Reviewer’s report

Title: Distinct metabolic profile according to the shape of the oral glucose tolerance test curve is related to whole glucose excursion: a cross-sectional study

Version: 0 Date: 30 May 2018

Reviewer: Viswanathan Mohan

Reviewer's report:

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This article reports on the relationship between the specific glucose curves during the OGTT and the hyperglycemic states, metabolic syndrome and its components using cross sectionals study. The sample size includes 121 individuals who were selected from a hospital based data collected between 2008 and 2015. It is well written. However, there are few issues that need to be addressed.

Comments:

* The sample size is small to derive at definite conclusions. Has any sample size calculation done to test the test this hypothesis?

* The reason for exclusion of individuals is not justified adequately.

* In the definitions section, it is described presence of diabetes as one of the criteria of metabolic syndrome, however, in the methods, it is mentioned that those with diabetes were excluded because of possible distortion of the results when including extremes of insulin resistance. Kindly clarify.

* It is suggested to analyze the waist circumference split by gender rather as a whole. As shown in Table 1, when split by gender, waist circumference did not show any statistically significant difference with the glucose curves. The results may be rephrased accordingly.
Another limitation of the study is the missing data for many variables studied — HbA1c (n=14), HsCRP (n=16), adiponectin (n=16), PP (n=38), C-peptide (n=26) and glucagon (n=52) for the small sample size.

The interpretation or clinical significance of the study findings needs to be discussed in the article, which is important to the readers. Also, the relevance to prediabetes is not discussed, which will be one of the key message.

The authors are suggested to include the prevalence of metabolic syndrome and prediabetes either in the Figure 2 or in the results text.

Is the waist circumference rounded off to the lowest 0.5 cm or the nearest 0.1 cm. Kindly check.

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.

Yes

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 recommend additional statistical review

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Please indicate the quality of language in the manuscript:

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None to declare

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