

Mother's Milk and other Home Foods

By Derrick B. Jelliffe*

ALL SOCIETIES have beliefs, rational as well as irrational, concerning foods and eating habits. Despite customs restricting the diets of children and pregnant women that one comes across in traditional societies, it can be said that most of these societies have, after thousands of years of trial and error, in a large measure adjusted to their environment and to the foods available.

Traditional diets as we know them today and those found in industrialized countries until recently, include certain almost universal components and combinations that have evolved in the course of the community's effort to survive. These basic food items were, and usually still are, grown near and prepared in homes. However, many of them tend to be undervalued in the modern world of technology.

Human milk heads the list. As would be expected with mammalian man, breast-milk has for countless generations been time-tested as the ideal food for infants, nutritionally and as a means of preventing infection. This view is supported by modern scientific knowledge of nutrition. But strangely enough, and as if man were incapable of comprehending the meaning of the radical biological change in the mother, breastfeeding began to decline in the western world in the present century. In the last few decades the fashion has caught on with the better-off classes in urban area of developing countries and, even worse, continues to spread among the less well-to-do. It is surely strange that while scientists explore new and often seemingly improbable

sources of protein, such as bacteria and pond weed, the most biologically adapted, consumer-tested home food for infants should tend to disappear through indifference and inadequate understanding.

The increasing lack of mother's milk, a naturally accessible and specially adapted food for young children, represents one of the major nutritional problems in the world today. Not only is breast-milk unique and impossible to imitate—despite manufacturers' claims but the cost of cow's milk preparations also remains beyond the means of the average family in the developing world. At the same time, the level of home hygiene, including water supply and storage, makes it almost a certainty that what the artificially fed baby gets is a very dilute, contaminated feed. The result is the increasing incidence of diarrhoeal disease and marasmus in infants in suburban areas of the developing countries.

If breast-feeding continues to decline steeply, a time must come when it will be necessary to consider alternatives and face problems of national finance, including shortage of foreign exchange. Means will have to be found to increase production of a protein-rich breast-milk substitute, possibly based on cow's milk. If all the women in mainland Asia were to cease breast-feeding, an extra herd of 114,000,000 cattle would be needed to make good this loss.

All traditional human diets are based on *mixtures* of food in which the four main items usually are: *staple*; *legumes*; *dark green leafy vegetables*; and *animal products*. At the core of all human diets is the staple or the "cultural superfood", around which ritual and life have thrived. The ancient Incas of the Andes worshipped the potato goddess, *Axo-mama*. The

culture of the Baganda people of East Africa is completely intertwined with the plantain (*matoke*). In Europe until quite recently, wheat had a similar dominant position as the "staff of life".

The staple is the main source of calories and usually of protein as well. In most of the world it is a cereal such as wheat, rice, or corn (maize). Areas using these grains as staple are at a nutritional advantage, especially from the point of view of food for children, as cereals are not only good sources of "compact calories", but also contain more than 7 per cent protein. Other areas of the world, where tubers such as yams, potatoes or cassava are the staple, are at a basic disadvantage, as these are low in protein (1 per cent) and even in calories, having a high content of water and of fibre.

Several varieties of legumes—that is, various types of peas and beans—form part of the standard diet of many communities. These are not only excellent sources of protein (20 per cent), but if eaten as cereal—legume "doublemixes" can supply the full range of basic ingredients of protein (essential amino acids) needed for survival just as well as such animal products as meat, milk or eggs. Some examples of these cereal—legume "doublemixes", which have evolved in the course of long experience with food in many ancient communities, are the corn *tortillas* and bean *frijoles* of Mexico, the rice and *dhal* (lentil sauce) of India and the wheat (*burghul*) and chick peas (*hommos*) of Lebanon. It is almost as if these home-prepared mixtures were based on a very advanced knowledge of nutrition.

In most parts of the world are to be found a variety of green leafy vegetables—spinach, sorrel leaves, manioc leaves, taroleaves—that can be considered as a traditional mineral and vitamin supplement, making good what is lacking in the basic cereal—legume doublemix. Many of these grow easily around the house or even wild. However, it is strange that all over the world, including Europe and North America, the

*Director, Caribbean Food and Nutrition Institute, Kingston, Jamaica; Head, Population, Family and International Health Division, School of Public Health, University of California.