Alleviating malnutrition in children in resource-limited and conflict areas

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In two articles published this week in *PLOS Medicine*, Saskia van der Kam of Médecins Sans Frontières (MSF) and colleagues describe the outcomes of two randomised controlled trials in resource-limited settings to determine if the vicious cycle between childhood illness and malnutrition could be broken with a brief period of food supplementation during recovery from illness.

Over 300,000 children are treated annually for malnutrition by MSF, say the authors. Often malnutrition is linked to a period of illness, and may lead to further illness and even death. The authors conducted 2 randomised controlled trials, one set in Uganda and one in Nigeria, to determine if the progression to moderate or severe acute malnutrition, as revealed by a child's weight-to-height score or upper arm circumference, can be avoided if children are given a 2 week course of either ready to use therapeutic food (a nutrient supplement based on peanut butter mixed with dried skim milk, vitamins, and minerals) or a micronutrient sachet.

In the Karamoja region of East Uganda, an agro-pastoral region, over 2200 malnourished children aged between 6 and 59 months were recruited into the trail and the authors show children treated with the ready to use supplementation showed a 33% reduction in the incidence of malnutrition compared with the control group. Supplementation with micronutrients did not show a significant reduction. Overall there were also fewer deaths observed in the ready to use supplement group than in the micronutrient sachet supplement or control groups.

In the authors' companion trial, set in Goronyo in Nigeria, there was no reduction in the incidence of malnutrition in children receiving either the ready to use formulation of the micronutrient sachet. The authors note that in this setting the overall level of malnutrition is higher, suggesting that a longer period of supplementation might possibly be effective.

As large scale trials to determine if a brief period of food supplementation in children who are not severely ill can alleviate malnutrition and reduce deaths, these studies provide a substantial advance by showing that supplementation can be effective but may depend on local phenomena such as levels of morbidity. Better understanding these phenomena could help tailor future efforts to reduce deaths in this most vulnerable group.

More information: Saskia van der Kam et al. Effect of Short-Term Supplementation with Ready-to-Use Therapeutic Food or Micronutrients for Children after Illness for Prevention of Malnutrition: A Randomised Controlled Trial in Uganda, *PLOS Medicine* (2016). DOI: 10.1371/journal.pmed.1001951

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