The OptiMA protocol in children with wasting and stunting

Authors' reply

We fully agree with Gabriele Rossi that the evaluation of simplified protocols aimed at optimising the management of uncomplicated acute malnutrition in children should include analyses dedicated to the most clinically vulnerable children. This is exactly the reason why the OptiMA-DRC trial was done in two stages. Beyond the evaluation already reported[1] in the entire population of children presenting with acute malnutrition, defined as a mid-upper-arm circumference (MUAC) of less than 125 mm, a weight-for-height Z score (WHZ) of less than –3, or oedema, we then continued to enrol children with a MUAC of less than 115 mm, a WHZ of less than –3, or an oedema at baseline, so that we had enough statistical power to compare across study groups the proportion of children who met the WHO definition of severe acute malnutrition[2] who recovered. This evaluation among children with severe acute malnutrition is reported elsewhere[3] and showed that the proportion of children in the trial who recovered during the 6-month follow-up was non-inferior in the OptiMA group (96% in OptiMA group *vs* 98% in the standard group; difference 2·0%, 95% CI –2·0 to 6·4).

There was severe stunting (ie, height-for-age Z [HAZ] score <–3) among children presenting with acute malnutrition in 45% of children in the standard treatment group and in 40% of children in the OptiMA group at baseline and the difference between groups was not statistically significant (p=0·1620). We used logistic regression analysis to further investigate whether a HAZ of less than –3 at baseline was associated with the primary endpoint of a favourable outcome at 6 months and there was no association, even after adjustment for potential confounders. At 6 months after randomisation, the proportion of children with severe stunting was 71% in the standard treatment group and 65% in the OptiMA group (p=0·057). Our hypothesis to explain this almost statistically significant difference is that 71% of children in the standard treatment group received a nutritional treatment, whereas 100% of the children in the OptiMA group received such treatment. This difference contributed to further deterioration in the nutritional status of children in the standard treatment group. Our interpretation is that integrating severe and moderate acute malnutrition treatment into one programme, using one product, could lead to better nutritional status at 6 months after programme inclusion.

We also agree that it is crucial to evaluate the OptiMA strategy among children presenting with a combination of wasting and stunting, who are at the greatest risk of short-term mortality.[4] A secondary analysis restricted to these most clinically vulnerable children is currently underway to investigate whether there was a difference in safety and recovery outcomes between study groups.

KP serves on the Social Purposes Advisory Commission of Nutriset, a main producer of lipid-based nutrient supplement products. All other authors declare no competing interests.

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1 Cazes C, Phelan K, Hubert V, et al. Simplifying and optimising the management of uncomplicated acute malnutrition in children aged 6–59 months in the Democratic Republic of the Congo (OptiMA-DRC): a non-inferiority, randomised controlled trial. *Lancet Glob Health* 2022; **10:** e510–20.

2 WHO and UNICEF. WHO child growth standards and the identification of severe acute malnutrition in infants and children: a joint statement by the World Health Organization and the United Nations Children's Fund. Geneva: World Health Organization, 2009.

3 Cazes C, Phelan K, Hubert V, et al. Optimising the dosage of ready-to-use therapeutic food in children with uncomplicated severe acute malnutrition: a non-inferiority randomised controlled trial in the Democratic Republic of Congo. *SSRN* 2022; published online May 13. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4099994 (preprint).

4 Myatt M, Khara T, Schoenbuchner S, et al. Children who are both wasted and stunted are also underweight and have a high risk of death: a descriptive epidemiology of multiple anthropometric deficits using data from 51 countries. *Arch Public Health* 2018; **76:** 28.