Author's response to reviews

Title: Comparison of cardiovascular risk factors between Sri Lankans living in Kandy and Oslo

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Author's response to reviews: see over
Cover letter

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Dear Editor,

**MS: 1449862577382952**

*Comparison of cardiovascular risk factors between Sri Lankans living in Kandy and Oslo*

Thank you for the constructive comments to our paper. Please find enclosed a revised version of the paper and our response to the reviewers’ comments. We have also added a description of the Oslo Health study (HUBRO) from which some of the data of our study comes, which had been overlooked in the previous manuscript. Both the HUBRO and the Oslo immigrant health studies followed exact same protocols (Page 4 paragraph 2).

Sincerely,

Sampath U. B. Tennakoon

(Corresponding author)
Comparison of cardiovascular risk factors between Sri Lankans living in Kandy and Oslo

Sampath U. B Tennakoon Dr, Bernadette N Kumar Dr, Dhanaseela B Nugegoda Prof and Haakon E Meyer Prof

Responses to the reviewer’s comments (Our response follows after each of the reviewers questions/comments, starting with ‘Reply:’)

Reviewer: Prasad Katulanda

Reviewer’s comments to the author

Overall comments
The authors have undertaken to perform a useful piece of work and provide useful data by comparing a high risk ethnic group for diabetes and cardiovascular disease in their native population and with that of the same ethnic group in a Western immigrant setting.

Minor Essential Revisions

It seems that the hypothesis of the authors had been that the immigrants have higher CVD risk and diabetes. However the data shows otherwise and the authors have failed to adequately explain the possible reasons in spite of the Oslo sample having higher degree of obesity.

The possibilities for this finding may be....
# The marked differences in the sample sizes of the two samples.

Reply:
We agree that the sample size in Kandy is small. Kandy sample was restricted to 233 due to time and financial constraints of the study. The small sample size might have masked some differences between the two groups rather than enhance them.
Page 13 paragraph 3 discusses this point.

# Marked difference between the response rates of the two samples without any data on the non-responders.

Reply:
The lower rate of participation among Oslo group is a point of concern. We cannot exclude selection bias that could influence on our results. However, no significant gradients between education and risk factors in Oslo were observed, except for height and systolic blood pressure in women. A comprehensive analysis of the effects of non-participation in HUBRO and the Oslo Immigrant Health Study concluded that prevalence estimates might be valid.
despite considerable nonattendance. We have now included this in the discussion - page 13 paragraph 2.

# Although most of the variables have been age-adjusted the significant difference in the age between the two samples may have led to some of the findings. Esp the higher prevalence of hypertension and unfavourable lipid profiles may be due to the higher age of the sample in Sri Lanka.

Reply:
An analysis of lipids and blood pressure of the groups divided at median age revealed no consistent pattern of the older group having higher rates of the risk factors either among the Kandy group or the Oslo group. We have added this part to the discussion - page 12 paragraph 3.

# The differences in the educational and social conditions of the two groups that have led to the Oslo population undertaking healthier lifestyles and increased physical activity levels. Not considering the physical activity levels between the two groups is a significant deficiency in the paper.

Reply:
We plan to describe and discuss life style factors and changes that may have occurred in detail in a future paper. Therefore details on physical activity are not included in this article, but if the editors strongly feel that physical activity should be included we are prepared to do so.

Although some of these factors have been mentioned under Strength and Weaknesses all these aspects needs to be included to prevent wrong messages being conveyed due to methodological deficiencies as well as the other effects such as healthier lifestyles in more educated and the Western countries despite higher availability of food.

Reply:
We interpret this as a summary of the points above.

Specific comments
Abstract
Be consistent with the grammar and state things in the past tense – ‘eg. The purpose of the study is’ – better change as ‘the purpose of the study was’ ‘mean systolic and diastolic blood pressure was considerably higher’ why not state – significantly higher?

Reply:
Relevant changes have been made to the manuscript.

Page 10
‘cannot be explained bay’ isn’t it ‘cannot be explained by’?

Reply:
Grammar and spelling check has been done anew.
P values in tables – it is customary not to state as 0.00 even when the stats output comes like this, you may state as either <0.001 or less than any reasonable number of decimals you wish.

Reply:
The table has been changed as suggested by the reviewer.

Discretionary Revisions
It would also be useful to reference more recent epidemiological data from Sri Lanka on diabetes, obesity and smoking by Katulanda et al.

Reply:
We have now used the references suggested by the reviewer.

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Reviewer: Ana Santos

Minor Essential Revisions
Throughout the text some spelling mistakes must be corrected.

Reply:
This has been done.

Statistical analysis: This section should be more detailed. Not all statistical methods are described.

Reply:
The section has been revised.

Discretionary Revisions

Methods:
Regarding the participants selection in Kandy study, the authors state the Tamils were identified by their family names. If, by chance, more than one participant from each family was selected, how did the authors proceed?

Reply:
This was a simple random sample of all Tamils identified by their family names. If more than one was selected from any given household or family (by chance), all selected were invited to take part in the study (confer page 5, methods)

Statistical analysis: Authors’ state that linear regression models were used (UNIANOVA). Were all the variables normally distributed? If so, the authors must state how this was evaluated.
Reply:
We have now included a description of how assumptions for the regression models were checked under the “data analysis” section page 7 paragraph 1.

Discussion:

Do you think that the lag of three years between the evaluation in Oslo and Sri Lanka, could have any implications on the results?

Reply:
Although data collection in Kandy was carried out after the Oslo study, during the lag period there were no community based programs that aimed at reducing cardiovascular disease risk factors in the Kandy area. The per capita income also didn’t change much but there was a sharp rise in the income from 2009 to 2010. Therefore we believe that the moderate time lag may not have any important effect on the results of the study. We have included a few sentences on this in the article (page 11 paragraph 4).

Non fasting blood samples were collected; also blood pressure was not measured with the participants fasting. Was this the case in both samples (Oslo and Sri Lanka)? What may have been the implications on the results?

Reply:
The conditions under which blood pressure was measured were identical as much as possible. All subjects were non-fasting, rested and seated. In both studies time since last meal were registered, and triglycerides were adjusted for time since last meal.
We do not regard the non-fasting status of the participants to be problematic for our results.

Regarding the discussion on the increased height of the immigrant participants, considering that this is a first generation immigrant population, do the authors believe that this might have been the effect of childhood better conditions, or is it the consequence of immigrants being the fittest among a determined population?

Reply:
It is a known fact that most immigrants are the fittest among their own communities in the countries of origin. Those who have better conditions during childhood may grow up to be fitter compared to others in the community. Therefore we believe that this effect may be a combination of the two factors combined. That is those who are fit as adults may have also had better conditions during childhood which puts them at an advantage as adults physically as well as socioeconomically in general.

Conclusions:
The authors concluded that differences in BMI may have been associated with changes in the lifestyles of this population. Isn’t it also reasonable to expect that the same alterations in lifestyles would play an effect in the other CVD risk factors?
**Reply:**
Yes, and in the discussion we mention that possible changes in diet might have influenced on the lipids.