Reviewer's report

Title: Development and acceptability testing of ready-to-use complementary food supplements made from locally available food ingredients in Bangladesh

Version: 2
Date: 14 May 2014
Reviewer: Frank Wieringa

Reviewer's report:

With interest, I have reviewed the manuscript 'Development and acceptability testing of ready-to-use complementary food supplements made from locally available food ingredients in Bangladesh'.

The manuscript deals with an important issue: how to develop acceptable, high-quality, high nutrient-dense foods from local available products to treat and/or prevent acute malnutrition. Overall, the paper is well-written.

However, I have some concerns with the manuscript in its current form.

Major compulsory revisions.
In the methods section, the actual intervention is hard to follow. If I understand correctly, infants were fed the food (based on the randomisation) on day 1. Went home with a portion for 2 days (or longer?? why did health workers return?). And then came back at the end of the week, for testing again. The paper reports data only from this last day....???

Please re-write the method section to make this more clear

Another concern, which cannot be corrected now, is the study design. If the authors tested indeed the acceptability of the 3 different food products on only 1 day, I am a bit puzzled on why the authors didn't test the 3 food products in all 90 children, instead of dividing the children in 3 groups, each group only receiving 1 food product. Power of the study would have increased considerably by testing all food products in all children.

Minor essential revisions

Abstract.
The literature on acute malnutrition is being swamped with abbreviations nowadays. Please define RUCFS a bit better in the abstract, as it might be unclear what the difference is with a conventional RUSF

Abstract - methods. You can delete '(1= dislike...)' as you do not report the scores in the result section.

Background.
I find the sentence 'but more nutritious a supplementary food for young children
in Bangladesh, particularly those from food insecure households' confusing. The nutritional value of a product is not dependent on the subject consuming it.

Please write

Page 7. I am a bit surprised by the high energy density if the intended serving size was 50 g, also given the fact that the RUCSF is supposedly added to a porridge which also provides additional energy. 'The energy density of RUCSF was targeted at 250 kcal/50g (per serving).'

Can the authors explain why they wanted to provide so much extra energy, as this would more be a therapeutic food product rather than a supplementary food product. Given the fact that the children ate on average 28 g, wouldn't a serving size of 25 g have been more realistic for the development? And then the higher energy content is also more justified.

Results.

Please delete the first paragraph, or move it to 'methods. Start results with 'A total of...

[To combat micronutrient deficiencies and high burden of moderate malnutrition among children especially from food insecure households, two varieties of ready-to-use complementary food supplements (RUCFS) were developed - one was rice and lentil based and the other was chickpea based. Preparation of RUCFS undergoes different steps i.e. roasting, particle size reduction, homogeneous blending and packaging (figure 2). Dried skimmed milk powder, sugar, soybean oil and vitamin mineral premix were the common ingredients for both RUCFS. The total energy content of 50g of rice-lentil and of chickpea-based RUCFS was 264 kcal and 267 kcal respectively. Protein-energy ratio (PER) for rice-lentil and chickpea recipes were 7.7 and 9.0 percent respectively, whereas fat-energy ratio (FER) for the two recipes were 50.5 percent and 53.6 percent respectively. These RUCFS had greater energy density than Pushti packet (energy 188 kcal per 50g, PER 10.4 percent, and FER 20.1 percent).]

Discussion

Page 15 'Children consumed an average of 47.1-56.7 percent of the RUCFS offered and 34.4 percent of Pushti packet offered.'

This is less than assumed for the power calculation. Please comment on this.

General point.

The food products all scored very high on the hedonic scale (above 6 points, out of 7), with overall liking for the 2 new products even being 6.9 points. It feels a bit as though the caretakers have given 'expected answers' rather than real opinions. Perhaps the authors can comment on this in the discussion.

**Level of interest:** An article whose findings are important to those with closely related research interests
Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I have no competing interests