

ABSTRACT

Evaluation of a Diet for Use in the Rehabilitation of Severely Malnourished Children.

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The recovery diet used at the Tropical Metabolism Research Unit, although correcting some of the abnormalities associated with malnutrition, has for several years been known to be unsuitable for this purpose. The standard regime is deficient in several vitamins, minerals, trace elements and even water; rehabilitation on this diet results in some abnormalities in blood biochemistry and an inadequate rate of lean tissue deposition with an excessive accumulation of adipose tissue. In addition, the preparation and dispensation of the feeds is difficult as several additions have to be made.

The need was therefore seen for a diet which would contain the nutrients lacking in the standard regimen, promote rapid growth of normal composition, and which could be easily prepared and dispensed.

The test diet proposed for this purpose was fed to eight severely malnourished children throughout recovery, and the data collected were compared with that on several children previously recovered on the standard regimen.

The results showed that although the test diet, MGM, was of a lower energy density than the standard diet, the energy intake was similar on both diets. The test children therefore compensated for the reduced energy density by increasing their volume of intake.

Blood biochemistry of the children on the test diet was found to improve. They experienced no additional oxidant stress and their antioxidant status improved. Plasma concentrations of the trace elements zinc, copper and selenium increased during the period of rehabilitation.

Recovery on the test diet resulted in a weight and height gain, cost of growth and rate of weight gain similar to that on the standard diet. The diet was found to be well absorbed, and the biochemistry of the blood improved.

Other advantages are: the feeds are easily prepared, as all nutrients, vitamins and minerals are contained in the milk powder, and it is necessary only to add water. The risk of errors which are sometimes introduced due to weighing is therefore minimized. Energy content of the feed is 100 kcal/100g, thus providing for ease in calculation of prescribed intake, and energy content of feed taken.

The test diet was found to be an improvement over the existing ward regimen, and with its easy preparation and dispensation was found to be suitable for use in hospitals, rehabilitation centres, and for rehabilitation in the home.