Author's response to reviews

Title: Prevalence of malnutrition among HIV-infected children in Central and West-African HIV-care programmes supported by the Growing Up Programme in 2011: a cross-sectional study

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Prevalence of malnutrition among HIV-infected children in Central and West-African HIV-care programmes supported by the Growing Up Programme in 2011: a cross-sectional study

September 2014,

Dear Editor,

Thank you for your favorable feedback in the expertise of our manuscript and giving us the opportunity to submit a revised version.

We are pleased to respond to the Editor’s and reviewers’ comments, providing point-by-point responses in red (see below). The changes in the manuscript are highlighted in bold-faced text, in red.

Thank you for considering our work. We hope that the changes made to the manuscript will be satisfactory for publication.

Best regards,
Julie Jesson, on behalf of the co-authors.
Reviewer’s report:

Referee 1: Bamenla Q Goka

1. The researchers set out to determine the prevalence and associated risk factors for malnutrition among children in HIV-care programmes in West and Central Africa, which share a common source of funding. This is well articulated. The research addresses an important aspect of the care of HIV infected children which is unfortunately often handled sub-optimally.

2. The methodology was appropriate and well described.

Major Issue

3. It is of concern that the study protocol was not submitted to an Ethical Review Board (ERB). Authors should justify why they failed to do so.

This study was conducted under the standard of care clinical procedures with an individual benefice, reason for which the Ethical Review Board was waived. There was no written individual consent requested. Nevertheless, verbal parent’s consent to contribute to the study was requested for collecting data on child health. Moreover, all data records analysed in the database were anonymized. We add this information in the revised manuscript (Methods – Study Population, last sentences)

Minor essential revisions (not for publication)

4. Abstract Background, 1st sentence-Replace “while” with “even though”
5. Introduction, line 4- “...CD4 T-cell concentration is decreased.”
6. Study population, 1st and 2nd paragraphs“... a nutritional support” delete ‘a’

We thank you the reviewer for these comments and made the appropriate corrections in the revised manuscript.

7. Study population 2nd paragraph..."Everywhere, the nutritional support was privileged in children less than two years of age, mainly during their weaning period"- the meaning is not clear and so needs to be rephrased.

We acknowledge the reviewer for this comment. We wanted to highlight the fact that nutritional support was above all used for the youngest children, in each study centre. Nutritional support for children more than 2 years was not well implemented. We suggest saying that as follow:

Methods – Study population, page 4, §2:
“For every centre, nutritional support was mainly used for children under two years of age to assist the weaning period. No specific nutritional protocol was defined for older children.”

8. Study population 2nd paragraph, last sentence- replace “moment” with “time”
9. Study population 3rd paragraph, 2nd sentence-rephrase as “Data collected from each centre were entered into a global database...”

We thank you the reviewer for these comments and made the appropriate corrections in the revised manuscript.

10. Results- section on Factors associated with acute malnutrition contains quite a number of typographical and grammatical errors e.g. some brackets are facing the wrong direction; phrases like “significantly twice lower” etc.

We apologize for these errors and made corrections in the entire results section as in these examples:
Results- Factors associated with acute malnutrition, page 7, §1:
“...acute malnutrition was significantly twice as high in boys as in girls, and in children with severe immunodeficiency compared to those not...”

Results- Factors associated with chronic malnutrition, page 8, §2:
“...chronic malnutrition was significantly twice as low in children older than 5 years of age as in younger children...”

11. Results- section on Factors associated with mixed malnutrition, paragraphs 2 and 3-replace “since less” and “since more” with “for less” and “for more”.

We thank you the reviewer and made the appropriate corrections in the revised manuscript in the results section (factors associated with mixed malnutrition and with acute malnutrition too).

12. Discussion paragraph 3, 1st sentence- it is incorrect to state that the study population could be considered as representing sub Saharan Africa because all the 12 programmes are from West and Central Africa.

We acknowledge this comment and suggest rephrasing this sentence as follow:

Discussion, page ?, § ?:
“...the study included nearly all children enrolled in the 12 participating associations of the Growing up Programme representing as best as possible HIV-infected children enrolled in HIV care programmes in West and Central Africa.”

13. Table 1 Heading number 6. Replace “on” with “in”.

We thank the reviewer for this comment and propose to write: “Nutritional support within 6 months prior to the study”

Discretionary revisions
14. The title could be shortened by deleting “in 2011: a cross-sectional study”.

We acknowledge this comment. However, it is a request of the journal style to report the year and the study design in the title. So, we did not change the title of the article.

15. It would be informative if an association between the type and number of nutritional supports given, and the nutritional state of the child could be explored. This may help to give direction as to what would be the optimal nutritional support to use in HIV-care programmes.

We thank the reviewer for this comment. However, as it is a cross-sectional study, we are not allowed to conclude on the direction of an association between the type and number of nutritional supports and the nutritional state at the time of the survey. Indeed, we effectively found that children supported with flour, powdered milk, solid or semi-solid foods were more often malnourished than children with no nutritional support. However, we cannot conclude on the meaning of this association because of the cross-sectional study design. We can just say that these type of nutritional supports are indicators of malnutrition.

In our paper, we analysed this association using the variable “malnutrition history”, based on the supplementation of the children in the last 6 months before the survey, as a proxy reflecting the malnutrition antecedents.

