Reviewer’s report

Title: Asthma and treatment with inhaled corticosteroids: associations with hospitalisations with pneumonia

Version: 1 Date: 21 Nov 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?
No - there are minor issues

EXECUTION - Are the experiments and analyses performed with sufficient technical rigor to allow confidence in the results?
No - there are minor issues

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?
No - there are minor issues

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: This study compared pneumonia hospitalizations between those with and without asthma in Sweden.

Overall, the manuscript significantly contributes to the literature by characterizing complications of asthma, and also identifying what therapeutic treatments are more associated with these complications.
My impression that the authors responded well to the original reviewer's comments. I have some additional minor issues below.

REQUESTED REVISIONS:
In abstract the sentence "Asthmatics taking continuous treatment ...." is a bit confusing in the sense that I don't know if you are comparing asthmatics with fluticasone propionate to asthmatics without, or if you are comparing to anyone (asthmatics and non-asthmatics). In a way I think the first analysis makes more sense but at least be clear (specify comparison group in sentence).

I would be more precise in how you refer to certain statistics. I went to reference 13 (the Cochrane review of fluticasone and budesonide) for instance and instead of saying "statistically significant increased risk" and "borderline increased risk" (as you do lines 38-40), I would switch to something like "... had high quality evidence that fluticasone increased pneumonia events by 18 more per 1000 treated over 18 months, but there was less evidence for budesonide, with six more per 1000 treated over nine months"

Similarly, another reviewer pointed out your use of "borderline statistical association" for a p-value of 0.07, I would simplify that even more (page 7 line 35) and just compare ICS of 6 to ICS of 0. Put the confidence interval (0.92, 6.68) in and don't mention if it is significant or not, and readers can draw their own conclusions about how good this evidence is.

For ICS why did you divide into the three categories of 0, 1-5, and 6, because, for instance, 1-5 seems to be protective and 6 a risk factor? Is it based on the distribution of data - in which case it could be helpful to have case counts in Table 1.

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.

No

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:

Acceptable

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.

This reviewer has been recruited by a partner organization, Research Square. Reviewers with declared or apparent competing interests are not utilized for these reviews. This reviewer has agreed to publication of their comments online under a Creative Commons Attribution License attributed to Research Square and was paid a small honorarium for completing the review within a specified timeframe. Honoraria for reviews such as this are paid regardless of the reviewer recommendation.

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/). 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