

FOOD DEFICIENCY

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A good many years ago, I attended a course of lectures on Hygiene, and whenever the lecturer started to talk about Carbohydrates or Vitamins, I took out my writing pad and, in the seclusion of the back row, wrote letters. It is because I found the subject so dull then, and so interesting now, that this article is written with as few technicalities as possible.

The thing which struck me when I came out to India was how good the children were; they stayed put, and did not indulge in high spirits or naughtiness. This is not normal in children, and I grew to recognise it as one of the signs of undernourishment. When we look at our patients we see signs of food deficiency: women prematurely old; people not recovering from, or making a poor recovery after, operation or illness; on faces we see indefinite white patches, and sodden white skin at the corners of mouths; sore tongues, badly developed teeth, spongy gums; and children who are stunted in growth.

In different parts of India we get different diseases rife in communities which, for some reason or other, err against the essentials of a balanced diet. Thus in maize eaters we get pellagra; in those who eat highly milled rice, beri beri. Lack of vitamin A leads to keratomalacia, a disease which in South India is one of the chief causes of blindness. Vitamin D deficiency, either owing to inadequate amounts of this vitamin in food, or owing to lack of exposure to the sun, causes osteomalacia. We can no more offend against the laws of health than against any other laws, without paying for it.

If we tried to build a house with bricks only, we should not get very far, and in the same way if we eat an excess of energy-producing foods, which most poor people do in the form of rice and bread and other grains, we cannot keep up the fitness of our bodies. In addition we need body-building foods, dals and milk, or meat and eggs; we also need fat, and, most important of all, the protective foods containing vitamins and mineral salts, which we find chiefly in milk, fruit and vegetables. To provide our body with what it needs, research has found out that we should have at least 8 oz. of milk a day, 3 oz. of pulses or fish, meat or eggs, 3 oz. of fat, and at least 10 oz. of fresh fruit and vegetables. If cereals form the chief part of our diet, they should amount to 15 oz. a day, and be of two kinds.

When we look at the diets of the majority of people, we know that they do not in any respect reach this standard. There are various reasons for this, the chief of which is probably expense. It is perfectly true that protective foods, when bought in the bazaar, do cost more than cereals, but given goodwill and land, people can be encouraged to grow fruit and vegetables, and breed goats and hens; and in hospitals and infant welfare centres, Acorn Brand powdered skimmed milk can be bought in bulk, and sold to people, so that a

child could get 8 oz. of this a day, at a cost of 10 annas a month. Though containing no fat it is excellent in the provision of calcium and certain vitamins, which are very deficient in a diet with rice as its staple. Habit also plays some part: what we eat as a child we eat now, or the reverse. Then we get into the way of thinking "Such and such does not agree with me", because we ate it once and something unfortunate happened. I remember a small boy in Glasgow, who one day refused to eat his porridge. For a long time he would not give the reason, and then the offer of a penny proved too tempting, and he said, "We had porridge for supper, and Ma was sick, and in the morning there was a wee wean (baby)" and—with great conviction—"I don't want a wee wean." A friend of mine told me the other day, that she could not eat grapes, because she always came out in spots, if she did. I suggested that she should, because I had a good lotion I wanted to try out. She ate the grapes, but had no spots. It seems queer, but some of us are apt to regard a "delicate stomach" as something of which we should be proud. Then there is fashion. In South India ragi is grown. It has a far greater food value than rice, but for some reason or other it is looked down on, and children who have eaten it in their village, no longer want to eat it when they go to school, as they do not consider it a suitable food for those who are being educated. Certain castes also consider it necessary to eat highly polished rice, which by so much milling has been deprived of its most nutritious part. It is very important to find out what sort of rice we eat, at least whether it is what is called "raw" or "parboiled." Home-pounded rice is really the best form of rice to eat, but for one reason or another in towns it is difficult to procure. If we cannot get this, the next best thing is to eat "parboiled" rice, that is, rice which has been subjected to the action of steam or hot water before being milled, as this process drives the nutritious part, which lies just under the husk, right through the grain, and it is not removed with subsequent milling, which is the case with "raw" rice.

We are lucky in India to have some most excellent and cheap books in diet, thanks to the researches carried out at the Nutrition Research Laboratories, Coonoor. The books recommended to anyone who is anxious to know more about this subject are:

1. "Health Bulletin No. 23." The Nutritive Value of Indian Foods, and the Planning of Satisfactory Diets. 2 annas. Obtainable from the Manager of Government Publications, Delhi.
2. "Food." By Sir Robert McCarrison. 12 annas. Published by Macmillan.
3. "A Guide to a Well-Balanced Diet." 2 annas. Obtainable from The Junior Red Cross Society, Red Cross Building, New Delhi. This is a very simple useful little book, and is published in Hindi and in Urdu, as well as in English.

We often see in the papers that doctors and nurses have fought to save a patient's life, and if this sort of experience has happened to us it is a very thrilling one, but one which we cannot expect to

come our way often. We can all, however, help to prolong life and save a great deal of suffering if we take a reasonable attitude towards this food problem, and know enough to advise people how to make the best use of the money at their disposal. It is not so dramatic, but just as useful.

BANANAS—THEIR EFFECT ON THE GROWTH OF CHILDREN

A controlled experiment to estimate the value of bananas as a supplementary diet for growing children was reported by Dr. Lydia Roberts and her associates in the July 1939 issue of *The Journal of Pediatrics*. One hundred and twenty-three boys received bananas—ninety-eight for the full period of the experiments, namely from October until the following June. The rest of the boys in the school, or one hundred and fifty-four, were used as controls. Variation in attendance reduced the control group to one hundred and one.

Before the experimental feeding was begun both groups were tested; after the ninth month of feeding the groups were tested. The results in favour of those eating bananas were set down as follows:—

Those having the supplemental feeding gained nine-tenths of a pound more in weight than those used as controls; height gains averaged 0.15 inch over the controls; the wrist bones, as determined by careful X-ray, showed slightly greater ossification than did the controls. Greater gains in arm girth, in subcutaneous tissue, both in individuals and in the total scores, were also noted for those receiving the bananas.

One of the most interesting findings was the evidence from an analysis of the blood plasma that those receiving the diet averaged 0.2 mg. more of ascorbic acid per 100 c.c. plasma than the controls. This difference, the authors point out, is six times the probability error. They further indicate that the minimum allowances for the dietary essentials of the boys of the ages studied (namely, ten to twelve years) evidently should contain higher amounts of vitamin C.

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