Reviewer’s report

Title: Prevalence and Determinants of Gestational Diabetes Mellitus in Africa Based on the Updated International Diagnostic Criteria: A systematic review and meta-analysis

Version: 0 Date: 27 Mar 2019

Reviewer: Charlotte Beaudart

Reviewer's report:

This is a good manuscript, clearly written, with a correct methodology and correct statistics for meta-analysis.

The manuscript could nevertheless be improved:

Abstract:

- Page 2, line 17: "was" instead of "were"
- Line 21: information about subgroup should not appear in the background section
- Line 25: "is" instead of "used"
- Line 44: define abbreviations, even GDM
- Line 49: no results of heterogeneity is given in the abstract section.

Introduction: a previous SR and MA has already been performed. What is the difference between this previous work and the current work exactly? Please provide information about heterogeneity of this previous MA.

Methods:

- Did the authors write a protocol prior doing this SR research? If yes, please provide reference for this protocol.
- PubMed search: why authors did not used Mesh terms in their search strategy?
- Why did the authors collected studies published only from January 2013?
- Authors should explain more deeply the process of study selection in the appropriate section (and not in the extraction selection).
- The inclusion criteria are not complete. Indeed, the reviewer suppose that studies had to provide prevalence data as well as data regarding risk factors for GDM.
- Please provide a reason for excluding studies not published in English language.
- Did the authors pre-tested their Excel extraction sheet?
- The whole paragraph regarding heterogeneity and publication bias should be moved to the statistical method and analysis paragraph.
- In the abstract, authors defined heterogeneity when \( P>50\% \). The definition of heterogeneity in the methods is not the same. Please be concordant.

Results:

- Authors reported a search in gray literature that has not been presented in the methods section.
- How is it possible to include studies conducted in 2012 when your search limited studies to those published in 2013?
- The reviewer strongly encourages the authors to original funnel plots as well as funnel plots improved by the trim and fill method in the supplementary files.
- Page 6, line 31, please provide all the CI for the reported prevalence.
- Page 6, line 39, all this paragraph should be deleted as it is redundant with the next paragraph.
- Did the authors use the same criteria for defining maternal obesity across all studies?
- Page 9, line 54, the reviewer disagrees with the sentence "low heterogeneity was observed on the previous history of GDM". Indeed, heterogeneity is significant for this analysis.
- Table 2: subgroup analyses: it should be interesting to test for intergroup difference (between group heterogeneity and solely within group heterogeneity).
- For figures: please indicate the type of ES (prevalence for Figure 2 and OR for all the other figures).
- The reviewer strongly encourages the authors to perform subgroup analyses regarding study design. The high level of heterogeneity could have been brought by adding in the same meta-analytic model cross-sectional as well as prospective studies.
Discussion:

- Heterogeneity is very important across all analyses, even in the subgroup analyses. This should be discussed as a limit of the manuscript.

- Please explain the strengths of the manuscript.

**Level of interest**
Please indicate how interesting you found the manuscript:

An article of importance in its field

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

Acceptable

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

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