Reviewer’s report

Title: Socioeconomic determinants of malnutrition among mothers in the Amoron'i Mania region of Madagascar: a cross-sectional study

Version: 0 Date: 29 Aug 2017

Reviewer: Barbara Stoecker

Reviewer's report:

The paper provided important insights on nutritional status of mothers in an area of Madagascar where a high prevalence of undernutrition had been reported in the last DHS survey.

Some additional information is needed:

If anthropometric measurements were taken in duplicate, that should be stated.

How many years constitute primary education in Madagascar? What happened in the linear regressions if illiterate and primary educational levels were separated?

Differences due to safe and unsafe water were striking. In one place in the manuscript, the variable is described as "the quality of the water source used to cook meals". It would see that the more critical issue would be the quality of water that was not heated, i.e. the drinking water.

Details for three indicators of economic level were mentioned in the methods section. Table 3 refers to the "movable property score" and Table 4 to the "Property possession score". Are these the same or different variables. More clarity is needed on how these variables were derived.

The following statement needs clarification: "The variables with more than two categories were converted into an indicator". Does this refer only to their use for multiple linear regression?

RESULTS:

The lower MUAC in breast feeding mothers is stated twice.

Clarification is needed on decision criteria for selection of variables for the model. The last paragraph of the results section does not make this clear.

Although significant, the models shown in Table 4 explain only 7-8% of the variation.
DISCUSSION:

The decrease in undernutrition from 41.6 to 17%, while remarkable, is not actually a two-thirds decrease.

Is it possible that the safe water supplies require much less walking than collection of the unsafe water?

Table 2. Check CI for confidence interval.

Table 3. Check definition of asterisk in footnote.

Table 4. Why is dietary diversity score listed under the property possession score for MUAC.

Perhaps indicating the p for Property possession score for BMI as NS (not significant) and the p for dietary diversity score for MUAC as NS would be more clear?

Model IMC and Model PB may reflect translation for the French?

Editorial comments:

ABSTRACT: L. 20. An "introduced" investigation is unusual terminology.

BACKGROUND: What is meant by the "state of play"?

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?
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I am able to assess the statistics
Quality of written English
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