Reviewer’s report

Title: Number of Parity Is Associated with Low-Grade Albuminuria in Middle-Aged and Elderly Chinese Women

Version: 1 Date: 30 May 2019

Reviewer: Reviewer 2

Reviewer's report:

PEER REVIEWER ASSESSMENTS:

OBJECTIVE - Full research articles: is there a clear objective that addresses a testable research question(s) (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 major issues

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

OVERALL MANUSCRIPT POTENTIAL - Is the current version of this work technically sound? If not, can revisions be made to make the work technically sound?
Maybe - with major revisions

PEER REVIEWER COMMENTS:

GENERAL COMMENTS: This study addresses an interesting topic, namely the relationship between parity and low-grade albuminuria as a potential driver of an earlier observed increased risk of subsequent cardiovascular disease (CVD). The concept is of interest, although for decades, the debate has been whether higher parity actually causes CVD or whether confounders
drive the association. From that perspective, in my view, the authors could have formulated the background from the literature in their paper (intro and discussion) a bit more carefully. Methodologically, there are some serious concerns and limitations regarding the design and execution of the study.

REQUESTED REVISIONS:

Design:
- The authors excluded individuals with micro- or macroalbuminuria from the cohort. The rationale for this is unclear and was not provided. Albuminuria is very likely a continuum, with higher values reflecting a higher CV risk. Therefore, the authors should also include the participants with albuminuria >30 mg/g in their analyses.

- The cross-sectional design is a limitation of this study; it would have been much stronger if the authors had done a longitudinal analysis studying the association between parity and CV outcomes, adjusted for albuminuria.

Execution:

- Unfortunately, the analyses were not adjusted for parameters reflecting socio-economic status. This is essential, since even though a causal relationship between parity and outcomes is suggested, it is in my view more likely that other characteristics of the multiparous sub-population are driving the association. The analyses were also not adjusted for prior history of CV disease; this could have also confounded the results.

Interpretation:

- The positive association between eGFR and albuminuria (Table 3) is remarkable, but not commented on by the authors. How can this be explained?

- The data in Figure 1 are unadjusted, this should be replaced by a graphical representation of fully adjusted data (i.e. model 3 in Table 4), showing that only in women with 3 children or more the association is significant.

Note: This reviewer report can be downloaded - see attached pdf file.
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

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Please indicate the quality of language in the manuscript:

Acceptable

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