

Nutrition and Family Health

By K. V. Bailey

THIS IS ONE OF THOSE basic considerations in the matter of food and family size that may seem self-evident. But such questions need to be carefully investigated. Poorer people, generally speaking, are less well nourished.

In low-income families in Manila, for instance, the weight gains of children are below those from middle and upper-income Filipino families. In New Guinea, the weight gain among Chimbu children in villages is much less than among Chimbu children who live at the small administrative station, whose diet is better, who have better medical care and whose socio-economic level is higher.

Getting closer to the question of family size, surveys of diets in India and Indonesia have shown that the larger the family, the smaller the supply of nutrients to each member of the family. In those countries, malnourished children are more commonly found among the fourth or later children than among the children born earlier. In Hyderabad, for example, two-thirds of hospitalized malnourished children came from families with more than three children, whereas only one-third came from smaller families.

So it is not surprising that better food for their children is one of the main reasons leading parents to want family planning. A large family is clearly more difficult to feed than a small one.

For the mother, many pregnancies may be harmful. In New Guinea, for example, malnutrition is more evident in mothers after only two pregnancies. There is also some evidence that mothers produce less breast milk and milk of poorer quality after repeated pregnancy-lactation cycles.

Mental shadow

Unfortunately, poor nutrition in children shows itself not only in physical but also in mental growth,

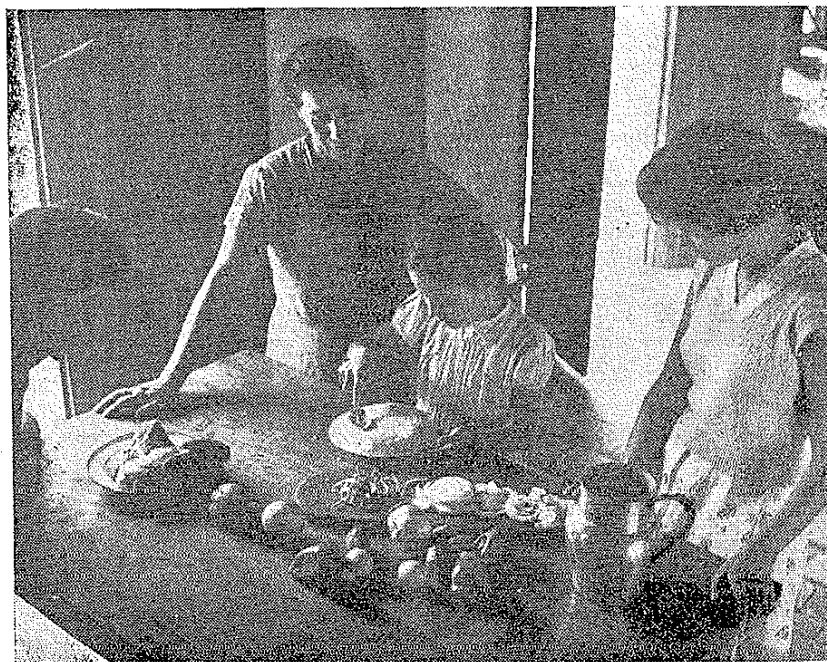
According to studies done in Guatemala and Mexico, physical and mental retardation go to some extent together; and the correlation between the two is attributable at least in part to poor nutrition. In South Africa, IQ tests of children who previously suffered severe malnutrition showed them to have IQ levels 15-20 points below similar children who had not suffered severe malnutrition.

In Indonesia, the nutritional state of a group of toddlers was assessed and five years later, when they were going to school, their mental development was tested; definite mental impairment was found in those who as toddlers had been classed as poorly nourished and especially in those who had shown vitamin A deficiency.

Proper family planning should help to raise the level of family living; its dietary situation should

improve and consequently the physical and mental growth of the children. But without food education, this will be rather "hit and miss". The best use of the family budget demands a knowledge of the best investment, nutritionally speaking, of the available money. In the countryside, where many farmers grow most of what they eat and eat most of what they grow, a knowledge of food values is just as important as in the cities. The farmer should know what foods he can best grow for himself and his family, in his home garden as well as in the fields. He should know, for instance, that certain green leafy vegetables, different kinds of spinach for example, have a high nutritional food value but often a low market value. He can easily grow some of these vegetables for his family instead of buying a cucumber or a cauliflower, which have relatively little nutritional food value. Again, it is to his economic advantage to know that either fish or dhal, mung beans or peanuts can replace meat or milk in the diet, even for infants and toddlers, when milk and meat are too expensive.

Only when food education is



Schools can help as a centre for health and nutrition education. Here a child puts into practice at home a nutrition lesson learnt at school as her mother looks on.

combined with family planning can we expect to achieve maximum use of family budgets and maximum improvement—both physical and mental—of the quality of human life.

