

## **Dietary management of moderate malnutrition: time for a change**

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All children with moderate wasting, or moderate or severe stunting, have in common a higher risk of dying and the need for special nutritional support. In contrast to children suffering from life-threatening severe acute malnutrition, there is no need to feed these children with highly fortified therapeutic foods designed to replace the family diet. Their dietary management should be based on improving the existing diets by nutritional counselling and, if needed, by the provision of adapted food supplements providing nutrients which cannot be easily provided by local foods. Children with growth faltering would also benefit from the same approach.

In contrast to severe acute malnutrition, management of moderate malnutrition (MM defined by either moderate wasting or stunting) has remained virtually unchanged over the last 30 years. Two broad approaches are used. In most situations, dietary counselling is given to families assuming that they have access to all foods needed for feeding their child but lack the knowledge on how best to use them. In the context of food insecurity, or of insufficient access to nutrient dense foods, food supplements, usually fortified blended flours, are given.

Evaluation of MM management programmes so far have given mixed results. The review by Prof. Ann Ashworth shows that the dietary advice given is often non specific, i.e. not really different from the advice given to well-nourished children and that the impact in large scale programmes is often uncertain.<sup>1</sup> Doubts about the efficacy of supplementary feeding programmes using blended flours have been raised repeatedly over the last 25 years.<sup>2,3</sup>

Many reasons can explain the apparent lack of efficacy of these programmes. Diets recommended as part of counselling often have a low nutritional density, insufficient to

promote recovery. Often, when nutrient dense foods are recommended, they are expensive and not really accessible to poor families. When food supplements are given, they are usually made with the cheapest source of energy (cereals) and proteins (legumes) and often have no added fat. Such supplements often have a nutritional profile (high protein, low fat and high dietary fibre and antinutrient content) which does not seem the best adapted to promote rapid growth of malnourished children.<sup>4</sup>

Clearly, it is time for a change. MM children should get the foods which provide all the nutrients they need for full recovery, not just the food choice which represents the cheapest option to provide them energy and proteins. Their efficacy to promote recovery and their accessibility must be the first criteria to consider when making a choice.

Improving the diets of MM children will not be easy to achieve. First, there are still many uncertainties on what nutrients MM children need for recovery, particularly stunted children, as highlighted by the paper by Prof Mike Golden.<sup>5</sup> The possible negative effect of antinutrients, present in high concentrations in cereals and even higher concentrations in legumes will complicate the picture as described in the paper by Prof Kim Michaelsen and colleagues.<sup>6</sup> Second, diets with higher nutrient density and lower antinutrient content and which are more appropriate, have either a high level of animal source foods, or have to be made from highly processed plant foods which makes them more expensive than currently recommended diets. Moreover, in the present context of emerging burden of obesity in many poor countries, promoting diets leading to increased weight is not satisfactory, especially in areas of high stunting prevalence.<sup>7</sup> It is important that proposed diets have a limited effect on fat tissue deposition, promote lean tissue synthesis and lead to improved functional outcomes such as improved cognitive development. In this respect, attention should be paid to the content of diets in essential fatty acids, so far a neglected aspect of MM management.

There are clear indications from the papers presented at this meeting on how to improve current programmes. Dietary counselling should move away from general "fit for all" recommendations and should provide specific suggestions that are nutritionally adequate and locally adapted. Programme implementers should make sure that the recommended diets are nutritionally adequate and contain all nutrients needed for growth. Adapted computer software can be used to be more rigorous in this assessment.<sup>8</sup>

Food supplements should be considered in case of food insecurity, or, in a context of poverty, if these supplements represent a less expensive option for providing all nutrients needed by children. The paper by S de Pee presents several possible options.

Too many uncertainties were highlighted in this meeting to be able to propose an optimal diet for all MM children in the short term. Enough information is available, however, to improve the current situation and to start a process of continuous evaluation and improvement of possible MM treatment options. We hope this meeting will contribute to achieving these objectives which are within our reach and will contribute to reaching Millenium Development Goals 1 and 4.

**References:**

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