Author's response to reviews

Title: Poor nutritional status of schoolchildren in urban and peri-urban areas of Ouagadougou (Burkina Faso)

Authors:

Charles Daboné (chdabone@yahoo.fr)
Hélène F Delisle (helene.delisle@umontreal.ca)
Olivier Receveur (olivier.receiveur@umontreal.ca)

Version: 2 Date: 6 March 2011

Author's response to reviews: see over
To Reviewers,

We would sincerely like to thank reviewers for their comments and contributions as well as their questions. This will certainly contribute to improve our manuscript and we are so grateful.

Please find below our response point-by-point to the raised concerns.
**ANWSERS TO REVIEWER 1**

**Reviewer**: Georgia Kourlabá

Reviewer 1 corrections are highlighted in blue in the manuscript

Q= Question or Comments  
A= Anwser

**Introduction**

- **Q:** I think that authors should include some references regarding the nutritional status of children in developed countries (i.e. Cattaneo A, et al. Overweight and obesity in infants and pre-school children in the European Union: a review of existing data. Obes Rev. 2010 11(5):389-98.)
  
  **A:** In page 4 the reference above and another one have been included on nutritional status of children in developed countries.

**Methods**

- **Q:** 1. Pls remove the first paragraph of results section in the population and sample subsection of the methods section.
  
  **A:** This paragraph, in the subsection of the methods section is not about study’s results. We presented this to explain how the sample size has been calculated. As stated in the setting subsection, this study was to serve as a baseline for the subsequent implementation and evaluation of an intervention which will require one intervention and one control group. So we think that it will be of interest to describe the complete sampling procedure given that this was purposive.

- **Q:** 2. Pls provide the level of significance (a) that was used to evaluate the p-value of the results of the current study in the statistical analysis subsection.
  
  **A:** The level of significance used to evaluate the p-value of the results of the current study is now provided in the statistical subsection (p <0.05) in page 8.

- **Q:** 3. I would like to know whether authors have recorded any other Socio-demographic characteristic (i.e. parental marital status, parental educational status etc) in the study. Pls provide related data.
  
  **A:** In this study, given that the administration of the questionnaire was performed at school and completed by the pupils, we did not collect detailed socio-demographic data on parents, i.e., their marital status, educational status etc. This essentially due to the fact we were concerned about the potential inaccuracy of these data if provided by the children. However, we asked a question on the child’s parent main occupation. These data will be used in subsequent papers.
Results

- Q: **1. In Table 1 an explanation of sub-sample is required as a footnote.**
  A: An explanation of sub-sample is now provided in footnotes of Table 1 (page 27).

- Q: **2. I would like to see whether other socio-demographic characteristics are associated with poor nutritional status of children.**
  A: A multivariate analysis would be useful.
  
  A: As an answer to these questions, we should like to stress that the current manuscript is primarily descriptive of the nutritional status of the children involved in this study (There is a lack of data concerning this). We are still processing other data, and the results about eating habits, hygiene and physical activity practices and other variables regarding behavioural determinants will be used in multivariate analyses to describe the associations of interest to be published in upcoming articles.
**ANWSERS TO REVIEWER 2**

**Reviewer:** Edith Mukudi

Reviewer 2 corrections are highlighted in green in the manuscript

**Q**= Question or Comments  
**A**= Answer

**Page 2**
- “Data” has been replaced by “Information”
- **Q:** “What kind of Intervention?”  
  **A:** Information about the intervention has been added.

**Page 3**
- “And not only in rural areas” has been removed.

**Page 4**
- “In these countries” is added to the sentence rather than “In developing countries” given that the same expression is used in the previous sentence.  
- Correction has been made for: “Children in the ...... both.....and...”  
- “of data” has been replaced by “of nutrition information”

**Page 5**
- “covering both the urban and the periurban areas of” has been added

**Page 6 now 5**
- “The country is divided in 13 regions and 45 provinces” has been removed.  
- It is now stated that the study covered both city and periurban areas of Ouagadougou.

**Page 7 now 6**
- **Q:** Described by what institution?  
  **A:** It is now clarified that the standard procedures were described by WHO

**Page 10, now 9 and 10**
- **Q:** I do not think this (figure 1; location of the schools) is necessary.  
  **A:** We would want to show the location of the schools through a figure presenting a map of Ouagadougou in order to show that the schools were distributed throughout the entire city, given that they have been selected on a purposive basis. Unfortunately, you did not receive the figure in case. We have added some clarifications.
- **Q:** Some siblings? Clarify.  
  **A:** We found 9 cases of siblings e.i 18 children in 7 different schools (2 twins, 5 X 2 with the same parents, 3 X 2 with the same father but different mother). Given that the rate was very low e.i. 2 % we had not reported on this.  
- “Table 1 shows the socio-demographic characteristics of the subjects” has been replaced by “As shown in table 1”  
- “As displayed in table 1” has been deleted.
Q: « micronutrient and overall malnutrition rates » What is the difference?  
A: The difference is that micronutrient malnutrition is specific to the micronutrient considered (here, iron and vitamin A). We called “overall malnutrition” undernutrition (based on the anthropometric measures, i.e., stunting, thinness) and overweight/obesity. Indeed these conditions can occur with the combination of both micronutrient malnutrition and protein/energy malnutrition.

