Author's response to reviews

Title: Combining Glycosylated Hemoglobin A1c and Fasting Plasma Glucose for Diagnosis of Type 2 Diabetes in Chinese Adults

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Version: 3 Date: 2 September 2013

Author's response to reviews: see over
Dear Professor Eloisa Nolasco:

Thank you for your letter of July 23, 2013 informing us to resubmit the above-mentioned paper to your journal for publication. We have revised the manuscript along the lines suggested by the reviewers, as elaborated point by point below (revisions are marked in red in the manuscript):

**Reviewer 1 (Hillary Keenan)**

1. **It is appreciated that obtaining data regarding non-participants would be difficult to obtain, however, as this is proposed as a public health tool a discussion regarding limitations to its applicability is needed. The essential point is that does the non-inclusion of these individuals matter in the application of this tool?**

   **Response:** In this population, age appeared to be the most important characteristic factor linked to different optimal HbA1c cut-off points. The older average age of our sample population due to the non-participants who refused to participate or were absent during enrolment period may lead to an overestimated overall cut-off point of HbA1c. However, the non-inclusion of these individual is unlikely matter in the application of the public health tool (Line 306-309).

2. **Re-editing by a native speaker/ writer is very much needed (e.g. “combing”).**

   **Response:** We have checked the manuscript carefully and have it re-edited by a native English speaker.

3. **Please label under the table or in a table legend the method by which the p-values were derived (e.g. Wilcoxon, Student’s two-tailed t-test). (Table 1)**
Response: In Table 1, the $P$-values were derived by Wilcoxon rank sum tests, which are now labeled under the table.

4. The labeling of the $p$-values for table 2, by studying the table it appears categorical comparisons of the continuous variable (e.g. ANOVA) denoted by $p < 0.0001$ (the first $p$-value) were done and then the spearman correlations. Please label what BOTH of these $p$-values present, not just the spearman. The methods are not clear as to whether you break down your correlations within those categories do to a possible non-linear relationship or not.

Response: In Supplemental Table 1 (original Table 2), the first and second $P$ values were derived by Spearman rank correlation tests, and the $r$ values in the parentheses referred to the Spearman correlation coefficient. The other $P$-values were from Analysis of Variance (ANOVA) tests. Corresponding labels have been listed under the table.

5. Tables 2, 4 and 5 may be made supplemental.

Response: We make the original tables 2, 4 and 5 as the Supplemental tables 1, 2 and 3.

Reviewer 2 (Zhiheng He)

#4. Initial review: Hemoglobin levels for the different groups should be listed in the Table 1 if available.

Comments: I still do not see hemoglobin value listed in the table 2. HbA1c was listed there instead. The authors should understand that Hemoglobin is NOT HbA1c!

My initial comment was NOT addressed.

Response: Unfortunately, we did not record the hemoglobin levels of participants in this study. We only collected the HbA1c levels, which were listed in table 2.

#8. Initial review: In the background section, it should be noted that lack of standardized HbA1c was probably another major reason why HbA1c has not been adopted as the diagnostic criteria in China, in addition to the lack of knowledge about racial-specific standard. In the United States, it took a long time before HbA1c was standardized and adopted as a diagnostic criteria.

Comments: Please make corresponding changes in the abstract as well.

Response: We now make the changes in the abstract (Line 30-32).

#10. Initial review: In page 9, it was not clear why the authors chose WC about 85 cm in male and 80 cm in females. Appropriate literatures should be cited to give the rationals. This also applies to the other parameters such as HW (hypertriglyceridemic waist phenotype), which is not a conventional measure and reported with different cutoff in the literature.
Comment: I still do not understand why the authors choose the cut off value from study done in ethnically different populations when there is data available for Chinese population (Zhang et al. BMC Public Health 2012, 12: 1081). The only problem is that the previous study done in Chinese population use different cut off. This should really be discussed and described clearly. It is not appropriate to put data in without clear rationales and adequate comments.

Response: We now cite Zhang, et al’s report, and re-analyze the data by using WC $\geq 90$ cm in men and $\geq 80$ cm in women as elevated waist circumference. We agree with the reviewer that the previous studies done in Chinese population used different cut-off points. It is possible that these studies used different outcomes, for example the elevated risk of CVDs. Regarding predicting diabetes, Zhang, et al’s report is more relevant.

#12. Initial review: The language of this manuscript needs to be significantly improved. The authors might need editorial assistance from someone who use English as a native language.

Comment: If that is the best the authors can do, journal should provide appropriate editorial assistance.

Response: We now have the manuscript re-edited.

We thank reviewers for their helpful comments and suggestions and hope the revised manuscript has addressed all their concerns. I look forward to hearing from you regarding the likely date of publication.

Sincerely yours,

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