Reviewer’s report

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

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Reviewer: Seth Adu-Afarwuah

Reviewer's report:

Socioeconomic determinants of the nutritional status of mothers in the Amoron'i Mania region of Madagascar: a cross-sectional study

This manuscript reports the results of a cross-sectional study conducted in the Amoron'i Mania region of Madagascar, which aimed to determine the factors associated with maternal malnutrition. I have the following comments:

1) My main concern has to do with the method of statistical analysis. As described in the Introduction (Introduction Lines 20-45), the focus of the study was maternal malnutrition, and not mean BMI or mid upper arm circumference. Therefore, to my mind, a more statistical approach (compared to the approach described in the manuscript) would be to model malnutrition by using multiple logistic regression analysis. That is, the dependent variable would be a binary variable with values 1 = malnourished (BMI <18.5 or MUAC <220 mm) and 0 = not malnourished.

2) Given that malnutrition was the focus of the study, I suggest that the title should rather be "Socioeconomic determinants of malnutrition among mothers in ….".

3) Abstract:

a. Line 20: I imagine that many readers will be unfamiliar with "introduced investigation.

b. Line 20-24: I would think that authors would use either body mass index <18.5 kg/m² OR arm circumference <220 mm to define malnutrition? Please see comment above.

c. Line 25-27: Readers might find "factors associated with malnutrition" more understandable that "factors associated with nutritional status".

 d. Line 29: Shouldn't "IC95%" rather be "95% CI"?
e. Line 39-44: Are authors referring to variables SELECTED for inclusion into the regression model, or the variables which were statistically significant when controlling for others in the model?

4) Please provide footnotes for the tables stating the statistical method used in each case.

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

No

**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:

Acceptable

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