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: Paluku Bahwere

Reviewer’s report:

General comment
This is an important work contributing to the effort to tackle chronic undernutrition by improving complementary feeding. The question is well defined and the methods appropriate and well described. However, at this stage it is difficult to confirm that based on the criteria used, the data back the main conclusion as the difference reported may just reflect a difference in volume offered and not taste preference.

Major Compulsory Revisions

1. It is stated in the methods section that “The amount of water added to the Pushti packet was noted and subtracted during analysis”. This means that for the comparison of intake, only the amount of dry-matter used to prepare the porridge is considered. We believe that this introduce a cofounding factor. Indeed, authors mention this in the discussion by stating that “adding water to Pushti packet increases the volume of food”. Thus, the difference in dry-matter consumed may not be confidently be attributed to difference in taste preference if the absolute volume of food consumed is not significantly different. The gastric capacity is a potential confounding factor. Thus, We suggest that authors add data showing the comparison of the 3 foods with the volume of Pusthi being the total of both dry-matter and water.

2. There is a comparison of 3 groups but it is not mentioned if the p-value is corrected for multiple comparisons. We believe that Bonferonni correction for multiple comparisons needs to be applied.

3. Authors should clarify the assumptions used for sample size calculation and eventually provide the formula and the reference. Reference 7 provided is not suitable for that purpose as it is not a reference on statistical methods for calculating sample size. In addition, authors should confirm that the calculated sample was giving enough power for the comparison of likert scale data and was adjusted for multiple comparisons.

Minor Essential Revisions

4. The content regarding RUCFS development need to be reorganized. There are phrases that should be in the results section included in the methods section. As un example, I think that the phrase below should move to the results section “Rice, lentil and chickpea were chosen as they are widely grown and consumed
in Bangladesh and other South Asian countries.

5. The sub-heading “RUCFS production” should be moved up and placed before the phrase below:

“Potential recipes were produced in small batches by mixing all ingredients in an electric blender”.

6. It is mentioned in the sample size calculation that the criterion for acceptability was eating at least 40% of the serving. We recommend that this is stated also when the amount of food eaten criterion is defined. Also, it will be interesting to add the rationale that lead to the choice of the criteria.

7. Mothers were trained on facial actions scoring systems to assess the acceptability using facial mimics. We expected the results of that component to be also presented. Can authors add and comment these results?

8. We assume that the decision to include 70% of the daily requirement in key micronutrients is based on the assumption of home food plus breastfeeding covering 30% of the requirements. If so, can this be stated in the methods section and the reference provided or authors should mentioned that this was based on research team expert opinion. In addition, the fact that only 50% of the 50g providing the 70% of daily requirement was consumed should be discussed and future directions regarding optimal fortification of the product and frequency of daily administration of the supplements.

Discretionary Revisions

9. We suggest that authors add sub-heading in the results section for the RUCFs development section and the acceptability section.

10. References needed after the listed phrases

a. “Currently there are 1.7 million children under five years of age in the country suffering from wasting or acute malnutrition (<-2 z score weight-for-height)”.

b. Malnutrition is nearly always accompanied by deficiencies of essential micronutrients, raising the importance of evaluating the impact of micronutrient content of food products in reducing micronutrient deficiencies during 6-12 months of life.

c. ...was designed to have the required amount of micronutrients and vitamins essential for growth and development in children 6-24 months of age.

d. Micronutrient content was set to cover 70 percent of the requirements of children aged 6-18 months.

11. Check if reference 7 is appropriately cited after the phrase” Although effective counseling to improve the quality of complementary feeding works in food secure communities, 6 supplementation with nutritious food may be imperative for children of food insecure households, and those that cannot afford an adequately diverse diet [5-7]”.

12. What means acceptability in the phrase “A final selection was made based on the nutritive value, local availability, acceptability, cost and sustainability of the local ingredients”? Is the same meaning as acceptability in the title of the paper?
Is it cultural acceptability? To avoid confusion, can the authors use an alternative word if the word has a different meaning?

13. What is the difference between “local availability” and “sustainability of the local ingredient”?

14. We suggest to clarify the message in the phrase “The primary outcome variable for the acceptability trial was to see the acceptability of RUCFS or Pushti packet by measuring the amount of food consumed by children within a specific time”

15. The message in this phrase is a bit confusing. “This is the first study presenting acceptability data on locally produced RUCFS for children, which is a novel way to ensure nutritional adequacy of children’s diet particularly for food insecure households and is nutritionally more complete than Pushti packet “

16. “This is the first study presenting acceptability data on locally produced RUCFS for children”. At least two papers have reported acceptability of products similar to RUCFS in African context (Bisimwa et al, 2012; Phuka et al, 2011). May be the authors should add in Asia context.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests