Reviewer's report

Title: Malnutrition among children under the age of five in The Democratic Republic of Congo: does geographic location matter?

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Reviewer: Philippe Dr Donnen

Reviewer's report:

General comments

This article is interesting especially for large countries where distal determinants such as geographical location could have an influence on nutritional status. However, the interpretation of the data is not always well expressed and the comments of the figures, fig 3 especially could be improved.

-Style and spelling should be improved.

* Major compulsory revisions

P15 : Statistical analysis :
The authors say that 3247 children have information on anthropometric measures. But in table 1, data are presented for much more children (for example, for sex : 3663 subjects !). Why ?

P19 : The overall prevalence of malnutrition was 39.2%. But in table 1, the prevalence of stunting for sex is on average 43.9% ! This is probably due to a difference of sampling as mentioned before. It should be corrected.

P21, L15 : “…we estimated the probability of …” : the y axis is not a probability !

* Minor essential revisions

P9, L10-11 : Could the author give some justification for this assertion ?

P10, L12 : “This weight for age ….” : replace weight with height.

P10 : there are some repetitions in first and second paragraph of “Nutritional status”. Please correct it.

P11, L11 : “..(2 SD of weight-for-height …)” : replace weight-for-height with height-for-age.

P11, L16 : “…mentioned above;” : replace ; with ,

P13, L21 : “…have been taken either..” : replace either with each.

P15 : Statistical analysis :

Which software was used for the statistical analysis ? This should be précised.
Was the sensitivity to the choice of hyperparameters investigated?

P20 : It is superfluous to mention the percent and p values; they all figure in Table 1.

P23, L8 : “A figure 3..” : replace with : Figure 3 ...

P24 : What is the explanation for the high level of malnutrition in Katanga Province?


P27, L2-3 : “....these findings explain the province difference in child nutritional status in DRC.” I do not understand this sentence as province variable is still statistically significant after adjustment for the socioeconomic variables.

P27, L8 : Why is this major finding not include in the conclusion?

P27, 2d para : and what about Katanga province?

P28, 3d para : the idea that edematous malnutrition (kwashiorkor) is caused by a low protein diet is controversial (Golden M. The development of concepts of malnutrition. J Nutr 2002 suppl: 2117S-2122S)

P29, L4 : “..cultural norms” replace with cultural norms.

P29, L5-6 : explanations for the higher exposition of male children?

Table 1
-At the top of the columns should figure n and %
-Is the “no” column adding anything ? I do not think so.
-Asset index is not well defined in the methodology section.
-Why is the BMI of the mothers not described ? It is interesting to have the distribution of this data.

Table 2
-This table is not mentioned in the text !

Figure 2
-unities are lacking;
-suppress the “and” before child’s age
-Title of axis ?

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being
Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.