Author's response to reviews

Title: Dietary glycemic index, glycemic load and incidence of type 2 diabetes in Japanese men and women: the Japan Public Health Center-based Prospective Study

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Author's response to reviews: see over
Nagaraj Nagathihalli, PhD  
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Dear Dr. Nagathihalli:
Attached please find the revised manuscripts of “Dietary glycemic index, glycemic load and incidence of type 2 diabetes in Japanese men and women: the Japan Public Health Center-based Prospective Study”. The reference number of this article is MS: 2485015491049288.

As the 1st referee, Dr. Jay Udani stated that had had nothing to add to our original manuscript, we addressed only the comment from the 2nd reviewer, Dr. Jennie Brand-Miller. The answers to the issues she raised as weaknesses of our manuscript is at the base of this letter. Based on her comments, we prepared both the annotated manuscript (DietGIGLNEreviewed1.doc) and the final manuscript without annotation (DietGIGLNEreviewed1NoAnnotation.doc).

We appreciate for the supportive comments the journal provided us to improve the manuscript. Should you have any questions, please let me know at oba@niph.go.jp.

Best regards,
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Weaknesses

This study leaves so many questions unanswered. The authors should address carbohydrate nutrition much more broadly. Was %E carbohydrate intake related to diabetes risk?
Answer; we would rather focus on the issue of dietary glycemic index and dietary glycemic load in this manuscript, as consumption of carbohydrate in Japanese population contains wide range of topics to be covered. We were cautious about being off the point by cramming too many materials in one study. Our study group is planning to conduct another study focusing on carbohydrate intake from a different perspective after this manuscript is successfully published.

Was dietary fibre? Was there an interaction between fibre intake and GI?
Answer; we were also curious about the interaction between dietary fiber and dietary GL, as it was reported many times in the previous studies. We understand that in the current study, there is no interaction between dietary fiber and dietary GI/GL as indicated in the results of the stratified analysis. The analysis by the level of dietary fiber shows that the association between dietary GI/GL and DM did not vary by the level of dietary fiber. Please refer to Table 3 and 4. Having this comment, we added the descriptions of the result to the text at the end of 3rd and 4th paragraphs in Results; “Stratified analysis did not show a clear difference of the association by level of dietary fiber intake.” And “There was no clear difference of the association by the level of dietary fiber intake.”

Fat intake is said to be a risk factor for diabetes in this population but no data are shown to support this.
Answer; we did not regard fat intake as a risk factor, but we hypothesized its possible modifying effect on the association based on the findings from the previous experimental studies, as introduced in Background. To make this point clear, we added the term “modifying effect” on the second paragraph in Statistical analysis.

I found the Results section confusing to read. The authors report trends from one quartile to the next that are not statistically significant across all quartiles.
Answer: we evaluated both the linear association and the association by category, aiming not to miss the threshold effect. This issue was discussed at the end of 5th paragraph in Discussion.

The second paragraph of the Results is not a sentence.
Answer: we revised the second sentence of the paragraph by deleting the unnecessary repetition of “was observed”.

The authors refer to median to high fat intake in the Results but the graphs show only high and low fat intake. The definition of high and low fat intake is given.
Answer: as it is pointed out, we classified participants into two groups for the stratified analysis, high fat intake group and low fat intake group. What we meant by “median to high intake” was that high fat intake group consisted of subjects whose level of fat intake was median or higher. Likewise, low fat intake group consisted of subjects whose level of fat intake is less than the median value. We wanted to clarify that we used the median as a cut-off point. We learned from the comment that the description is confusing and causing a misunderstanding. We added the explanation to the methods that we used the median intake value as a cut-off point for the stratified analyses, and in the text, simply used the term “high intake” instead of saying “median to high intake”. We also revised the corresponding descriptions in Table 3-4.

In the Discussion page 12, lines 11-12 is repetition of an earlier statement.
Answer: to avoid the repetition, we cross out this statement in the discussion.

Similarly, line 2 from the bottom is repetition.
We crossed out the repetition. We apologize for the mistake.

Diabetes risk was assessed at the 10 year mark timepoint, but food intake was not assessed at baseline, only at the 5 year mark.
Answer: the development of diabetes was also assessed for 5 years, between 5-year survey and 10-year survey. Please refer to the following figure. To avoid the confusion, we revised the statement as follows; “the development of newly diagnosed diabetes for 5 years, between the 5-year survey and the 10-year survey, was identified using the questionnaire.”