Reviewer’s report

Title: Low lung function and the risk of incident chronic kidney disease in the Malmö Preventive Project cohort

Version: 0 Date: 04 Dec 2019

Reviewer: Ming-Yen Lin

Reviewer's report:

The authors used a database of screening project with a 30-year mean follow-up to explore the relationships between lung function and chronic kidney disease development. The advantages of Sweden cohort are high participant rate, and relative complete and stand information collection procedures. Low lung function associated with elevated risk of chronic kidney disease is concluded by the study. Obviously, the follow-up duration in current study is significantly longer than those in previous studies which may enhance the potential causal relationship. However, there's still room for improvement before this manuscript can be published on a scientific journal.

1. It is unclear that how many time did the MPP project collect data for each participant. If information collecting with several times, the last lung function values may be more appropriate to test the study hypothesis.

2. As I know the MPP project is an intervention project, what kind of interventions performed in the study participants? Did the interventions possibly cause different effects on the participants with different groups of lung function.

3. Please add the definition of prevalent CKD at baseline. I know this information appearance at the limitation, but it should be more directly if it appears at methodology.

4. Because the biochemical data may be collected over a wide range of years, were quality of laboratory tests under reasonable supervision?

5. Please refer the website https://www.ibm.com/support/pages/how-cite-ibm-spss-statistics-or-earlier-versions-spss to add academic description for SPSS.

6. Please draw plots of cumulative CKD incidence by sex through Kaplan Meier method and tested the differences between groups of lung function by appropriate statistical method.

7. You should add sentences to describe how many covariates were adjusted within the Cox regression model at part of statistical analysis.

8. Please add a categorical variable to contain the year of lung function to test the distributions of year in the table 1a, 1b, and supplement table 1-2. If the distributions of
year of lung function test is significant between groups of lung function, I strongly suggest that the unbalance should be dealt with in your survival analysis.

9. Please add CKD case number, person-year, and incidence for each group of lung function in the table 2a, 2b and supplement table 3-4. To transparently show risks and differences between groups is helpful for future systematic review study.

10. Is it possible that patients with low lung function were more likely to have medical visits then causing high likely to be diagnosed as CKD? Please comment it and make possible dealt with or recognized this bias.

11. The authors should discuss the different findings between sex because it should be a special part of main findings compared with results from previous studies.

Please confirm that you have included your review in the ‘Comments to Author’ box?
As a minimum standard, please include a few sentences that outline what you think are the authors’ hypothesis/objectives, their main results, and the conclusions drawn. Your report should constructively instruct authors on how they can strengthen their paper to the point where it may be acceptable for publication, or provide detailed reasons as to why the manuscript does not fulfill our criteria for consideration. Please supply appropriate evidence using examples from the manuscript to substantiate your comments. Please break your comments into two bulleted or numbered sections: major and minor comments.

Please note that we may not be able to use your review if no comments are provided.

Please only upload as attachments annotated versions of manuscripts, graphs, supporting materials or other aspects of your report which cannot be included as text in the ‘Comments to Author’ box.

Yes

Are the methods appropriate and well described to allow independent reproduction of experiments?
Please state in the ‘Comments to Authors’ box below what you think are the strengths and weaknesses of the methods (study design, data collection, and data analysis), and what is required, if anything, to improve the quality of reporting

Yes

Does the work include the necessary controls?
If not, please explain in the ‘Comments to Author’ box below.

Yes

Are you able to assess the statistics?
- Are the statistical test(s) used in this study appropriate and well described?
- Is the exact sample size (n) reported for each experimental group/condition (as a number, not a range)?

- Are the description of any error bars and probability values appropriate?

- Are all error bars defined in the corresponding figure legends?

- Has a sample size calculation been included, or a description and rationale about how sample sizes were chosen?

Please can you confirm which of the following statements apply to your statistical assessment of the manuscript (Please include details of what the authors need to address in the ‘Comments to Author’ box):

I have been able to assess all of the statistics in this manuscript (please refer to checklist above)

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in the ‘Comments to Author’ box below.

Yes

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

**Should the manuscript be highlighted for promotional activity?**
Articles that are deemed of interest to a broad audience can be promoted in a variety of ways. This could be through email updates, postings on the BioMed Central homepage, social media, blogs and/or press releases. Please indicate in the text box below whether you think this manuscript should be considered for promotional activity, indicating your reasons why (e.g. what is the most newsworthy aspect of the research).

No

**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/). 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