Reviewer’s report

Title: Salivary characteristics and dental caries experience in remote Indigenous children in Australia: A cross-sectional study.

Version: 0 Date: 08 Dec 2017

Reviewer: Thiago Saads Carvalho

Reviewer's report:

The present study involved almost 300 children, and the authors assessed their salivary characteristics and associated these with caries. The study has merits and I would like to make suggestions regarding the manuscript:

1. Abstract
   a. The authors should indicate in the Methods part, how many children were involved in the study, as well as their age range;

   b. In the Methods part, the authors state that they used ICDAS, and then in the Results they indicate they used "caries severity scores", these scores should be related also in the Methods;

   c. The last 5 lines of the abstract is more of a discussion than a conclusion. The authors should concentrate their conclusion based on their results;

2. Page 4, Line 44, please correct to "a recent comprehensive review (19)";

3. Methods
   a. The authors state that all children (around 600-650) were invited to participate in the study, but only +-400 underwent clinical examination. Why only +-300 were included in the results? Also, the authors need to discuss the low(ish) response rate of only 60%;

   b. Page 6, line 28: "assessed by three trained and calibrated examiners". Please describe how the training was made, and how the calibration was carried out, reporting the kappa scores;

   c. The authors included children from 4 to 17 yo. How was saliva collection (page 7 lines 6-9) controlled by the 4 yo? Did they strictly follow this protocol?

   d. Page 7, lines 37-39: The authors should clarify the information of how they considered the "caries-free" children. Children who have "no untreated decay surfaces" could already have restorations. These children already had caries experience, and, although not caries active, they
cannot be considered "caries-free". Also, what is the advantage of analyzing the "caries-free" children in these two separate groups? This should be further discussed;

4. Statistics
   a. The authors state that they used several chi-squared tests to associate the different variables with caries scores/severity. The statistical results are not obvious in the tables. The authors should include some p-values. Furthermore, instead of individually analyzing the variables with Chi-squared tests, the authors should have carried out a multivariate regression, including the different factors associated with caries, thus building a multivariate model with the most significant variables that explain the outcome. In such an analysis, some confounding variables could be identified and only the most significant variables remain associated with the caries in this population.

5. Regarding the new analyses, the authors may need to change the results and discussion sections. In the present results, the authors should change the titles of their tables, explaining in more details what is shown, including the statistical results and p-values. One further comment on the results, the percentage values presented in the second paragraph (page 8, lines 13-19) do match the values from Table 1, a couple of examples follow. The authors should review the results section:
   a. (line 13) Instead of 83.9% as stated in the text, the table states 82.8%;
   b. (line 15) Instead of 96.9% as stated in the text, the table states 94.6%;

6. Discussion: The discussion seem to be too general. The authors should review the discussion, and focus on interpreting the results of the study. Also the conclusion is too general. The vast majority of what is written as conclusion is rather a discussion. The authors should focus their conclusion based on their findings.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No
Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

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Please indicate the quality of language in the manuscript:
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