Reviewer's report

Title: Age at Menarche and Risk of Gestational Diabetes Mellitus: A Population-Based Study in Xiamen, China

Version: 1 Date: 14 Jan 2019

Reviewer: Danielle Schoenaker

Reviewer's report:

The authors have improved their manuscript by appropriately addressing many of the comments, however, I have some remaining concerns about the statistical analysis and the interpretation of the results. More specifically:

- The authors state that three categories of early age at menarche were analysed, because early age at menarche (13 years) is consistent with categories used in other research. The meta-analysis conducted by Sun et al includes five studies, that have all defined early age at menarche as age 11 or younger. Moreover, it remains unclear why not more categories were examined given the large sample size as mentioned in my previous comment, or why age at menarche was not examined as a continuous variable in for example a spline analysis to provide a more detailed examination of the (potentially non-linear) relationship between age at menarche and GDM and add to the existing literature.

- The order in which covariates were added to the models remains unclear, and is inconsistent across Tables 2 and 3. As previously suggested, BMI and blood pressure are likely intermediates of the association between age at menarche and GDM, and should therefore either not be included in the models, or added in separate models at the end.

- The authors have expanded the discussion on the interpretation of the findings on 1-hour and 2-hour glucose outcomes, however, a discussion on the magnitude of these findings was not added. Coefficients for these outcomes were very small (Table 3) (despite the statistically significant p-values due to the large sample size), which should be discussed and integrated as part of conclusions.
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.

Yes

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/). 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