Author’s response to reviews

Title: Clinical consequences of untreated dental caries assessed using PUFA Index and its covariates in children residing in orphanages of Pakistan

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Author’s response to reviews:

We thank the reviewers for their valuable input on our manuscript. Learning is a process that never stops at any stage and the reviewer's scrutiny has helped us improve our manuscript.

Comment 1. I am glad the authors made effort to obtain verbal consent from study participants after obtaining informed consent from operators of the orphanages. However, I would like to know how they obtained verbal consent from 4-11 years old whom are known not to have developed the cognitive ability to understand the concept of risk and benefits.

Response: According to the Punjab Supervision and Children’s Homes Act 1976, the operators of the orphanages are responsible for getting children medically examined once a year and keep a record of it. As the operators of the orphanages are the legal guardians of the resident orphan children, our first objective was to obtain their informed written consent after discussing with them all the benefits and risks of taking part in our study. We also went a further step ahead and gathered all the children in an auditorium and explained to them about our research and the benefits and risks of taking part in it. They were given the option to opt out if they did not wish to participate or had any concerns. The statement regarding option to opt out if they did not wish to participate or had any concerns. The statement regarding option to opt out has been added in the manuscript (Methods Section, pg. 8, line 15).
Comment 2. Secondly, also difficult for me to understand how children 4-7 years were able to fill the questionnaire

Response: Children under 10 years of age were helped with answering of questionnaires by explaining to them the questions in local language and eliciting their response to fill the questionnaire (Methods section, pg. 10, lines 10-12).

Comment 3. Please once again, THE EPIDEMIOLOGICAL DETERMINATION OF DENTAL CARIES IS NOT BY % SCORE OF DMFT. Please do note that if there are examples of manuscripts that have done the wrong thing, it does not mean it should be copied and replicated for your study. Similarly, the author should appreciate that they also may read and interpret the objectives of what was done by authors of the articles. I advice the authors report (i) the DMFT, (ii) the dmft, (iii) the pufa, (iv) the PUFA, (v) caries prevalence for the population. They may choose to report caries prevalence at the tooth level but the prevalence of dmft/DMFT does not represent caries prevalence at the tooth level either. The prevalence of dmft/DMFT is also not the same as dmft and DMFT score. DMFT is scored as fractions (3.0, 0.001) and not percentage. In this manuscript you have discussed the DMFT score as percentage and the DMFT score as fraction. This cannot fly. The same thing you have done for pufa. Please rectify

Response: It is not about being right or wrong but different ways that data can be presented. However, following the reviewer’s comments, we have presented the DMFT score, dmft score, PUFA score and pufa score as Mean and standard deviation, and overall caries prevalence and overall PUFA/pufa prevalence as percentage (Results Section, table1, also pg. 12 line 4).

Comment 4. Please read the manuscripts properly, what the authors calculate is the prevalence of pufa and the prevalence of dmft NOT the caries prevalence. Caries prevalence and the prevalence of pufa/dmft are different phenomena being measured. Please I encourage the authors to rectify and appropriately define what they are measuring in this manuscript. Please report PRECISELY what is measured.

Response: Caries prevalence is calculated by the prevalence of DMFT and dmft. The method to quantify caries stated in WHO oral health survey basic methods (1997) is the DMFT/dmft index. Hence, we have used it to present the prevalence of caries. We have presented the data as dmft, DMFT, pufa and PUFA as mean scores and standard deviation, and prevalence of dmft, DMFT, pufa and PUFA according to age and gender as percentage. Overall caries and overall pufa/PUFA prevalence are also expressed as percentage.
Comment 5. Please report you p values as p= 0.05 and not p value 0.23 and 0.23 respectively. I encourage you to place the appropriate p value in front of the appropriate variables rather than use the ‘respectively’ and require readers to figure out which p value is for which variable.
Response: Done.

Comment 6. The authors note - Both DMFT and PUFA of permanent and primary dentition did not show any association with children's dietary and oral hygiene habits (p >0.05). Please can you state the specific p values?
Response: p values added (results section, pg. 11, line 20-22 and pg. 12 lines 1-8).

Comment 7. Please report the result of the logistic regression as (OR: 0.53; 95% CI: 0.32-0.88; p = 0.014). Please revise other reports in line with this format.
Response: Done.

Comment 8. Once again, your age range is too wide. You have includes cases of children who would be classified s ECC, children with mixed dentition and children with permanent dentition in a single analysis of caries prevalence and bivariate analysis. This would completely mess up the discussions as you would be discussing and comparing apple and oranges. The author need to break down the age group, analyse per age group and discuss findings based on age groups: 4-5 years, 6-12 years and 13-17 years. Second, WHO have recommendations on specific age group for which you determine caries prevalence – 6 years, 12 years and 15 years. It is important that these specific age prevalences are highlighted. While the authors try to justify their large age range for the data collection, it has implications for analysis (was study appropriately powered to determine caries prevalence for these age groups. I guess the large sample size will allow for this but this needs to be demonstrated).
Response: The children’s ages have been broken down to above recommended age groups of 4-5 years, 6-12 and 13-17 years-old and analysis carried out according to them. Furthermore, WHO recommended ages of 5 years, 12 years and 15 years have also be analysed for dmft, DMFT, pufa, PUFA, overall caries and overall pufa/PUFA prevalence (Results section, table 2 and 3).
Comment 9. In the discussion, the authors noted that 'As compared to 18 various studies conducted in different parts of the world, lower prevalence of DMFT 19 (38.9%) and PUFA (17.3%) (for both primary and permanent dentition) were found in our sample. Please note the the DMFT ad PUFA scores do not represent scores in primary dentition. What you have highlighted are scores in the permanent dentition.

Response: We have modified it to state overall caries and overall pufa/PUFA prevalence of both primary and permanent dentition.

Comment 10. Please re-read the references 12, 22, 25 and 26. Some of the challenges you would notice with your quotes are the age of their study participants compared to yours exclusive of the wrong comparison of figures. You will likely find that you are unable to find a study cohort that you can compare with your own results without breaking down the age group. This was what I was insinuating when I alluded that your age range for the study was too wide. I hope this helps in some way.

Response: We have done the age breakdown and analysis and compared them to different studies. Other than that, we have provided reference of two other studies, one conducted in China and one in Saudi Arabia which have age range similar to our study (intro section pg. 6, line 7-8 also discussion section pg. 13, lines 14-17).