Author’s response to reviews

Title: Prevalence and predictors of under-nutrition among school children in a rural South-eastern Nigerian community: A cross sectional study

Authors:
Rufina Ayogu (rufina.ayogu@unn.edu.ng)
Ifeoma C. Afiaenyi (ifeoma.nwachi@unn.edu.ng)
Edith Madukwe (edith.madukwe@unn.edu.ng)
Elizabeth Udenta (elizabeth.udenta@unn.edu.ng)

Version: 1 Date: 17 Jul 2017

Author’s response to reviews:

Editor Comments:

(1) Professional copyediting: The English language in your text would benefit from improvement for clarity and readability. We recommend that you either ask a colleague whose native language is English to review your manuscript or that you use an English language editing services. Two such services are provided by our affiliates Nature Research Editing Service (http://authorservices.springernature.com/) and American Journal Experts (http://www.aje.com/us/)

The manuscript has been edited by a lecturer in the Department of English and Literary Studies, University of Nigeria, Nsukka.

(2) Please move the Limitations section of the manuscript to before the Conclusions section

This has been done. Please see lines 391-394.

(3) Please provide a full Declarations section in the manuscript as detailed here: https://bmcpublichealth.biomedcentral.com/submission-guidelines/preparing-your-manuscript/research-article

This has been effected. Please see lines 409-413
(4) Please also state within the 'Ethics approval and consent for publication' section of the Declarations whether you received informed parental consent

This has also been done. Please see lines 409-413. It was earlier stated in lines 170-174.

(5) Please remove the uploaded title page; this should included as the front page of the main manuscript file

Done.

BMC Public Health operates a policy of open peer review, which means that you will be able to see the names of the reviewers who provided the reports via the online peer review system. We encourage you to also view the reports there, via the action links on the left-hand side of the page, to see the names of the reviewers.

Reviewer reports:

Mark Anthony Myatt (Reviewer 1): General comments

There is value in publishing this type of data. It can help in constructing review articles of global estimates and distribution of nutritional deficits. Also, publication in a peer-reviewed journal has advocacy value.

The article is reasonably well-written. Some editorial attention will need to be paid to getting English tenses and plurals correct and consistent. This is not a major issue.

One concern is the use of appropriate procedures (ile to a complex sample). This may or may not have been done. The authors should be encouraged to re-analyse their data using appropriate methods if required. WRT : "Are the methods appropriate and well described?" ... This needs to be confirmed.

Yes, the methods used for the study were appropriate and well described to the best of our knowledge.

Abstract

Not reviewed as this may change when the article is revised.
Background

Line 53: "anthropometric failure" is an odd term. "public health problem" needs some qualification. I think the authors mean that there are high prevalences for both micronutrient deficiencies and anthropometric deficits amongst schoolchildren in different parts of Nigeria.

This has been revised. Please see lines 95-101.

Line 57: The prevalence of "wasting" in the two populations (17.8% and 15.9%) are not very different from each other.

We are not comparing but showing that these are problems among schoolchildren. Though not very different, one is higher than the other. However, this has been revised. Please see lines 97-101.

The prevalence of wasting is so high that we should suspect some body shape issue is affecting this. The prevalence numbers should have "%" after each.

The wasting prevalence reported here is not ours. Besides, 17.8% and 15.9% are not so high. This part has been revised. Please see lines 97-101.

Line 58: The sentence starting "Prevalence of ..." is redundant as the prevalences are reported in the previous sentence.

Correction accepted and section revised appropriately. Please see lines 95-97.

Lines 74: "target" might be replace with "targeted" or with "a target".

Thank you. Correction has been effected. Please see line 120

Line 80: "one major" might be replaced with "a major".

Thank you. Correction has been effected. Please see line 126

Line 89: By "thinness" do the authors means wastedness defined by WHZ or some case-definition using BMI/A? I think this needs to be clarified.
Thinness was derived from BMI-for-age as stated by WHO child growth standards (2007). The term is acceptable. Line 135 refers.

Line 91: "determined" might be better as "determine".

Thank you. Correction has been effected. Please see line 137.

Methods

The approach of finding significant bivariate associations for entry into a logistic regression model is fine. A little more detail on how the logistic regression models were refined (e.g. by stepwise backward elimination of non-significant variables) would be good.

The omitted details have been added. Please see line 229.

Line 94: Suggest that "descriptive" is removed since identifying "predictors" is usually described as "analysis" rather than description.

Thank you. Correction has been effected. Please see line 160.

Line 99: "public and private" might be better as "state and private sector" since a "public school" actually means an exclusive and expensive private schools in some countries (e.g. the United Kingdom, India, and Australia).

Public schools in Nigeria mean the same as state schools; however, correction has been effected. Please see line 165.

Line 100: "free living" is not defined.

This term means children who are apparently healthy. This has been added but in parenthesis. Please see line 167.

Line 108: The "Sample size and sampling technique" section is OK. I am a little concerned that an expected design-effect is not given. The sample size was calculated to estimate a proportion (close to 50%) with useful precision. This is not the same as being able to detect "predictors"
with a given power. It may be useful to add something about the size of effect (prevalence ration or risk ratio) that might be detectable with the sample described. I think it should be clear that identifying "predictors" is a secondary aim of the described work.

We did not consider design effect or effect size in this study. I thought design effect becomes necessary when there is cluster sampling to make up for the lack of simple random sampling. In this study, all schools and classes in the community were used and selection by simple random sampling was done once. We do not want to alter what we actually did to account for design effect. Otherwise reducing the prevalence rate of vitamin A to 20% and adding a reference to it would account for design effect of 1.5. The truth is that we did not do it.

We used P values generated through chi square and logistic regression analyses. The primary aim of this study was to analyse for predictors not just the prevalence of under-nutrition. Paucity of data is not in the prevalence but in predictors.

Line 134: Were fasting and feasting days avoided? What this not an issue?

We did not collect data on feast/festivals days. This section has been revised appropriately. Please see lines 215-216.

Line 151: Was the complex samples module of SPSS used to analyse the data? I think the sample is complex (i.e. multi-stage) and this should have been accounted for during data-analysis. Failure to do so may have resulted in biased estimates and will very likely have resulted in confidence intervals with coverage quite different from the nominal 95%. If the sample design was not accounted for during data-analysis then the authors should be encouraged to re-analyse their data using appropriate methods.

SPSS complex sample module was not used in statistical analysis of data. Our multistage sampling was not geographic as shown in lines 178-182. There was no sampling of community, schools and classes. All schools in the community were selected and after determining the number to be selected from each, the respondents from each school were selected by simple random sampling. May be our use of multistage is confusing. Please do we expunge it? We are only explaining how we selected the sample from all the schools and classes.

Line 164 and elsewhere: Proportions such as "Majority (63.1%) ..." should have 95% confidence limits given. Same for results like monthly income.

95% confidence intervals have been included in Tables 1 and 2.
Line 170: Need "%" after estimates. Estimate need confidence intervals. It would be interesting if "inadequate" were more nuanced with (e.g.) proportions in mild, moderate, and severe deficiency.

This (%) has been added. Please see line 258-259. The ‘inadequate’ did not refer to vitamin A and zinc deficiencies but to intakes. We have also revised it to make our point clearer.

Line 174: Need a proportion for obese.

Obesity prevalence was zero. This has been revised. Please see line 263.

Line 178: What tests are associated with the given p-values?

Chi square analysis was used to generate the P values. This has been included in line 267. It was also indicated as footnote to Table 2.

Line 183 and after: COR needs to be defined.

The definition has been included as footnote to Tables 3, 4 and 5.

Line 194 and after: AOR needs to be defined.

The definition has been included as footnote to Tables 4 and 5.

Line 199: Show the AOR and 95% CI for sex and stuntedness.

Please see lines 290-291 for the correction.

