Author's response to reviews

Title: The association between dental caries and television viewing among Chinese adolescents in Guangxi, China.

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Author's response to reviews: see over
The Editor,
Professor Peter Robinson
BMC Oral Health

Dear Professor Robinson,

Re: MS MS: 6400844611367952. The association between dental caries and television viewing among Chinese adolescents in Guangxi, China

We would like to thank you and the reviewers for their constructive critique of the manuscript. We have now addressed all the reviewers’ comments, amended the manuscript accordingly and prepared a point by point response. All changes in the manuscript are highlighted in red. We Look forward to hear your final decision

All authors have approved the final version.

Yours sincerely,

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First reviewer:

Abstract: Sampling method and the no. of examiners should be reported in the methods. The caries status should be reported in the results.

Response: We have added the sampling method, number of examiners and caries prevalence in the abstract.

Methods:
1- The authors should clarify the criteria of selecting the 48 schools in the 5 selected areas.
Response: In the Methods, page 4, line 73, we have added “the schools were randomly selected from each selected area, ensuring proportionate representation of different economic levels and ethnic groups”.

2- The authors should clarify the age of the participants. Their age was ranged from 12 to 17, or Just selected children aged 12, 14 and 17.
Response: The age of participants was 12, 14 and 17. We have clarified this in the methods.

3. In the statistical analysis, negative binomial regression is used for modeling count variables.
The authors should recheck the term use in the section of statistical analysis. The outcome should not be mean number of untreated dental caries and mean DMFT.
Response: We would like to thank the reviewer for pointing this out. We have now changed it to number of decayed teeth and DMFT score.

4. The authors should justify for reporting results using two regression models.
Response: we have added the following sentence to the statistical method, page 5, line 104: “The purpose of the modelling strategies was to assess whether accounting for the surrogate measures of dietary habits would alter the association between TV viewing and dental caries”

Results
1. Response rate should be reported.
Response: We have added the following sentence in the result: “Of the 3568 students originally approached, 3,452 returned valid questionnaires. A response rate of 96.7%.”

2. The authors should clarify the reasons for assessing the distribution of explanatory variables, in line 96-97.
Response: We have added the justification for the descriptive analysis in the method section, page 5, line 99. “,to describe the characteristics of the sample, the level of the disease and the distribution of explanatory variables within those with and without caries, we assessed the distribution of all explanatory variables within groups with and without caries experience.

3. In Table 2 and 3, the overall p-value of the explanatory variable should be reported.
Response: the p-value is indicated in the footnote of the table indicated by Asterisks

4. The authors should report the goodness of fit of model 1 and model 2, when adjusted for different variables.
Response: we have added the goodness of fit for all models in the
footnote of the tables

5. In Table 3, the sub-items of the TV were missed.
Response: we have added this.

Discussion
1. Discussion should be put on the effect of adjusted for the breakfast
and frequency of milk.
Response: we have added the following sentence in the discussion, page 6, line 153. “However, in the current analysis adjustment for some surrogate measures of dietary habits did not affect the association between TV viewing and dental caries, possibly because they do not reflect whether or not a child consumed cariogenic food.

References:
The title of the Ref.17, 19 and 25 should be not all start with capital letter
Response: We have changed this

Second reviewer
Major Revisions
BACKGROUND
General comments – The background to this topic is a bit thin. The authors should consider providing more information particularly statistics to support statements.
1. Line 39 – ‘... accompanied by changes in behavioural patterns….’:
More detail on these changing ‘behavioural patterns’ will be informative.
Response: we have added the following statement “… As a result of those changes, there is a more sedentary lifestyle and changes in dietary habits to Western diets”

2. Lines 41-43: Please provide the statistics to demonstrate the change in caries prevalence.
Response: We have added the following details in lines 46-49: “the prevalence of dental caries among Chinese children and adolescents. The prevalence of caries for 7, 9, 12, 14, and 17 years was 2.3%, 5.6%, 13.9%, 19.0% and 21.2% respectively, among urban boys”

3. Line 44: This sentence needs to be revised for clarity.
Response: we have revised the sentence to: “Epidemiological studies have identified television viewing as a possible risk factor for chronic health conditions associated with sedentary lifestyle and nutritional intake”

4. Line 53, ‘A number of studies….\cite{13-17}”: Statistics or information from these
referenced studies will help give some background to the issue being investigated.

Response: We have added some details about advertisements of high sugar food and drinks: “for example 56% of food advertisements in England and 50% in India were about high sugar food/beverage”

METHODS
General comments – The STROBE guidelines should be used to guide the reporting of the methods section. This will help standardise reporting as well as guide the authors on what information to include in this section

5. How did the analysis account for the stratified cluster sampling?
Response: we appreciate your comment, we did adjust for rural/urban area, however sampling weights were not available for the survey.

6. Please name the software(s) used for data management and analysis
Response: Stata software was used, we have added this in the text.

7. Caries data is generally positively skewed. Was it the case in this study and if yes, how was this accounted for in the analysis?
Response: we would like to thank the reviewer for this comment, we did use Negative Binomial Regression to account for this.

8. Line 75: In the methods an age range of 12-17 years is stated, however, the tables show selected age groups of 12-, 14- and 17-year-old children. Was there a reason for choosing these particular age groups?
Response: we have changed this according to your comments and to the first reviewer’s comment.

9. More detail on the training and calibration process for the dental examiners would be useful. Was INTRA-examiner reliability assessed?
Response: this is already stated in lines 86-89

10. Need to define ‘rate ratio’ and state how it was computed and in the results section the correct interpretation
Response: we have added the following sentence in the methods for clarification: “The rate ratio was assessed. It is the ratio between level of disease with no exposure and that after a unit increase in the exposure.”

RESULTS
10. Clear interpretation of the regression results is required
Response: We have added the following statement in the results: “In other words, the ratio of DMFT between those who viewed TV for less than 30 minutes and those who viewed TV for 30-60 minutes was 1.03.”

11. Table 1: The column ‘Within caries group’ – It is not clear what the authors are trying to show
Response: Should read. within those with and without caries.

DISCUSSION
12. The most important part of this section is to discuss the findings of this research in the context of not controlling for well documented risk factors for dental caries such as socio-economic status, oral hygiene behaviour and a cariogenic diet. Was there a reason for not including these factors? Is it possible to justify an association between dental caries and TV viewing without accounting for confounding factors?
Response: we thank the reviewer for the comment. The dataset did not include behavioural variables directly related to dental caries or other socioeconomic. However we adjusted for other dietary habits as surrogate for habits directly related to dental caries, and we adjusted for ethnicity and urban/ rural status. We acknowledged this as a limitation of the study. At the end of the discussion we stated “The findings of this study should be interpreted with caution given the cross-sectional design of the survey. The lack of data on oral health-related behaviours, and individual indicators of socioeconomic status is another limitation. However, the analysis was adjusted for ethnicity, area of residence (rural/ urban) and for some dietary habits”

Minor Revisions
13. Line 85: Sentence seems incomplete
Response: thank you for pointing this out, we have completed the sentence

14. Table 2: Typo in variable ‘TV’ – Last category should be ‘>180 minutes’
Response: we have changed this.

15. Table 3: Categories for variable ‘TV’ not shown
Response: we have changed this