Reviewer's report

Title: Correlation of Fasting and Post Prandial Blood Glucose with HbA1c in Assessing Glycemic Control; Systematic Review and Meta-Analysis

Version: 1  Date: 19 June 2015

Reviewer: Chalotte Beaudart

Reviewer's report:

Major Compulsory Revisions

Abstract

1. The reviewer thinks that it is essential to differentiate the systematic review from the meta-analysis. Authors should clarify this in the methods section of the abstract.

2. In the methods section, authors indicate that a subgroup analysis was performed, but no result about this appears in the manuscript. Please, delete this information.

3. In the results part, authors write “a total of 14 out 126 identified”. Authors should specify that this number is related to the systematic review and not to the meta-analysis.

Methods

4. Data source and search strategy:

4.1. Globally, it should be indicated in the beginning of the methods section that this paper is related to a systematic review and a meta-analysis. It is necessary to distinguish the two types of researches and methods used therefore.

4.2. It seems that authors only focused on published literature. The grey literature could also add some studies to this research. This should be mentioned in the discussion.

5. Study selection: this paragraph could be advantageously placed after the “Eligibility criteria” paragraph. Moreover, it is not indicated in the text whether studies had been first selected based on titles and abstracts.

6. Eligibility criteria:

6.1. Studies that compared either FBG or PPBG alone with HbA1C were excluded. What is the rationale for this? Indeed, authors performed two separate meta-analyses, one for FBG, and one for PPBG. Therefore, studies that compared only, for example, the FBG and the HbA1C could have been included in the meta-analyses.

6.2. One-third of the studies were assessed by a second reviewer. This technique is not common. Indeed, most of the time/in most cases, all full-text articles are read by two-independent reviewers. Given the relatively “small”
number of studies assessed for full-text, both authors could have read all the references.

6.3. One-third of the studies were assessed by a second reviewer. It is not indicated if these studies have been read in the “title and abstract” phase or in the “full-text” phase.

7. Definitions: Please add references to these definitions.

8. Methodological Quality Assessment: The reviewer thinks that it is essential, in a meta-analysis, to have a report of the quality of each study. However, even if the authors reported a methodological quality assessment of studies in the methods part, no actual information about quality is given in the results part.

9. Authors did not assess the publication bias in their meta-analysis. This should be added in the discussion as a limit of the study.

10. Data synthesis and Statistical analysis:

10.1. Authors chose to use the random effect model. A rationale for this choice should be given.

10.2. Authors indicated that they performed “subgroup analyses” for the category of diabetes (type 2 and both) and type of meals. However, results of these subgroup analyses are not presented in the results part!!

10.3. A robustness analysis could be performed. The point of this analysis is to assess the impact on the results of removing one at a time each study from the analysis.

Results

11. Globally, the reviewer finds the presentation of the studies from line 170 to line 224 far too long. The presentation of studies characteristics is too long compared to the presentation of the results of the studies. For a systematic review, results of the studies should be presented. For example, authors said that four studies calculated the specificity, sensitivity and PPV of FBG and 2hPPBG but no quantitative data are given. Please add this kind of interesting/necessary information.

12. Outcome measures and Summary of findings: in regard to the above reviewer’s comment, this part should be rewritten with quantitative results.

13. Table 1: one study is an observational one. What is the difference of this study with cross-sectional. Was it a prospective one? If yes, indicates it as prospective.

14. Table 1 and table 2 should be merged.

15. Meta-Analysis:

15.1. Line 264 indicates that “arrows indicate that the bars are truncated to fit the plot”. However, no arrows are to be seen in the figures. Please delete this inappropriate sentence.

15.2. Table 4 and table 5 should be removed. It is not common to present results in this form. Results regarding the heterogeneity should be presented in the text
of the next paragraph and results of total (fixed effects and random effects) should be presented within Figure 2 and Figure 3.

15.3. Figure 2 and Figure 3 should include more information. A column should be added at the right of the names of the authors with information such as correlations for each study and pooled results.

Discussion

16. The meta-analysis presented a high level of heterogeneity. The potential impact of this result on the meta-analysis should be discussed.

Minor Essential Revisions

17. Globally, there are a few mistakes in the way FBG and PPBG are written. Sometimes authors write FBS, PPBS or PPG, etc. Please revise all the manuscript for this.

18. The whole manuscript should be proofread as there are a few English mistakes.

Abstract

19. Line 29: change “fating” by “fasting”.

20. Line 30: “resource poor settings” should be “resource-poor settings”. Change this wherever it appears in the manuscript.

21. Line 35 change “described” by “describing”.

Methods:

22. Line 156: there are two points at the end of the sentence. Please correct this.

Results

23. Numbers should always be written with two decimals (and not three).

24. Table 1:

24.1. Please, be coherent and write either “both” or type 1&2 for the diabetes category.

24.2. Please be coherent when writing the age range (either … to … or …-…)

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests