Reviewer's report

Title: Dietary differences between elderly Iranians living in Sweden and Iran A cross-sectional comparative study

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Reviewer: Anna Karin Lindroos

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The paper is clearly written and since dietary intake data often is very skewed the bootstrap method is an interesting alternative that more nutrition researcher should consider for their analyses. However this study has some major problems that need to be addressed.

Major Compulsory Revisions

1. The study groups are very small and it is unclear how representative they are for elderly Iranians living in the Stockholm area and elderly Iranians living in the Tehran area. How could the unrepresentativity of the study groups and small sample sizes effect the results. Please discuss.

2. Different dietary assessment methods are used in Sweden and in Iran. It is not clear whether the large differences found in this study is due to different dietary assessment methods or true differences. Although “differences in sampling and administration procedures can be associated with variations in validity of data and methodological problems” are recognised in the discussion a deeper analysis of the consequences of using different dietary methods is needed in the paper.

Looking at the presented dietary data it is interesting to note that the Iranians in Sweden report such high intakes. Mean reported protein and fat intake was much higher in Sweden than in Iran, 28 and 48 grams respectively (rows all in table 3). Although carbohydrate intake was lower (28 grams), total energy intake must be much higher in Sweden than in Iran despite only slightly higher BMI. Why isn’t total energy intake reported in table 3? A rough calculation based on mean reported macronutrient intake suggests that the Iranians in Iran reported approximately 2325 kcal and the Iranians in Sweden 2750 kcal. It is unlikely that the actual energy intake difference between these two groups is this large. The reported energy intake in the group of elderly Iranians in Sweden is also very high which suggests that some participants overreported their dietary intake. The very high intake from fruits and vegetables in Sweden (937 grams per day) also suggests overreporting. How does this high fruit and vegetable intake compare with other studies? Has the Swedish dietary assessment method been validated in any way and have the authors examined potential under- and overreporting? Please discuss the validity of the dietary assessment methods and how the different dietary assessment methods could influence the study results. See also
point 3.

3. It is not clear why the authors have chosen to look at reported total intake of macronutrients and food groups per day instead of comparing the diet quality by adjusting for differences in reported energy intake. Although total energy intake may not be a reliable measure when assessing diet it is as reliable as grams of protein, fat and carbohydrates, and grams of food intake. Since the accuracy of the reported energy intake seems to differ between the methods, energy adjusted intake of macronutrients and food groups would be much more interesting to look at. A calculation based on the presented mean intake of protein, carbohydrates and fat suggests the following proportions of energy from protein, carbohydrates and fat in Iran: 12/61/28 E% and in Sweden: 14/47/39 E%. This calculation suggests some major differences in diet quality between the groups. However these calculations only work if we assume that there is no systematic misreporting of foods (i.e. fruit and vegetables are overreported and bread and grains are underreported).

4. I would like to see a stronger justification for in the background for why it is interesting to study differences in dietary intake between Iranians living in Sweden and Iranians living in Iran. Obesity and abdominal obesity seem to be common in both Sweden and Iran despite suggested differences in dietary intake.

5. Page 14, 2nd para, line 7 “Furthermore, our findings may help dieticians, and particularly district nurses ........, to identify factors that influence alterations in dietary habits after migration.” How, please explain the practical implications of the results from this study?

Minor Essential Revisions

6. Page 6, last sentence. The 52 individuals were 3.5% of the 1476 randomly selected for dietary assessment. How many of those 1476 individuals were between 60 and 80 years of age?

7. Page 10, 2nd para, line 4 “The number of women were higher among Iranians living in Sweden than those of men (102 and 50, respectively).” This sentence is circular. Isn’t it the proportion of women in the Swedish group compared with the proportion of women in the Iranian group that is interesting to compare?


9. Table 1. First three lines under the heading Food items. “Refined and whole bread and grain” and “whole bread and grain”. What is the difference between these two terms? Please check how the words wholemeal bread and wholegrain should used.
Discretionary Revisions

10. Table 1. The word "edible fat" sounds a bit odd, isn't all fat in a food group edible? I suggest you use only fats since it is very clear that this is a food group. Also shouldn’t it be animal fat rather than animal oil?

11. Table 3. Why isn’t the all row the top row of each group? It would be easier to read the table if the overall mean of each group comes first.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests.