Reviewer's report

**Title:** Nutritional anemia is not a rare problem among women of reproductive ages in Ethiopia: a community based cross sectional study.

**Version:** 1  **Date:** 4 June 2009

**Reviewer:** Beverley-Ann Biggs

**Reviewer's report:**

It is important to document high rates of anemia in women in developing countries in the literature as a baseline for later evaluation of iron supplementation and food fortification programs. As such, this is an interesting study of the prevalence of anemia and iron deficiency in women in Ethiopia. the

However, major compulsory Revisions are required.

1. The concept of nutritional anemia, as described in the background section is confusing. Also the references to nutritional anemia being rare in Ethiopia are more than 10 years old. Furthermore the authors have not studied all the nutritional causes of anemia. Therefore the term ‘nutritional anemia’ should be abandoned and the questions to be answered by the paper would be better defined as:

   1. What is the prevalence of anemia in women of reproductive age in Ethiopia?
   2. What is the prevalence of iron deficiency and iron deficiency anemia in these women?

2. The background section needs to be rewritten along these lines (including discussion of the causes of anemia, and the causes of iron deficiency) as well as mention of nutritional deficiencies, and shortened.

Several recent documents are available through WHO to help with this including http://whqlibdoc.who.int/publications/2008/9789241596657_eng.pdf

3. The methods need to be described in greater detail. How was the stratified cluster sampling actually done? Was village size taken into account? More detail on how women were systematically selected. More detail on the stratification by food staple diets. Who carried out questionnaires, how was data entered in the field, who entered data into the database? Was there missing data?

4. I don’t think the cutoff of eating meat more than three times a year has biological meaning. A better cutoff would be more than once a week. If no-one ate this much meat then no conclusions can really be drawn about meat consumption except to say it is very low.

The current WHO cutoff for ferritin is <15mcg/l for iron deficiency. (http://whqlibdoc.who.int/publications/2004/9241593156_eng.pdf)

We use ferritin levels between 15-30 as an indication of iron insufficiency.
5. The data need to be reanalyzed using the above ferritin cutoff. Also it would be interesting to see ferritin and Hb graphed as continuous variables so the relationship between the two can be more easily appreciated.

6. Hookworm is the main intestinal parasitic cause of bleeding and iron deficiency. The data should be reanalyzed to look for associations between anemia and low ferritin and hookworm prevalence and intensity. Again, some graphs may help.

7. More attention to English language is needed in the manuscript.

8. The discussions and conclusions will need to be rewritten after the reanalysis suggested above, as the prevalence of iron deficiency and iron deficiency anemia will change markedly.

9. Limitations to the study should be elaborated including potential biases with the sample selection, discussion about missing results, and the inherent problems of doing this sort of retrospective analysis of health survey data.

10. The term ‘nutritional’ should be omitted from the title and the focus be on the prevalence of anemia and iron deficiency anemia that is found after the reanalysis. A case can then be made for whether the anemia is mainly due to nutritional deficiency or not.

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

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

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

**Declaration of competing interests:**

I declare that I have no competing interests