solution of the problem lies not so much in individual change or action, but in measures introduced at state or national level to replace the missing nutrient.

This is being done to prevent endemic goitre (due to lack of iodine in the soil) in some regions and to control dental decay by the fluoridation of the domestic water supply in others.

There is no easy road to better health for the children through better nutrition. Parents throughout the world need help to break the vicious circle of malnutrition-disease-poverty and still more severe malnutrition.

Research workers can pursue the scientific facts on which sound action can be based. Government authorities can do their part to facilitate the development and better use of local resources.

But unless each individual in the community is prepared to accept the adventure of new ideas and new ways little can be accomplished. All over the world, however, people are setting out on that adventure, and progress is being made more rapidly than ever before in man's history.