Author’s response to reviews

Title: Predictors of anemia in pregnant women residing in rural areas of the Oromiya region of Ethiopia

Authors:

Krista Zillmer (kmzillmer6@gmail.com)
Ashish Pokharel (apokharel@hki.org)
Kathryn Spielman (Kathryn.Spielman@tufts.edu)
Meghan Kershaw (Meghan.Kershaw@tufts.edu)
Kidane Ayele (Kidane.Gebrehiwot@tufts.edu)
Yitbarek Kidane (Yitbarek.Woldetensay@tufts.edu)
Tefera Belachew (tefera_belachew@yahoo.com)
Robert Houser (Robert.Houser@tufts.edu)
Eileen Kennedy (Eileen.Kennedy@tufts.edu)
Jeffrey Griffiths (Jeffrey.Griffiths@tufts.edu)
Shibani Ghosh (Shibani.Ghosh@tufts.edu)

Version: 2 Date: 20 Apr 2017

Author’s response to reviews:

• Abstract Line 32 – 33 – I would suggest rephrasing the second sentence to improve clarity. Suggest something like: “While previous studies in Ethiopia have examined factors associated with anemia, which factors are most important determinants of anemia in this population remains unclear”

  Abstract Lines 32-33 were changed to “While previous studies in Ethiopia have examined factors associated with anemia, which factors are the most important determinants of anemia in this population remain unclear.”

• In relation to the association between HFIAS and anemia which the authors identify as significant (P=0.01), it is still not clear to me how this can be significant when the 95% CI includes 1. Can the authors clarify this?
The large sample size allows us to detect small effects and the confidence interval is actually 1.005-1.036, when reported to the nearest thousandth rather than hundredth. The value for the HFIAS confidence interval in table 3 (page 21) was changed to show that this range did not include 1. In the previous revision, we added a sentence to clarify that while found to be statistically significant, the result is not practically meaningful. Together, these two changes should help clarify the reporting of HFIAS.

The sample size calculation requires some clarification, as it’s not how this relates to the sample size required to reliably examine associations between variables in the population and the incidence of anemia.

The sample size for the birth cohort study was based on height for age z-score, not anemia. We were not concerned about the sufficiency of the sample size because it is substantially larger (between 3-10 times more) than other studies on the same subject. However, we checked the sample size calculations for anemia and found that the sample allows us to detect an effect of 0.018 change in odds of anemia with 80% power at the 0.05 level of significance. This revised description of the sample size can be found in the methods section, page 5, lines 113-119.

Line 207 and 212 – the reference here should be to Table 2, and not Table 1

Results section, page 10, lines 209 and 214- The reference was changed from Table 1 to Table 2.