Reviewer's report

Title: Status of dental caries and associated factors in Tibetan adults: findings from the fourth China National Oral Health Survey

Version: 1 Date: 04 Jun 2020

Reviewer: Bruno Emmanuelli

Reviewer's report:

Dear authors, thank you for your detailed revisions and responses. The manuscript as a whole has been improved. I just made a few comments regarding your responses. Please see the comment below:

Data Analysis:
In my first review, I questioned whether you used a conceptual model or thought about using a hierarchical analysis.
In your study, you built a final model (multiple logistic regression) using only statistical criteria to determine the impact that different variables have on your outcome. Adopting this strategy is definitely not the same as using a conceptual model or performing a hierarchical analysis. According to Victora et al. 1997, although this approach is not wrong, it fails to consider the inter-relationship between the variables, since it is considered that they are all at the same level of hierarchy. However, again, the brushing frequency, in its final model, can easily be adjusted by income and that makes sense. However, income cannot be adjusted by the frequency of brushing. Doing this is like saying that the frequency of brushing teeth influences individual's income level. There is no plausibility for this relationship.
Unfortunately, in the epidemiological literature, we still see distal variables (such as income) being adjusted inappropriately by proximal factors (such as frequency of brushing) resulting in a reduction or elimination of the real effect that the distal variable has on the outcome.

Discussion:
Previously, I requested a more in-depth explanation of the difference between the sexes and the prevalence of caries.
The reasons pointed out by the authors for the difference found remain very vague and without a solid scientific basis. There is no evidence proving that the difference between the period of eruption of teeth between boys and girls, which is small and widely variable, is a risk factor for the development of carious lesions. In addition, the difference in salivary flow between men and women pointed out by the authors was investigated in a study with a small sample, 50 healthy adults, making it difficult to extrapolate this information.
Is there any evidence for the information that women have easier access to food supplies and frequent snacks during food preparation? Although I disagree, I respect your opinion.

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.

Unable to assess

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

Yes

**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 am able to assess the statistics

**Quality of written English**
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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