Reviewer’s report

Title: The anticaries effects of pit and fissure sealant in the first permanent molars of school-age children from Guangzhou: a population-based cohort study

Version: 1 Date: 21 May 2019

Reviewer: Reviewer 2

Reviewer's report:

PEER REVIEWER ASSESSMENTS:

OBJECTIVE - Full research articles: is there a clear objective that addresses one or several testable research questions? (Brief or other article types: is there a clear objective?)
Yes - there is a clear objective

DESIGN - Is the current approach (including controls and analysis protocols) appropriate for the objective?
Yes - the approach is appropriate

EXECUTION - Are the experiments and analyses performed with sufficient technical rigor to allow confidence in the results?
Yes - experiments and analyses were performed appropriately

STATISTICS - Is the use of statistics in the manuscript appropriate?
Yes - appropriate statistical analyses have been used in the study

INTERPRETATION - Is the current interpretation/discussion of the results reasonable and not overstated?
Yes - the author's interpretation is reasonable

OVERALL MANUSCRIPT POTENTIAL - Has the author addressed your concerns sufficiently for you to now recommend the work as a technically sound contribution? If not, can further revisions be made to make the work technically sound?
Probably - with minor revisions

PEER REVIEWER COMMENTS:

GENERAL COMMENTS: The authors have addressed some of the questions and concerns raised by the reviewers. However, many were not addressed in a comprehensive way or at all, resulting in inconsistencies throughout the manuscript. Some were not addressed at all. The paper is still in need of editing for grammar.
ADDITIONAL REQUESTS/SUGGESTIONS:
As I noted on the previous review, the primary parameter that is reported is cumulative incidence, which is the proportion of a closed population that develops an event during the period of follow-up. The authors made a couple changes, but continue to say "incidence rate", which is not what they are reporting. Incidence rate would be reported as the number of events per unit of time, such as person-year of observation. Cumulative incidence is a proportion, while incidence rate is a rate.

The manuscript continues to have many errors in grammar and some unaddressed errors. Here are some:

P. 2 line 20. ...reduced the risk of....
P.3 line 2. ...it is an effective technique...
P. 3 line 21. developed countries and developing countries
P. 3 lines 22 to p. 4 line 3. This is one very long rambling sentence. I suggest splitting into at least 2 sentences.
P. 4 line 1. (FPMs) *are* most vulnerable
P. 4 line 20. Start new sentence at "Approximately 120,000...". Change to "..., which covered more children"
P. 5 line 15. ...cohort study *that used* the database...
P. 6 line 14. ...we conducted oral examinations...
P. 6 line 20 and line 24. Capitalize "Center for Disease Control and Prevention"
P. 7 lines 10-11. Change to: "Secondary outcomes were mean number decayed, missing, or filled permanent teeth (DMFT) and sealant retention..."
P. 8 line 15-17. Change to: Among eligible children, 9,298 agreed to participate in the study and 80 children were lost to follow-up, resulting in a final sample of 9,218 children aged 6-8 years, for a response rate of 80.0% (9,218/11,520).
P. 8 line 22. (n=9,298)
P. 11 line 14. reduced the risk
P. 12 line 6. sealants compared with non-use
P. 12 lines 15-16. ...prevent and control children's dental caries in FPMs...
P. 12 line 18. I do not understand what the authors mean by "except for the applied the pit and fissure sealant" in this context. Are you really saying that sealants should no longer be investigated and analyzed? I suggest deleting it.
P. 12 line 20. "...maxillary teeth, and this finding..."
P. 12 line 23. "...that caries is not only..."
P. 12 line 26. ...population-based..."
P. 13 line 1-4. Suggest changing to: One limitation in this study was the lack of information on relevant variables such as diet, behaviors, and lifestyle, and therefore we could not adjust for those potential confounders in the analysis. In addition, cohort studies such as the present investigation are more susceptible to selection bias than randomized controlled trials, and therefore carry a lower level of evidence of causation.

Table 1. In title, change "between" to "of". I still do not understand how a sample design that matched the comparison group to the sealant group by sex, age, and school could have such significant differences in group demographics.

Table 2. As noted above and in the previous review, all these parameters are cumulative incidence, not incidence rate.
Figure 1. As noted on my previous review, this flow chart does not explain how you went from 26,000 children who received sealants to 5,760 in this study, or 40,000 who did not receive sealants to 5,760 in the control group. Flow charts should be able to stand on their own. It should explain that probability samples were chosen.

**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.

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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