Reviewer's report

Title: The Dental Health of primary school children living in fluoridated, pre-fluoridated and non-fluoridated communities in New South Wales, Australia

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Reviewer: Jose Leopoldo Ferreira Antunes

Reviewer's report:

This is a confirmatory study on a subject already incorporated to human knowledge to many decades. As far as I am informed, the effectiveness of water fluoridation is not at dispute or contempt. If authors contend that this topic deserves some specific concern in NSW, they should have stated and justified it in the Introduction.

The main study limitation is the partial assessment of social conditions that may influence caries risk, as income and parental education. Three variables (cardholder, aboriginal and maternal country of birth) solely provide a partial assessment of socioeconomic status at the individual level. I suggest that authors should acknowledge this study limitation, and discuss its implications to the findings reported here.

As refers to the context, social differences had not been assessed at all. Authors stated that some social differences between fluoridated and non-fluoridated areas are inevitably. If they were aware of such differences, why they have not assessed some additional mediating factor to adjust associations in the regression models?

Authors informed that all the schools (in Wyong and Gosford) invited to participate gave a positive response. However, they have not informed how the sample of participating schools refers to the total number of eligible units, and which criteria guided their selection. Insufficient information on sampling is also a study limitation that went unacknowledged by authors.

Insufficient information on sample, insufficient assessment of mediating factors, "more of the same" objective and conclusion. If authors are willing to reassess their manuscript, I also provide specific suggestions:

- Please clarify whether (1st paragraph of Methodology) 1942 (Gosford) and 1728 (Wyong) are the number of births in 2006, or are indeed the annual birth rate. Observe that rates are referred to a denominator, e.g., 10,000 or 100,000 inhabitants, 10,000 or 100,000 women within a certain age range.

- Please provide a valid reference for the SiC index. Instead of the one tenth with the highest dmft scores (as defined in the 5th paragraph of Results), this index is referred to the one third of children with higher burden of disease. In addition to correcting the definition, some correction of descriptive results may also be needed.

- Also in the 5th paragraph of Results, authors stated that Table 2 showed SiC
figures higher than all corresponding dmft figures. This statement is a truism, SiC figures are always higher than average dmft, per definition.
- Please correct the title of Table 2, the SiC acronym refers to the Significant Caries Index (SiC Index); there is none "severe caries index".
- Observe that the last column of Table 3 (d/dmft) does not correspond to any objective, method, result or discussion. I suppose that authors may have been exploring their database; however, in this manuscript, this information is useless and should have been deleted.

**Level of interest:** An article of limited interest

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**
I declare that I have no competing interests.