Line 208 to 209: Better to give estimates of effect sizes. What test does the p-value refer to? More detail is needed.

The authors’ did not use effect sizes but chi square and logistic regression analyses to generate P values and their confidence intervals and these were reported in the study as appropriate.
Discussion

Line 237 : Can we have a reference for the VAD and absenteeism?

We have added a reference. Please see lines 329-331 and 536-539

Line 250 : These findings (i.e. proportions of HH income) are tricky since income may be lower in female-headed HHs so the proportion of income spent on food will be higher for the same quantity of nutrients.

We do not think the findings are tricky besides, these findings are not ours but Donkoh et al.’s. It only shows the priority women give to feeding over other household expenditures even when their income is lower than what the males earn.

Line 265 : The M:F rations for undernutrition are also noted globally.

Thank you.

Table 1 : Can we have 95% CIs on estimates? I think the RNI definitions shuld be given either in the text or in footnotes to the table.

These have been taken care of. Please see Table 1 and 2.

Table 2 : Can we have 95% CIs on estimates?

These have been taken care of. Please see Table 2.

Table 3 : I think the table can be simplified by specifying the risk category. For example, sex of HH head could be give as female and the OR given.

These have been taken care of. Please see Table 3.

Table 4 : I think the table can be simplified by specifying the risk category. For example, sex of HH head could be give as female and the AOR given.

These have been taken care of. Please see Table 4.
Table 5: I think the table can be simplified by specifying the risk category. For example, sex of HH head could be given as female and the AOR given.

These have been taken care of. Please see Table 5.

Daniel Hoffman (Reviewer 2): Overall, this is a manuscript for a well conducted study and should eventually be published.

As the manuscript is written, it needs extensive revisions and editing to make the writing acceptable for publication. The authors are encouraged to seek professional scientific editing so that the introduction and discussion are written on the level of what is expected for publication.

The manuscript has been edited by a lecturer in the Department of English and Literary Studies, University of Nigeria, Nsukka.

If improvements to the English language within your manuscript have been requested, you should have your manuscript reviewed by someone who is fluent in English. If you would like professional help in revising this manuscript, you can use any reputable English language editing service. We can recommend our affiliates Nature Research Editing Service (http://bit.ly/NRES_BS) and American Journal Experts (http://bit.ly/AJE_BS) for help with English usage. Please note that use of an editing service is neither a requirement nor a guarantee of publication. Free assistance is available from our English language tutorial (https://www.springer.com/gb/authors-editors/authorandreviewertutorials/writinginenglish) and our Writing resources (http://www.biomedcentral.com/getpublished/writing-resources). These cover common mistakes that occur when writing in English.
Editorial Policies

Please read the following information and revise your manuscript as necessary. If your manuscript does not adhere to our editorial requirements this will cause a delay whilst the issue is addressed. Failure to adhere to our policies may result in rejection of your manuscript.

In accordance with BioMed Central editorial policies and formatting guidelines, all submissions to BMC Public Health must have a Declarations section which includes the mandatory subsections listed below. Please refer to the journal's Submission Guidelines web page for information regarding the criteria for each sub-section (https://bmcpublichealth.biomedcentral.com/).

Where a mandatory section is not relevant to your study design or article type, for example, if your manuscript does not contain any individual persons data, please write "Not applicable" in these sections.

For the 'Availability of data and materials' section, please provide information about where the data supporting your findings can be found. We encourage authors to deposit their datasets in publicly available repositories (where available and appropriate), or to be presented within the manuscript and/or additional supporting files. Please note that identifying/confidential patient data should not be shared. Authors who do not wish to share their data must state that data will not be shared, and provide reasons for this in the manuscript text. For further guidance on how to format this section, please refer to BioMed Central's editorial policies page - http://www.biomedcentral.com/submissions/editorial-policies#availability+of+data+and+materials.

Declarations
- Ethics approval and consent to participate
- Consent to publish
- Availability of data and materials
- Competing interests
- Funding
- Authors' Contributions
- Acknowledgements
- Authors' Information