Reviewer’s report

Title: Determinants of Underweight, Stunting and Wasting among Schoolchildren

Version: 4 Date: 7 July 2014

Reviewer: Hannah Wilson

Reviewer’s report:

Overall this is a solid study with excellent sampling. I recommend this paper for publication following edits. The majority of the edits concern the discussion and interpretation.

Major Compulsory Revisions

1. No information on the prevalence of under-nutrition is given.

2. The discussion focuses on parasite infection, even though only one parasite is a significant predictor of one type of under-nutrition, indicating it is a false positive. The discussion on parasite infection needs to be shortened and restructured to better reflect the results. Also as the parasite discussion is now, it is piecemeal statements about other studies and does not have a narrative or “take away”/ conclusion.

3. The discussion on food insecurity needs to be expanded and moved to the beginning of the discussion. Food insecurity is the only predictor that significantly predicts all types of under-nutrition and therefore seems to be the driver factor for under-nutrition in this sample.

4. Line 110-120: Overall more information on what was contained in the questionnaire is needed. List all the topics that are used as predictors in the regression. Describe when the data is collapsed into categories (i.e. family size) and when pre-used categories were used (i.e. parental education(?))

5. Add a strengths and weaknesses section. This will allow a brief discussion of puberty, which was not measured.

6. Much of the methods and descriptive results focuses on hygiene and cleanliness but these measures are abandoned for the regression. Either remove them from the manuscript or create a hygiene index (or something similar) and include it as a predictor in the regressions.

Minor essential revisions

7. Throughout there are strange spacing issues between words.

8. The abstract does not need to include the software used to analyse the data.

9. Line 85: Expand the description of Dale Woreda for those not familiar with Ethiopia, i.e. that it is an administrative district, etc.
10. Line 89: Separate out the equation and give definitions for each variable.
11. Line 112: Is there a reference for FANTA?
12. Line 122 and 127: information on height measurement is repeated
13. Line 138-139: Elaborate on whether instructing children to bring appropriate stool samples increased sample size or remove this sentence.
14. Line 162: prevalence of under-nutrition cannot be expressed as a mean
15. Line 166: reference the growth reference used.
16. Table 1: family size categories have no consistent names. Choose either the numbers or small/ medium/ large and be consistent throughout

Regression tables:
17. Only one regression table has dietary data but no indication that diet impacts one type of under-nutrition more than others is given. All regression analyses should have the same predictors unless justified in the methods.
18. Indicate significant Crude OR as well as adjusted.
19. With a footnote, indicate what is included in the fully adjusted model.

Figures
20. No mention of the figures is given in the text. Remove them.

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

**Quality of written English:** Needs some language corrections before being published

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

**Declaration of competing interests:**

I declare that I have no competing interests