Reviewer’s report

Title: Prevalence of Anemia and Associated Risk Factors among Children in Northwestern Uganda: A Cross Sectional Study

Version: 0 Date: 28 Nov 2016

Reviewer: Lewis Hsu

Reviewer's report:

This paper is interesting and demonstrates that this region of Uganda appears to improving from previous reported on nutritional and helminthic anemia in Uganda. The population studied in the cross-sectional study includes mostly people with moderately good nutrition and good standards of hygiene. None of these critiques are major flaws, but the paper could be improved with some editing and clarification.

Results Line 167-168  The positive correlation between household size and income, implying that large families were of higher socioeconomic status was a surprise to this reviewer who lives in a society where the inverse is true. It does make sense, and is an important observation about the social context. This social context is brought in later in the Discussion (lines 248-253) but should be emphasized earlier during the Discussion of association with mothers of low parity, in lines 234-238. If possible, try to fit it into the abstract.

Methods, Results, Discussion, Conclusion - The results of the multivariate analysis in Table 5 seem to be overshadowed by the discussion of univariate analysis. Please add a sentence or two to highlight the findings of multivariate analysis, and emphasize in lines 175-178 and lines 261-262 that the Factors independently associated with the risk of anemia were found by multivariate analysis.

Although the infectious disease and nutritional etiologies of anemia are obviously very important, the authors should mention why they did not explore for possible hemoglobinopathies (sickle cell disease and alpha thalassemia) and possible lead toxicity. Is the prevalence low for these potential causes for anemia in this northern Ugandan population? Were there technical barriers to testing for these causes? Would the children with hemoglobinopathy or lead toxicity be too sick to be included in this study? Are reports from Kampala irrelevant for the population in this study?


Results Lines 124-125  The second sentence seems awkward - consider "Most homesteads (98%) had either a latrine or toilet for family use; this level of sanitation is well above the average reported nationally [21]"

Results Lines 147-148  The double negative is confusing. Please consider "As expected, this survey of asymptomatic children did not capture cases of severe anaemia (Hb < 7.0 g/dL)."

Results Line 161  Suggest clarification by adding the words "only" and "more": "Children with only one parent surviving were 1.5 times more likely to be anaemic …"

Discussion Line 245  Again suggest clarification by adding the word "more": "Children with a single parent surviving were 1.5 times more likely to be anaemic …"

Typographic error line 279  "drowned" should be "drawn"

Typographic error line 295  "corporation" should be "cooperation"

Typographic error line 431  "Odd ratio" should be "Odds ratio"

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

Yes

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Yes

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes
Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review? If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

**Quality of written English**
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

**Declaration of competing interests**
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license ([http://creativecommons.org/licenses/by/4.0/](http://creativecommons.org/licenses/by/4.0/)). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.
I agree to the open peer review policy of the journal