Community-based approaches can benefit children under five with malnutrition

Many of the interventions to tackle moderate and severe acute malnutrition have similar outcomes. Community and out-patient-based approaches are to be preferred on grounds of improved recovery and cost-effectiveness. Prophylactic antibiotics improve recovery, weight gain and mortality.

What is this review about?
Malnutrition among children under five years old is a major public health concern. This review assesses the evidence for the management of severe and moderate acute malnutrition according to the current World Health Organization (WHO) protocol, using facility- and community-based approaches. It also assesses the effectiveness of ready-to-use therapeutic food (RUTF), ready-to-use supplementary food (RUSF), prophylactic antibiotic use and vitamin A supplementation.

What studies are included?
A total of 42 studies (489 papers) with 35,017 children were included in this review. All the studies were conducted in either community, hospital, health centre or nutrition rehabilitation centres in developing countries. All the studies targeted children with malnutrition, aged from six to 59 months. Thirty-three of the included studies were randomised controlled trials. Six studies were quasi-experimental and three studies were cost studies.

Do programmes to combat severe and acute malnutrition work?
The included studies are studies with active controls, which means they compare one treatment with another. A finding of no effect means that the treatment does not work any better than the comparison treatment, and not that it does not work at all. The exception is the study of prophylactic antibiotics which are compared to no treatment.

Overall, the evidence shows that none of the interventions studied has any larger effect than the interventions to which they are compared. Prophylactic antibiotics given to children with severe acute malnutrition without complications can affect mortality.
For the other outcomes – recovery and weight gain – the evidence shows the following:

- Community-based approaches are better than standard care and in-patient management for recovery, but worse for weight gain and show no effect on mortality.

- Most comparisons of different food preparations find no differences in effects.

- However, for moderate acute malnutrition, RUSF is better than corn–soy blend (CSB) for recovery, as is standard RUSF compared to whey RUSF. RUSF is better than CSB for improving weight gain. There are no differences in mortality in these cases.

- Standard dairy/peanut butter RUTF has a positive effect on weight gain compared to non-/reduced dairy/peanut butter and F100 for uncomplicated severe acute malnutrition.

- There is no effect on weight gain and mortality when high-dose vitamin A is compared with low-dose vitamin A supplementation.

The only comparison showing positive effects on all three outcomes (recovery, weight gain and mortality) is prophylactic antibiotic compared with no antibiotic.

The quality of evidence is low, with high risk of bias, partly because of lack of blinding of the participants, personnel and outcome assessment. There is also high heterogeneity between studies, which is partly explained by imprecision on account of small sample size.

What do the findings of this review mean?

The evidence shows the equivalence of many approaches, so that decisions may be made on cost grounds. Existing limited cost data suggest that community or out-patient management of children with uncomplicated severe and moderate acute malnutrition is the most cost-effective strategy.

The evidence base remains thin and study quality is a concern. Future studies assessing the effectiveness of interventions should report pertinent nutrition-specific outcomes, including stunting, wasting, underweight, infections and potential adverse effects. Further studies should assess the relative cost and cost-effectiveness of various interventions addressing malnutrition in low- and middle-income countries.

How up-to-date is this review?
The review authors searched for studies published up to February 2019.

What is the Campbell Collaboration?
Campbell is an international, voluntary, non-profit research network that publishes systematic reviews. We summarise and evaluate the quality of evidence for social and economic policy, programs and practice. Our aim is to help people make better choices and better policy decisions.

About this summary

Financial support from the American Institutes for Research for the production of this summary is gratefully acknowledged.