Author’s response to reviews

Title: Identification of metabolic syndrome using phenotypes consisting of triglyceride levels with anthropometric indices in Korean adults

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Response to Reviewers

To the Reviewers and Editor:

We appreciate the helpful comments we received regarding our manuscript entitled “Identification of metabolic syndrome using phenotypes consisting of triglyceride levels with anthropometric indices in Korean adults” (modified title). We have revised our manuscript in accordance with the reviewers’ comments. Our revisions are listed below.

Reviewer reports:

Amutha Anandakumar, PhD (Reviewer 1):

1. In Table 1, the description is not necessary in the column itself, they can be given as footnotes also. How were the variables expressed? Mean SD or Mean SE?
Answer: We have modified Table 1 according to reviewer comment. We have removed the description column and added abbreviations to footnotes. Continuous variables are summarized as the mean (standard deviation). These information are added in Table 1.

2. The values in all the tables it is difficult to read and they can be given up to one decimal.
Answer: We decided to describe these values to four decimal in all the tables because many values are small values (such as 0.041). If these values are given up to one decimal, it is difficult to show the difference in standard deviation.

3. In Table 2, what were the variables were significant between normal's and MetS group for each age group. Kindly mention the significance as symbols. These two tables can be made into one and given as men and women as normal's and MetS instead of splitting them according to different age groups and its very difficult to interpret. IF the authors want to include these tables, they can give it as Supplementary tables.
Answer: As suggested by reviewer, Tables 2 and 3 merged into one table instead of splitting them according to different age groups. The significance between normal and MetS groups was indicated by the symbols. Tables 2 and 3 were removed in this manuscript, and merged Table 2 was added in this manuscript.
4. From Table 4 to 8, the p values should be given after OR and CI. Also too many variables and values are difficult to interpret.
Answer: The table numbers have changed because the Tables 2 and 3 have been merged according to the previous reviewer’s comment. We have modified Tables 3-7 according to reviewer’s comment. So, the p values was placed behind the OR and CI. Although there are many variables in these tables, it is difficult to reduce because all variables should be compared statistically.

5. In Figures, the data table, grid lines, percentage symbols can be removed, which will make the figure more presentable and neat. The titles for x and y axis can be given.
Answer: We have modified Figure 1 according to reviewer’s comment. So, the data table and grid lines were removed in Figure 1, and the titles for x and y axis were added in Figure 1.

6. In methods section, definitions or the detailed procedures of the eight circumferences measurements were made should be given.
Answer: We have added definitions and procedures of the eight circumference measurements in Anthropometry and measurement subsection. The added contents are as follows:
“… Eight circumferences, namely, the forehead (ForeheadC), neck (NeckC), axilla (AxillaryC), chest (ChestC), rib (RibC), waist (WaistC), pelvis (PelvicC), and hip (HipC), were measured in the corresponding locations with subjects wearing lightweight clothing and no shoes. ForeheadC was measured at the levels of the glabella and occiput of the head and at the levels of the thyroid cartilage and cricoid cartilage, respectively. AxillaryC was gauged at the levels of the left and right axillae. ChestC was gauged at the levels of the left and right nipples, and RibC was measured at the levels of the left and right 7th and 8th prominences of the costochondral junction. WaistC and PelvicC were gauged at the level of the umbilicus and at the levels of the left and right anterior superior iliac spines, respectively. HipC was gauged at the level of the upper edge of the pubis [15, 23, 25]. …”

7. Why only age, region and education were adjusted, any specific reason for adjusting these variables? Also the subjects were already split into different age groups and why age was adjusted to find the association between MetS and Anthropometric indices.
Answer: We want to added more confounders such as smoking and drinking for adjustment, but these variable included many missing values. So, we decided only age, region, and education variables to include more samples. Although the subjects were split into different age groups, the age groups was divided into decades. Even though many subjects belong to the same age groups, we thought there was a difference between subjects in their early and late age (such as subjects aged 50-52 years and aged 58-59 years). So we considered age for adjustment.

8. The aim of the study and the title should match, as of now the title doesn't read well.
Answer: As suggested by reviewer, we have modified our title. The modified title is as follows:
“Identification of metabolic syndrome using phenotypes consisting of triglyceride levels with anthropometric indices in Korean adults”

Pavlina Andreeva-Gateva (Reviewer 2): Please include all comments for the authors in this box rather than uploading your report as an attachment. Please only upload as attachments annotated versions of manuscripts, graphs, supporting materials or other aspects of your report which cannot be included in a text format. Please overwrite this text when adding your comments to the authors.
Answer: Thank you for reviewing my manuscript.

We greatly appreciate your helpful comments, which we feel have improved our manuscript.