Reviewer’s report

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

Version: 1 Date: 08 Nov 2017

Reviewer: Hasina Rakotomanana

Reviewer's report:

I appreciate the effort of the authors to edit and rearrange the manuscript with considerations to the reviewers' comments.

Abstract

Lines 12-14

May be better if the two sentences "Data on the characteristics…" and "A body Mass Index (BMI)…" were switched.

Line 12

Consider rewording "Data on the characteristics of the mothers and their households were also collected."

Line 15

Consider rewording "factors associated with maternal malnutrition."

Line 16

Consider rewording "The prevalence of maternal undernutrition…"

Line 21

Delete "of the"
Conclusion
Consider adding more implications of the results, or recommendations.

Background
The ideas are not flowing, consider using appropriate linking words to make it easier to read.

Lines 36-37
Delete "in the world"

Line 37
Consider adding "…have been identified such as iron folate, multiple micronutrient supplementation, …"

Line 38
Delete "…"

Line 39
"heavily affected by malnutrition", is it child or maternal malnutrition?, please specify by adding "child" or "maternal" or both.

Lines 41-43
Consider separating into two sentences.

Line 44-45
Seems like a strong statement, any reference?
Consider adding "maternal nutrition in the region Vatovavy Fitovinany."

Consider rewording to "…rural areas where malnutrition issues are much more prevalent."

Consider rewording "…these factors would help readjust strategies…"

Methods

Delete "the"

Consider rewording "…health and reproductive characteristics were collected…"

Consider adding "…dietary practice, the FAO's Minimum Dietary Diversity for Women questionnaire was used."

Was the questionnaire pre-tested? If so, please mention it.

The diet diversity data collection is well described here, but what about the other variables? Socioeconomic, health and reproduction? Consider moving lines 104-107 in the "data collection" section.

Consider rewording "…locally. Data collectors received training…"
Consider rewording "food groups recommended by FAO."

Consider moving under "data collection" section.

The 24-month threshold: did the authors use a reference to decide the threshold? Or what is the rationale?

Consider rewording "…annual rice production was also collected." 

Consider rewording "…in bivariate analysis using logistic regression, the association between maternal and …" 

Consider rewording "…<0.20 in bivariate analysis were considered…" 

Consider adding "…selection of covariates and included in the multivariate models."

Have you tried another model building? For example, stepwise?
"Variables with more than 2 categories were converted into indicators". Not clear

Consider adding "…the final multivariate logistic model."

Results and discussion

Discuss in the same order as in the table 1.

"…and almost 3 out of 4…", consider to change into percentage.

Check spelling of "age"

"…and 31% of the mothers had their first pregnancy…"

"Concerning the household characteristics, …"

"…(unprotected wells, unimproved wells, and rivers)"

Consider changing into percentage "9 out of 10".
"…owned the house they live in."

Line 152
"median period of 4 months" per year?

Line 155
Consider changing into percentage.

Lines 160-168
Consider reporting crude OR instead of proportions, more powerful statistically and easier to interpret.

Line 161
Consider rewording "Table 1 summarizes the results of the bivariate analysis that looked at the association between maternal undernutrition and socioeconomic factors. Using a BMI of 18.5 as a cutoff, …"

Line 169
Consider rewording "Table 4 shows the results of the multivariate analysis…"

Line 170
Consider adding "…water source were significantly associated with…”

Lines 194-198
The sentence "However…socioeconomic situation" seems to be contradictory with the previous sentence and the sentence after that. Consider rewording.
Consider rewording "was kept in the BMI and MUAC models…"

Consider moving "In addition…MUAC model" to line 216 before "As for the reproductive characteristics…".

"households are more malnourished…"

Delete "according to MUAC".

Sentence not clear, the authors could expand more.

Household greater than 6, was the rationale for choosing this threshold defined in the methods section? Any reference?

Consider adding "quantity of food needed to feed the whole family." 

"create a healthy environment", vague statement…environment for the child? Family?

"Studies have identified…", please specify from where? What kind of study?
Consider rewording "...interventions based on evidence."

Looks like something is missing in the sentence, consider rewording.

Additional comments
Did the authors have any comments on which indicator would capture more the situation of maternal undernutrition in the region?

I did not see any comments on the economic variables and their association with maternal undernutrition, even though movable property score and farming equipment score were significant in the bivariate models. I think it will be interesting to discuss, as well as rice availability.

Table 1
Looks odd with three columns and the second one is almost empty. Consider adding the number of mothers in each category (n) in the second column.

Table 4
Consider including all the variables that were included in the model, even the non-significant ones and put p-values and AOR so it will be clear what was included. Remove the last row with "Not included in the model..."

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

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Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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