Author’s response to reviews

Title: ASSOCIATION BETWEEN EARLY CHILDHOOD CARIES AND MALNUTRITION IN A SUB-URBAN POPULATION IN NIGERIA

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Technical Comments:

1. Please include the email addresses for all authors on the title page. The corresponding author should still be indicated. DONE

2. Please include the full name of the ethics committee (and the institute to which it belongs to) that approved the study and the committee’s reference number. DONE

3. We note that you have not included a ‘Funding’ section in the Declarations. All sources of funding for the research reported should be declared. If no funding was obtained for your study we still require this section to be included with the statement “No funding was obtained for this study”. THE STATEMENT IN THIS SECTION HAD BEEN REVISED TO STATE THAT - NO FUNDING WAS OBTAINED FOR THIS STUDY.

4. Please provide a list of all the abbreviations used in the manuscript. This list should be placed just before the Declarations section. All abbreviations should still be defined in the text at first use. DONE

5. Please provide heading for "Conclusions" section. DONE
6. The individual contributions of ALL authors to the manuscript should be specified in the Authors’ Contributions section. Please provide contribution of Mary Obiyan. We note that two authors have the same initials (OA). To distinguish between them please designate them as OA1 and OA2 for the aus with the same initials. THANKS FOR IDENTIFYING THIS GAP. DONE

Reviewer 1
1. Unfortunately, the paper suffers of some flaws. introduction: the section is quite confuse and need a refocusing process. WE HAVE REVISED TO REDUCE THE REFERENCES AS SUGGESTED BY REVIEWER 3. WE HAVE ALSO TRIED TO IMPROVE THE COHERENCY OF THE MANUSCRIPT.

2. Materials and methods: In the previous paper the sample selected was aged between 6 months to 71 months; while in this paper, it is reported an age range of children between 6 months to 12 years old. This adds confusion to all the paper. Only in table 1 the correct age group is reported. THE PRIMARY DATA COLLECTED WAS FOR CHILDREN 6 MONTHS TO 12 YEARS AS STATED IN THE PRIMARY REFERENCE PAPER. THIS PAPER WAS A SECONDARY DATA ANALYSIS OF A SUBSET OF THE PRIMARY DATA LIMITED TO THAT OF CHILDREN 6 MONTHS TO 5 YEARS OLD. WE HAVE TRIED TO EXPATNIATE THIS DETAILS IN THE REVISED MANUSCRIPT.

3. I suggest to re-organize materials and methods following this list: Ethics considerations; Sample size and sampling; ECC status; Oral Hygiene status; data analysis. WE RE-ORGANISED THE METHOD SECTION. NOW WE HAVE THE STUDY DESIGN AND SAMPLING, SAMPLE SIZE, SOCIOECONOMIC STATUS-MOTHERS' KNOWLEDGE OF ORAL HEALTH; CARIOGENIC DIET; NUTRITIONAL STUDY; ECC STATUS; ORAL HYGIENE STATUS; DATA ANALYSIS. THIS WAY THE ORDER FOLLOWS A LOGICAL SEQUENCE FROM QUESTIONING TO EXTRA-ORAL MEASURES TO INTRA-ORAL MEASURES AND THEN DATA ANALYSIS.

4. please only two decimals. DONE

Dorota T Kopycka-Kedzierawski (Reviewer 2): The following comments are offered for the authors' consideration:

1. In the abstract, suggest to include 95% CIs next to the APRs. DONE

2. The authors left out in the methods section important information that can be summarized in a few sentences, rather than asking to read a prior paper. THIS INFORMATION WAS INCLUDED LATER IN THE METHODS SECTION. WE HAVE MOVED THIS UP. WE HAVE ALSO MADE IT MORE EXPLICIT. Important information to include will be: who did the oral examinations and at what conditions, assessed the OH, if the examiners were calibrated? THESE DETAILS HAVE BEEN INCLUDED IN THE REVISED METHOD SECTION. PLEASE SEE THE PARAGRAPHS 1, 3 AND 10 OF THE METHOD SECTION.

3. It is not clear how the children were recruited to the study, was that a convenience sample? What were the inclusion and exclusion criteria? THIS INFORMATION HAS BEEN INCLUDED IN THE FIRST PARAGRAPH OF THE METHODS SECTION - Children who fell within the target age group, living with their biological parents or legal guardians who consented to participate in the study were recruited for the study. THE SAMPLING PROCEDURE HAS ALSO BEEN INCLUDED IN
4. When calculating sample size- the assumption was of a prevalence of ECC of 6.6% with the margin of error of 3%. Interestingly the prevalence of ECC as reported in the study was 4.9% and the primary study was 6.6%. Was the sample size calculated after the prevalence of ECC was assessed? Not clear where the estimation of ECC comes from? What is the prevalence of ECC in Nigeria in the comparable population of children? Are these data available? THIS WAS A SECONDARY DATA ANALYSIS OF A PRIMARY DATA SET. WE EXTRACTED DATA ON CHILDREN 6 MONTHS TO 5 YEARS WHO HAD COMPLETE DATA ON NUTRITIONAL STATUS. WE OBSERVED THAT THE ECC OF CHILDREN EXTRACTED FOR THIS STUDY WAS LESS THAN THAT OF THE PRIMARY STUDY. WE THEREFORE COMPARED OUR SECONDARY DATA WITH THE PRIMARY DATA TO DETERMINE IF THERE WAS A SIGNIFICANT DIFFERENCE IN THE SAMPLE. OUR ANALYSIS SHOWS THERE WAS NO SIGNIFICANT DIFFERENCE AS HIGHLIGHTED IN TABLE 1.

5. Given such a low prevalence of ECC in the sample (18 children in the current study, 33 in the primary study) it is not clear the relevance of the findings? I understand that the authors focused on ECC prevalence, it would be informative to at least mention the severity of the disease. CARIES SEVERITY IS VERY LOW IN THE STUDY POPULATION. THE PREVALENCE IS MORE OF A REFERENCE INDICATOR FOR CARIES THAN THE SEVERITY. AN ANALYSIS ON THE SEVERITY WILL NOT BE OF ANY INDICATIVE VALUE. THERE IS ANOTHER MANUSCRIPT LOOKING INTO DETAILS ON THE CARIES SEVERITY AND INCIDENCE OF COMPLICATIONS (pufa) IN CHILDREN 1-5 YEARS OLD.

6. There was no ECC in children 6 to 25 months of age, there were no children with poor oral hygiene (based on what measure?)-how this was accounted for in the final analyses? THIS STUDY WAS PROVIDING DETAILS FOR A COHORT OF CHILDREN – 6 MONTHS TO 5 YEARS. THE RESULT THEREFORE REPORTED THE FINDINGS PER AGE GROUP AND FOR THE COHORT.

7. Not sure why 2 versions of Stata software were used? THIS HAS BEEN CORRECTED. IT IS STATA 15.

8. The discussion should be framed in the context of the ECC etiology and possible mechanism that relate to the association of ECC prevalence with weight status. WE HAVE IMPROVED OUR DISCUSSION ON THE MECHANISM OF DEVELOPMENT OF ECC FROM MALNUTRITION. AS SUGGESTED. THANKS FOR THIS SUGGESTION.

Duangporn Duangthip (Reviewer 3): It is an interesting study evaluating the association between malnutrition and ECC in Nigeria. The manuscript was well written and provided useful information in the context where malnutrition is prevalent. However, some issues are needed to be clarified before publishing as follows;

Abstract
1. My understanding is the term 'preschool children' usually referring to 3-5 year old children, whereas the study recruited a wide range of children's age (from 6 months (infant) and 1-3 years (toddler) to 3-5 years (preschool). May I suggest to change the word to 'children younger than 6'. THANKS FOR THIS CORRECTION. WE HAVE EFFECTED THIS THROUGHOUT THE MANUSCRIPT
2. What is APR stand for? WE HAVE EXPLAINED THIS IN THE METHODS.

3. Please describe the results of prevalence of ECC in the present study. THE PROPORTION OF CHILDREN WITH ECC HAS BEEN INCLUDED.

4. Please indicate the mean age of the study population. THIS HAS BEEN INCLUDED. THE MEAN AGE WAS 44.35 (16.03) months

5. Please add p value of significant factors. DONE

6. The details of APR values of non-significant factors may not be important to be presented in the abstract. WE HAVE DELETED.

7. Introduction: It is well written. However, it seems that there are substantial references (60 references in the introduction), please cite the key references. WE HAVE REDUCED THIS TO 36 LIMITING THE CITINGS TO KEY REFERENCES.


9. Please also indicate who are the examiners (dentists?) how many examiners (for dental examination) and examiners for nutritional status? Did they collect the data independently? INCLUDED. THANKS FOR THE SUGGESTION. THIS CAN BE FOUND IN THE TENTH PARAGRAPH OF THE METHODS SECTION.


11. How’s about the intra and inter-reliability of the examination? DETAILS INCLUDED IN THE TENTH PARAGRAPH OF THE METHODS SECTION.

Results

12. Please describe the mean(SD) age, mean dmft (SD) and prevalence of ECC and Mean (SD) of oral hygiene status in the text. THANKS FOR HIGHLIGHTING THIS. WE HAVE INCLUDED THE DETAILS IN THE FIRST PARAGRAPH OF THE RESULT SECTION. The mean (SD) dmft score was 0.14(0.80) and the mean(SD) oral hygiene score was 1.12(1.21).

13. Table 1 and 2; Please correct the age range from 24-25 months to 24-35 months. DONE. THANKS FOR PICKING IT

Discussion

14. Due to the wide range of age, children aged 6 month -2 years may not develop ECC yet since their teeth are just erupting. Please state in the conclusion that the results were based on the children aged 6 months to 5-year-old. DONE