Consequently, we did not modify the manuscript, for the sake of brevity.

Level of interest: An article of importance in its field
Quality of written English: Needs some language corrections before being published
Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.
Declaration of competing interests: I declare that I have no competing interests
**Referee 2: Linda Aupribul**

It is a retrospective data analysis using data from HIV care programmes conducted in 12 sites in 7 African countries. The results emphasized the need for growth and nutritional assessment in routine care for this population. The topic is not novel, but remains important and needed to be addressed. I have a few comments as follow;

-I understand that the authors used data from medical records of children enrolled into the HIV care programmes. Thus, it would rather be called a retrospective data analysis, not a cross sectional study.

We acknowledge this comment. However, we think that it is more appropriate to say that it is a cross sectional study, nested in a prospective cohort, as all anthropometric data defining malnutrition were collected during one follow-up visit while they were followed in an HIV care program.

**Abstract**

-Page 2 line 82: the prevalences were not “estimated”, they were real finding from this study.

We thank you the reviewer and rephrase the sentence as follow:

Abstract – Results:

“The prevalence of malnutrition was 42% […] with acute, chronic and mixed malnutrition at 9%, […] 26% […] and 7% (95%CI: 5-10%), respectively.”

The full term “95% confidence interval” should be moved to the previous line when it was first used. We apologize for this error and made the appropriate correction.

**Methods**

-Page 5 line 169: type of nutritional support mentioned here were those support from the Growing Up Programmes, weren’t they? Were there any other sources of nutritional supports around at that moment which might confound the study definition?

The type of nutritional support mentioned were those reported by the caregiver during the follow-up visit, it could be given by the Growing Up programme or another source. So, data reporting on nutritional support must have been complete, as far as possible.

-Page 6 line 200: Why the authors use P< 0.25 for variables to be included in multivariate analysis? (conventionally P< 0.1 or <0.2 are used)?

We acknowledge the reviewer. We used here the threshold of p<0.25 which is not so uncommon to select variables for multivariate analyses to lower the sensitivity threshold in our selection. We hope that it will be accepted to keep this value.

**Results**

-Characteristics of study population, were history of breastfeeding available? It might be significant and associate with malnutrition especially for the young age group.

We thank you the reviewer for this comment. Unfortunately, we did not have data on history of breastfeeding for this study. We just collected breastfeeding practices for children under 2 years of age but this population have not been included in the study because of a too small sample size (n=17), whereas it is a specific population.

**Discussion**

-The discussion is very long, can the author make it shorter and more concise.

We acknowledge this comment, and suppress some sentences at the end of the manuscript, which could be considered as repetitive. Nevertheless, we want to be the most complete possible on this
question of nutrition among HIV-infected children. We hope that the suppressions made will be sufficient.

-The authors should start with their 4th paragraph (line 351-364) comparing their finding with other studies. The strength and study limitation should better be moved to the later section of the discussion (before summary).
We thank you the reviewer for this advice and made changes as it has been suggested.

-Page 12 line 436-439. The sentences might be true but they are not relevant to the study finding.
We acknowledge this comment and agree that the sentences (“Moreover, food supplementation and multivitamin use may improve the nutritional status of the children. Finally, nutritional interventions should be implemented to improve growth, especially at time of ART initiation that could lead to an optimisation of their clinical response and survival of ART-treated children.”) did not refer directly to the study finding. Actually, it is a kind of opening and some perspectives which have to be explored to improve nutritional care of HIV-infected children which, we see that in our study, is not optimal, with a high prevalence of malnutrition among these populations. We hope that these sentences could be kept in the revised manuscript.

Table 1
-For gender, should the authors use term “male” and “female” instead of boys and girl as they had up to 19 years old patients that were not boys or girls anymore.
We agree with this comment and made the corrections for all the tables.

-What did 1,2,3-4 nutritional supports mean? They must be clarified in the footnote of the table (and also in table 4).
We acknowledge this comment and added the following footnote, for all the tables: “Number of different nutritional supports given (flour, powdered milk, solid or semi-solid foods, RUTF, therapeutic milk).”

-The test name is “Chi-square” not Khi-square.
We apologize for this error and made the corrections in the entire revised manuscript.

Table 2
-The first row (non malnourished) might be removed. Describing 3 groups of malnutrition were sufficient for readers to understand that the rest of them were not malnourished.
We agree with this comment and made the corrections as asked, removing the first row.

-Many of the second pieces of square brackets “[xx[” are not in the right direction.
We apologize for this error and hope that it is in the right direction now.

Table 5
-Variable named “ART” should be replaced with “Duration of ART”, and classified as # 6 months, < 6 month, not yet started, and missing.
We thank the reviewer for this comment and made the corrections as asked, in table 4 and table 5.

-Did the Orphan status “yes” included both double and single orphan? It should be defined in the footnote.
We specify this point as follow in the footnote: “Orphan status including both double and single orphans”
-Numbers with 2 decimals in all 3 “OR” column should contain “dot” rather than “comma”, shouldn’t they?
We apologize for these errors. Indeed, numbers have to contain all a “dot” rather than a “comma”. We made the corrections for table 3 and table 5.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:** I declare that I have no competing interests