Author's response to reviews

Title: Causal assessment of smoking and tooth loss: A systematic review of observational studies

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Author's response to reviews: see over
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We would like to thank the referee for his careful reading and thoughtful feedback. We have attempted to address each item below. We believe the new manuscript is much improved in terms of English and hope that you will agree.

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<tr>
<th>Editorial comments</th>
<th>Response</th>
</tr>
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<tbody>
<tr>
<td>1) Further consideration of your manuscript is conditional on improvement of the English used. Please ensure particular attention is paid to the abstract. You should have a native English speaking colleague help you with this, if possible, or use a commercial copyediting service.</td>
<td>I have requested the editing company to change an English editor though the company strengthened native speaker of their English editors. The company tried their level best to improve the language of our manuscript in order to get it published. We added another source of funding in the acknowledgement section because of approaching new fiscal year.</td>
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Referee 2 Thomas Dietrich

The authors have addressed some of the reviewers’ concerns, in particular those relating to required clarifications regarding the search strategy. However, the English in this manuscript remains to be a problem and I therefore find it very difficult to follow the authors’ argument throughout the manuscript. Unfortunately, this makes it extremely difficult to evaluate this manuscript.

There also remain to be some problems with epidemiologic concepts/terminology. While references to case-control studies have been eliminated, there are still references to case-control ‘status’ in the manuscript, which is not meaningful outside the context of case-control studies.

Furthermore, the statement that the use of OR for estimating the relative risk is limited to rare phenomena is not necessarily true – and not particularly meaningful in the context of cross-sectional studies (where, depending on what one means by relative risk, no relative risk can be estimated (risk ratio), or the OR is the only appropriate measure of relative ‘risk’.) The use of comparing prevalences between exposure categories is no improvement and akin to presenting Thank you for this thoughtful feedback and reminding me of the “rare disease assumption” issue. Besides various controversial about use of odds ratio including this issue, I think that ‘tooth loss’ is not a common condition for epidemiologic approaches. In response, we deleted the description regarding “rare disease assumption”. I agree with the reviewer with respect to use of unadjusted prevalence. We addressed this issue in discussion section. In the present review, we used conservative approach.

We replaced the words ‘cross-sectional format’ and ‘prospective cohort format’ with ‘cross-sectional study’ and ‘prospective cohort study’, respectively, in Table 5.
| only crude, unadjusted results. | I still don’t think that the problem of different exposure categories between studies is solved, and would doubt the validity of the author’s approach of reporting effect estimated for ‘median’ categories (although it may be an improvement over the previous approach). Obviously, summarising data across different observational studies is challenging, and I am not sure what to recommend. Perhaps it would be best to present data as presented in each individual paper, and also including information on what other variables these estimates were adjusted for. In other words, make even less of an attempt to present 'summaries' across all studies. | I also agree with this comment. I could not find any alternative method for presentation of the results excepting for presenting almost entire components of the selected papers. I hope that our study could be a gateway of readers to addressing each study. |