Reviewer’s report

Title: Household food access and child malnutrition: Results from the eight-country MAL-ED Study

Version: 1 Date: 23 May 2012

Reviewer: Sera Young

Reviewer’s report:

Thank you for the opportunity to review your manuscript. There is a lot to like about it, and I am enthusiastic about its publication. However, there are several issues that I believe should be addressed before publication.

My comments are approximately ordered from substantive ones that need to be addressed to more minor ones.

The HFIAS scale goes from 0-27, but the scales in the figures and the text go from 10-37. Your data will be more easily interpreted by those familiar with HFIAS if you keep scale consistent.

At lines 184-6, it’s written that the scores were skewed right “indicating low food insecurity” but in typical use of the scale, the higher the score, the more food insecure. So, the interpretation about food insecurity is exactly opposite here. This is important to clarify.

I would encourage analysis of HFIAS by none, low, medium and high, as outlined in Coates, J., Swindale, A., & Bilinsky, P. (2007). Household food insecurity access scale (HFIAS) for measurement of food access: Indicator guide. Washington DC: Food and Nutrition Technical Assistance Project. NB that this procedure is more complicated than quartiles or even cut-offs. This would be particularly useful for Figure 1.

Using 4 as the cut off for food insecurity because it’s the sample median is one approach, but why not use the cut offs in Coates et al 2007? Your decision to not use standard cutoffs needs to be better justified.

Analyses of the impact of food insecurity sometimes control for SES and sometimes don’t. This paper is strong for differentiating the two. However the SES indicators that have been used are partly a measure of wealth and partly a measure of hygiene (see Humphrey in the Lancet 2009 about enteropathy). It would be useful to keep sanitation and water source separate from the rest of the characteristics in Table 3.

In discussion, seasonality should be addressed. Are some of the variation in findings attributable to FI being measured at is peak or lowest points?

It would be helpful for the reader if two additional columns were added to Table 1: mean and SD HFIAS score and the mean SD SES score (as calculated using
principle components analysis, ideally of those characteristics not pertaining to sanitation, per above). This will prepare your audience for the interesting observation made around lines 254.

At line 255 you call the observation a contradiction, but in the next paragraph you explain how it isn’t, because food access security is not merely an indicator of SES. Consider rephrasing.

More minor points:
Was back translation of surveys done? How was their fidelity tested?

There is irregular use of acronyms, e.g. HFIAS is used then later spelled out. Same for SES, HAZ. Also, sometimes you use food access insecurity, other times food insecurity; consistent use of food access insecurity is more accurate.

Please clarify the study design at line 99. Are you describing enrollment for the main study or pre-study pilot activities? Or are these participants part of the main study? How will the cases and the control children be selected? How many malnourished per site and at what age will they be enrolled? Etc. Alternatively, you could skip details on the controls and just be clear about participants in this current study.

Lines 44-45 phrase seems to be missing words.
Lines 59 and 60 “may” should become “can”.
135 physical consequences include hunger, so “hunger” can be dropped.
146 insert “WHO standard” before median. It could be interpreted as meaning the population median as it currently reads.
154 typo
158 add “infant” before age
Line 232 which test for heterogeneity?
line 238 might --> “likely”
281 will you do repeated measures of FI?
292 may be clearer to refer to this as the pilot study
Line 297 with current data about effect sizes, a sample size calculation could be done.
Line 301 please give example of how some items are culturally dependent.
Line 409 reads awkwardly

Please spell out the names of the countries in all figures.

With your crowding metric, what type of room did you ask about? Sleeping rooms or any room in the house?

I find it distracting and unnecessarily wordy to call out figures and tables. For example, lines 97-99 could be streamlined by dropping the sentence that begins
with “Table 1” and just putting (Table 1) at the end of the first sentence. This can be done throughout the MS, e.g. lines 174-5.

The recommendation to not use the Household Hunger Scale (the name of which should be mentioned in the text) is hard to defend. If results are similar with fewer questions, it can be appealing for many scientists. Line 274-- why do you want to characterize the full experience of food access insecurity for your study? Perhaps stating that it was not appropriate for your study would be more accurate.

Also, please consider including results using HHS in online supplementary material (line 272)- it would be nice for readers to see them.

**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.