Author's response to reviews

Title: Population attributable risk for diabetes associated with excess weight in Iranian adults: A population-based cohort study

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Author's response to reviews: see over
Mellisa Norton, M.D.
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Dear Dr. Norton,

Greetings,

We thank you and the two esteemed reviewers for the second review of our original manuscript entitled “Population attributable risk for diabetes associated with excess weight in Iranian adults”. To our knowledge, there is no data available on the contribution of overweight and obesity in developing Type 2 diabetes in the Middle East countries with near 200 million populations. Therefore, we hope that this manuscript possibly adds to the current literature not in terms of examining whether there is any association between excess weight and development of diabetes in the Middle East countries, but by quantifying the percent of contribution of excess weight in developing diabetes in this region.

Below, the revised version of the manuscript and responses to the Dr. Nagaya are presented. We hope that these justifications convince Dr. Nagaya to consider the revised version for publication.

Looking forward to hearing from you at your earliest convenience.

Yours sincerely,

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Comments of Referee #1 and responses:

Referee #1: In the response, authors say that the low follow-up ratio may be due to tenants (do not have their own home) and their high migration rate. Generally, such ‘wandering’ subjects are socio-economically low and unhealthy. However, authors indicate that non-followed subjects are healthier
than followed subjects at baseline. The authors' interpretation and the results may be discrepant?. Are there any other reasons for the low follow-up ratio?

Response: After the completion of the first follow-up period, our research institute surveyed the possible causes of the considerable loss to follow-up rate. The main cause identified was high migration rate. Although it is known that tenants are unhealthy and fall into the lower status socio-economically, the reverse pattern does deserve comment. In Tehran, some people with relatively moderate to high economic status believe that they can make more money if they use their funds in more profitable investments rather than buying a house or apartment, findings that have been reported by Statistical Center of Iran.

Referee #1: It is well known that sex is a major factor influencing occurrence of DM and other illness. Also in the study, sex-differences are significant in many baseline indices and in the results (ORs). Sex-ratio is also skewed (M/F=1961/2726=0.72). Therefore, baseline data and results from total subjects including both sexes are misleading and should be deleted. Subjects selection and follow-up ratio (p.6. 1.8-1.11), baseline data (Table 1) and results (Table 2) should be presented by sex, and authors should be discussed by sex.

Response: In the present study, we aimed at 1) examining the strength of the association between excess weight and incident diabetes in a short-term period in Tehran, and 2) calculating population attributable risk percentage (PAR) of developing diabetes associated to excess weight. For these, after reporting the general characteristics of the population under study, we carried out multiple logistic regression analyses and calculated PARs overall and again in men and women, separately. The logistic regression analyses and the PARs calculated provided answers to our research questions.

In addition, sex-specific analyses (Table 2), which were asked for by the reviewers in their first comments, help to answer the questions in each sex better, as the incident of diabetes is highly related to sex. However, this relation does not justify reporting the general characteristics of the population under study in each sex, separately. Furthermore, providing baseline characteristics of men and women across the four groups of BMI does not yield additional information toward interpretation of the results, because the ORs and PARs are adjusted for some of the baseline characteristics in the both sexes. In other words, the differences in baseline characteristics such as age, family history of diabetes, triglycerides, and blood pressure could not explain the differences in PARs between men and women. Nonetheless, if the reviewer believes that reporting the general characteristics by sex will clarify something valuable, then we will, if need be, provide two additional tables for each sex.

Moreover, it is noticeable that table 2 already shows the ORs and PARs in each sex, separately.