Reviewer’s report

Title: Can statistic adjustment of OR minimize the potential confounding bias for meta-analysis of case-control study: A secondary data analysis

Version: 0 Date: 01 May 2017

Reviewer: Dalin Li

Reviewer's report:

In this manuscript, the authors try to answer the question that if there are possible biases caused by difference of confounding factor adjustment strategies in case-control study, and whether such bias can impact the summary effect size of meta-analysis. They used the case of passive smoking and breast cancer to answer this question. The reviewer has the following concerns:

1) It's hard to draw conclusion just from the case of passive smoking and breast cancer and generalize to all the studies using meta-analysis. The authors might want to discuss more on the drawback of the methodology and consider revise the study to address issues for a broader spectrum.

2) In the author's analysis, it's almost impossible to know exactly how the confounding factors biased each individual case-control study, and what is the true underlying effect size. Without that it's hard to draw conclusions. Simulation based methodology might address this drawback.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

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.

No

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

**Declaration of competing interests**
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license ([http://creativecommons.org/licenses/by/4.0/](http://creativecommons.org/licenses/by/4.0/)). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal