**Children benefit from whey in malnutrition treatment  
Two newly published studies find positive effects with whey components**

A clinical study of ready-to-use supplementary food (RUSF) has shown for the first time that the addition of whey ingredients speeds up the recovery of moderately malnourished children.

Published in the American Journal of Clinical Nutrition, the study summarises the findings from trials conducted by US-based food aid organisation Project Peanut Butter in Malawi and Mozambique.

Over the course of 21 months, more than 2200 children aged six to 59 months were enrolled for the study after being diagnosed with moderate acute malnutrition. During a treatment period of up to 12 weeks, the children received either an RUSF with soya protein or a novel RUSF with whey permeate and whey protein concentrate.

**Higher rate of recovery**Recovery was evaluated by measuring the circumference of the children’s mid-upper arm. This showed that children who received the novel whey-containing RUSF had a recovery rate of 83.9% - significantly higher than the 80.5% recovery rate of children who received the soya-containing RUSF. A higher growth rate was also recorded among the children in the whey-containing RUSF group.

Other interesting observations are that the novel RUSF contains 33% less total protein and almost 8% less total energy than the soy-containing RUSF – and that an improved recovery rate can be achieved at very little extra cost

The findings support indications from previous studies that dairy protein improves recovery outcomes in undernourished populations when compared with plant-based protein.

**How key is the lactose in whey?**One of the reasons for this improvement could be the content of lactose in whey protein and whey permeate, which is around 10% and 85% respectively. Naturally present in both bovine and human milk, lactose is also the primary energy source for breastfed infants.

Another study led by the University of Copenhagen has investigated the effects of lactose in the treatment of undernourished children. The study, which has been published in the Food and Nutrition Bulletin, reviewed and collated the findings of previous human and pig studies.

In its conclusion, the paper points to the prebiotic effect of lactose, which supports the development of a healthy gut microflora, and a positive contribution to mineral absorption. Both represent possible health benefits for young children.

**Few problems with lactose intolerance**Even in populations with a high incidence of lactose intolerance, it was found that most undernourished children tolerate the low lactose content of therapeutic foods. In other words, they are able to benefit from lactose without symptoms.

Only a small group of severely undernourished children may react to lactose due to an intolerance brought about by severe diarrhoea or poor intestinal health. For this reason, more research is necessary to determine the right balance of lactose in therapeutic food for undernourished children depending on their age and health status.

**Find the studies**The studies have the following titles:

‘Including whey protein and whey permeate in ready-to-use supplementary food improves recovery rates in children with moderate acute malnutrition: a randomized, double-blind clinical trial’  
Stobaugh et al, American Journal of Clinical Nutrition, February 2016

‘Undernourished Children and Milk Lactose’  
Grenov et al, Food and Nutrition Bulletin, February 2016.

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