- “the same” has been replaced by “a same”
- “In the sample” has been added
- “were vitamin A deficient” has been replaced by “had vitamin A deficiency”
- “the rate of stunting” has been replaced by “the stunting rate”

Q: Is this a comparison between the genders?  
A: Yes

- “Although obesity was almost nil with only four cases (two boys and two girls)” has been replaced by “There were only four cases of obesity (two boys and two girls), but”
- “had none” has been replaced by “were within acceptable measures of nutritional wellbeing”
- “One malnutrition sign” has been replaced by “One sign of malnutrition”
- “Who presented with” and “indicators of malnutrition” have been added.

Q: “More boys than girls were likely to be stunted”  
A: We do not totally agree with this, since as stated in the previous paragraph, there was no significant difference between boys and girls regarding stunting (9.4% vs 8.2%, p=0.605). However when we compare the rate of the combined indicators (stunting + thinness), boys are more affected than girls as displayed in table 2. This was the only case of concurrent malnutrition signs that shows difference between boys and girls. So we think that “Only stunting combined with thinness showed a significant difference (p<0.05) between boys and girls (1.9 % and 0.3 % respectively)” could better explain that idea.

Page 12, now 11 and 12

- “according” has been replaced by “by”
- “Statistically” has been added
- “were free of” has been replaced by “did not present with”
- “and” has been replaced by “while”
- “The most affected group was the older one (13-14 y) with 19.0%” is now “the older children (13-14 y) were the most affected group with 19.0% prevalence”

As asked, we have edited the paragraph about the description of table 4, by adding some precisions.
Page 13, now 12 and 13

- “contrary to common belief” has been removed
- “one malnutrition sign and roughly 15% had at least two” is now “one sign of malnutrition and roughly 15% had at least two such indicators”
- Q: Was this for rural children?
  A: The precision is made in the following sentence: “In this study where rural schoolchildren were predominant, 40.5% were vitamin A deficient and 43.7% were anaemic.”
- Q: Is there an overlap with current site?
  A: There is no overlap between these two zones and the current site. This clarification is now made in the manuscript.

Page 14

- Q: This is not clear I thought. Why not increased vulnerability with age?
  A: We totally agree with the reviewer as this is the idea we would want to state. Since children under 24 months can catch-up the growth deficit, the improvement in food and health conditions could be of better benefit to them rather than the older ones. In this situation the latter are more likely to be vulnerable to stunting compared to their younger peers.
  So we have added “depicting an increasing vulnerability with age” in the sentence.

Page 15, now 14 and 15

- Q: This is discussion section.
  A: The numbers have been removed, and “with 6.3% prevalence in the youngest group (table 3).” is now “as we detected a higher prevalence trend in the youngest group of children”.
- Q: Needed to present these results in text
  A: Ok, these results are now presented in brackets.
- Q: This is true for developing regions
  A: Yes, and we underlined it in the end of the sentence as “which is in accordance with previous reports in other developing country schoolchildren”

Page 16 now 15

- Q: Indicative of urban poverty a growing problem in Africa.
  A: Yes, we are agree and we have added “which reflects poor socio-economic status as the community level”

Page 17, now 16 and 17

- “amongst” has been added
- “nutrition transition” has been clarified
- Q: There is research that shows this problem in other populations? Reference them.
  A: The potential interaction between vitamin A and iron are reported in references 54 to 56. We also add this other reference (59) about the coexistence e of these two micronutrients deficiencies in a sample of schoolchildren from Bangladesh.
Page 18 now 17

- “Redrafted it” has been replaced by “Reviewed the draft and made some changes.”
- “Responsible” has been replaced by “Principals”

Page 26 now 25

- Q: Figure 1(map of Ouagadougou locating the 12 schools): Not necessary
  A: In fact we wanted to show in a map of Ouagadougou the location of the 12 schools to allow the reader to see that schools were distributed through all the city of Ouagadougou given that our sampling procedure was purposive.

Page 26

- “indicators” has been added to the title of Figure 2

Page 27

- Q: I do not think this table is necessary (table 1)
  A: We think that this table is important as it gives the characteristics of the sample regarding all the groups used to assess comparisons. Moreover it highlights the fact that we did not notice significant differences between the global sample and the sub-sample although the sampling procedure was purposive. This is true for the distribution according to school type, school location, mean age and age group.