In the richer countries, only 20-30% of family income is spent on food, but at the other end of the scale as much as 60-70% is spent on food. This means a very tight family budget. Both family planning and food advice are desperately needed. To family planning programmes should be added a serious nutrition component. Without better nutrition, the poor family's position may not get worse, but it can scarcely get better. It may sound like a luxury to add food advice to family planning, but to large sectors of society in some countries, it is a matter of urgency. For the villager and the urban fringe dweller, it may literally be a question of life or death for his children.

But food advice without family planning is even weaker than family planning without food advice. Seven years ago in the Philippines, nutrition education seminars were started in a group of villages and, at the very first talk in the pilot village, an elderly woman stood up to ask a question. I understood just enough of the language to realize with amazement that she was asking "How can we limit the number of our children so that we will have enough food to go round?" This illustrates the strong link between nutrition and family planning in the down-to-earth thinking of village people, and points to the need for combined action in family planning and nutrition.

Too little and too late

In the Western Pacific Region of WHO the principal nutritional deficiencies are protein-calorie malnutrition and vitamin A and iron deficiencies. Beriberi also occurs, as well as riboflavin deficiency, rickets, nutritional anaemias of various causes and goitre. These conditions mostly affect children below five years of age. Frank malnutrition is not rampant, but varying degrees of under-nutrition and growth retardation are almost

universal, as in developing countries in other regions. The dangerous age is from about six months to two years. There is also increased susceptibility to infections. Mild infections often become severe, and moderate ones often become fatal. There is a relatively high death-rate among toddlers aged one to four years. While these children usually die of dysentery or some other gastrointestinal diseases arising from poor sanitation, or respiratory diseases or malaria, there is a background of poor nutrition which aggravates the infectious disease and multiplies the number of deaths. Measles, for instance, may carry a mortality several hundred times higher than in better nourished communities.

One of the principal causes of this situation is that the supplementary feeding for infants is usually too late, too little and too low in protein and other important nutrients. Infants are commonly half-starved from six to 12 months of age. Then they start on family diets in which the main foodstuff is usually rice, maize or some tuber. The toddlers are generally the last in the pecking order, so that they get the smallest share of protein supplements. Yet their needs are relatively the greatest. At the same time, they are seldom encouraged to eat vegetables, and so their diet becomes dangerously over-dependent on rice or some other staple food. Then appetite begins to fail, and perhaps an infection tips the scales by causing further dietary restrictions, and loss of valuable nutrients in loose bowel motions.

Start variety early

The way to avoid this vicious circle is to introduce a variety of foods early. By six months of age, the infant should be taking not only some staple food—a porridge or a mashed tuber or banana—but also some protein-rich supplement (animal or vegetable) and some green leafy or yellow vegetables and fruits. Animal foods are relatively expensive, but among them, skimmed milk and fish are usually the cheapest. Pulses or dried legume such as beans, chickpeas and lentils are also very rich in proteins. They can be prepared

even for infants by suitably mashing or grinding. In fact, these and green leafy or yellow vegetables can all be introduced some time between four and six months of age. Introducing them earlier allows the baby to become accustomed to a wide range of tastes and textures. Beyond six months, it is increasingly difficult to introduce these new foods, and so it may be many months or even years before a child will accept them. Of course, it is essential to prepare the food in soft and finely pulverized form for infants, and to prepare it hygienically. Animal products are easily contaminated by flies, for example. Washing of hands before handling food, before meals and after toilet is a vitally important practice for mothers of young children.

Special mention should be made of fish, since it is commonly available in many countries and usually is the cheapest source of animal protein. Fish protein is at least equal to meat protein in quality. Small dried fish (*ikan bilis* in Malay, *dilis* in the Philippines) are highly nutritious and relatively cheap. By simple pounding with mortar and pestle, they can easily be prepared even for infants; the prepared flour can be mixed with porridge or rice for the infant or toddler. Canned fish is often cheaper than fresh fish, and it is in hygienic form, safe and suitable even for infants. The health worker should tabulate the cost of protein from different protein-rich foods available in each locality and so help families to find the best investment for their food budget.

Probably the easiest way in which farmers, and even some urban dwellers, can improve their nutrition is by the increased use of green leafy vegetables. The dark green ones are the best, e.g. dark green Chinese cabbage (*kangkong*) and spinach of various kinds, which are all much superior to pale lettuce, cabbage or cauliflower. They are excellent sources of vitamin A and iron, usually of vitamins B and C, and sometimes of calcium. Well-informed people can set a good example by growing dark green vegetables in their own

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