Reviewer's report

Title: Tooth wear in aging people: an investigation of the prevalence and the influential factors of incisal/occlusal tooth wear in northwest China

Version: 1
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Reviewer: Peter Robinson

Reviewer's report:

This study aimed to estimate the prevalence of tooth wear in northwest China and identify factors associated with it. The study may be of value but the report needs work before that can be assessed fully. The following revisions are compulsory, but ought not take too long.

1. The abstract needs work. The methods section could merely state: “Cross-sectional analytic clinical and questionnaire study in 704 participants”. Of more importance than describing the level of significance selected, information is needed on how the sample was drawn. The results section of the abstract does not present data, and does not give the answer to the primary aim of the study!

2. The authors should describe what they mean by qualitative indices of toothwear and give examples of their use. It is difficult to imagine what a qualitative index might be.

3. Methodologically, the major concern is with the description of the sampling. In a study to assess prevalence the sampling is crucial. The authors must describe the nature of the hospital and the reason why the patients were attending. This information will allow the reader to assess the difference between the target population and accessible sample and make judgements about sampling bias. At the hospital how was the sample drawn? Were they consecutive patients, a convenience sample, patients attending a particular clinic etc?

4. The statistical analysis section of the methods needs to describe the analytic strategy as much as the tests used. So what were the independent and outcome variables in the logistic regression model? Which variables were entered into the model and how (forward or backward stepwise regression or all together?)

5. I am not sure what ‘wear degree’ is. In epidemiology we usually describe the prevalence (number of people affected), extent (number of sites affected) or severity.

6. The results text duplicates the tables somewhat and this is one area of the manuscript that could be presented more clearly. For instance the third paragraph of the results simply duplicates table 3.

7. BMC prefers to publish research that offers at least an incremental advance in knowledge. In fact the discussion in this manuscript presents the results as largely confirmatory and specifically says the results offer “no differences from those encountered in western cultures”. So, we really need the authors to point
out what is novel in their data.
8. The discussion should have a section reflecting on the limitations of the study. For instance, to what extent are the findings of this study generalisable to the population of northwest China?
9. Table 2 should be renamed ‘Questionnaire responses among 704 patients. The values in the table can then be expressed as percentages.
10. Table four could be deleted and the results placed in the text. It will need to mention logistic regression, the specific outcome and present the odds ratio and 95% confidence interval for the significant predictor. There is no need to mention the constant.
11. In general the English is very good. There are one or two places were better words could be selected (eg. ‘participants’ instead of ‘subjects’ throughout, ‘mechanisms’ instead of etiologies in the 6th line of introduction, declined ‘instead’ of ‘refused’, ‘study’ instead of ‘experiments’ in the first paragraph of the methods, ‘difference’ instead of different’ in the first paragraph of the results and replace “adults favoured the consumption” with ‘adults consumed’ in the fourth para of the results).
12. My principle comment on the presentation of the text is that the paragraphs do not flow properly as an argument. Instead they sometimes read as a series of related points, the first paragraph of the introduction is a case in point, but there are others.

In summary, this is a potentially useful study that needs some development before it can be published.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests