Author's response to reviews

Title: Blood pressure and body mass index in an ethnically diverse sample of adolescents in Paramaribo, Suriname

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Author's response to reviews: see over
Agyemang et al: Responses to reviewers’ comments:

Reviewer 1: Dr Jeetesh Patel
We thank Dr Patel for finding our paper important and for providing very useful comments.

1. The title has been changed accordingly to 'Blood pressure and body mass index in an ethnically diverse sample of adolescents in Paramaribo, Suriname'

2. We apologise for the typographical errors. The draft has been proof read by someone and all the errors have been corrected.

3. Abstract: Dr Patel might have missed the keyword 'ethnic' in the sentence. Indeed, he is right in saying that there is a wealth of information on hypertension and paediatric BP in non-industrialised countries. However, our interest was not on these, but rather ethnic differences in BP in adolescents. As far as we are aware this information is very limited in non-industrialised countries. We will be very pleased to know if he knows of such studies. The definition of ethnic groups and the methods of sampling have been emphasized. Unfortunately, we have no information on social differences. This point has been addressed in the discussion section (Page 9, line 10-11), however. The conclusion has been adjusted.

4. We are unsure precisely what the reviewer meant here. The basis for this work has been clearly laid out in the introduction. Indeed, our group had assessed ethnic differences in BP in children in the UK (Agyemang et al. J Hum Hypertens. 2004; 18: 229-37) and also in some non-industrialised countries (Agyemang et al BMC Public Health 2005; 5: 114). However, the main focus of this study is on ethnic differences in BP in non-industrialised countries rather than general paediatric BP. Our underlying hypothesis was that the BP patterns in adolescents will be consistent with the adult BP patterns in Surinamese ethnic groups. This point has been emphasised (Page 4, line 3-4).

5. Full definitions for SBP (systolic BP) and DBP (diastolic BP) have been given. A power analysis was done, but unfortunately, because of financial constraints, we were unable to sample the required number for all the ethnic groups. Despite this, we still detected significant differences, which generated very important insight into BP patterns among adolescents in this part of the world as all the reviewers have emphasised. Unfortunately we don’t have valid information on social status and ethnic mix in the schools we sampled. These points will be taken into account in our future work.

6. About half a century ago, ancestral African populations living traditional lives showed a low mean BP with little or no increase with age (Shaper AG et al. East Afr Med J 1969, 46:273-81). So this physiological process may not be applicable in all populations. Nevertheless, the text on increase of BP with age has been removed.

7. Unfortunately, we don’t have information on other factors such as social status and therefore were unable to determine whether these factors could explain the variations in BP. Nevertheless, the available data were sufficient to answer our key research question i.e. to assess BP patterns among adolescents from different ethnic backgrounds, and to determine the association of BP with BMI.

Reviewer 2: Dr Kotsedi Daniel Monyeki
We thank Dr Monyeki for finding our work important and for providing useful comments.

Major comments
1. We presented the age specific mean SBP and DBP because the mean and median values were similar in all groups.

2. Height was measured without shoes with a measuring tape to the nearest 0.01 metre. Weight was measured to the nearest 0.1 kg after removal of shoes, jackets, heavy clothing and pocket contents (using an Electronic Korona Profirmed scale). Physical activity was based on the frequency of leisure time physical exercise per week outside of school. Physical activity was based on the frequency of leisure
physical exercise per week outside of school. The same trained final year medical student made
anthropometric and blood pressure measurements in all schools. These points have been emphasised in
the methods section accordingly.

3. Unfortunately, we don’t have valid data on socio-economic status. Traditional lifestyle has been
clarified in page 7, 2nd paragraph.

4. We agree with reviewer that data on hypertension and overweight/obesity status could be
interesting to the readers. We have therefore provided these additional data in table 1 and figure 4a
and 4b.

Minor comments
1. Page 4, Study design: The total number of schools eligible for selection has been provided.
2. Unfortunately there was no stratification of schools by different ethnic groups during sampling.
3. No, the children are not allowed to take alcohol during school hours in Suriname. This was
emphasised in line with the protocol of BP measurements.
4. The information on heart disease was provided by the pupil. We don’t have any further
information on how this was diagnosed since we didn’t have access to medical notes. This has been
emphasised.

Page 6
1. Results - The sentence has been rephrased.
2. Paragraph starting with “Figure 3a and 3b show mean…” has been adjusted.

Page 7, line 7-12
1. Unfortunately, we do not have data on energy intake.
2. Physical activity levels have been provided in table 1.
3. Second paragraph - line 1: The reference has been inserted.
4. Table 2: we have provided 95% confidence intervals for table 2.

Page 8 - Conclusion section: No, the adult populations were not studied.

Reviewer 3: Dr Bonita Falkner
We are very pleased that Dr Falkner finds our result interesting, important and novel, and for
providing very useful comments.

1. We thank Dr Falkner for this important point. Unfortunately, we don’t have data on diet and other
lifestyle factors of the adolescents prior to moving to the capital city. However, it is well established
that the Maroon people in the Suriname interior still live a traditional African lifestyle with female
subsistence horticulture, and male hunting and fishing. In addition, most Maroon villages are located
along the rivers of the interior of Suriname and access is heavily dependent on canoes and other
watercraft. The consequence of this is the decreased consumption of less energy-dense foods
complemented by more energy-demanding jobs. These points have been emphasised in the
discussion section (Page 7, paragraph 2).

2. Again, this is a very interesting and important point. Unfortunately, we don’t have evidence to
indicate that lifestyles between the adults and adolescents of the Asian group have changed which
might explain the high BP in children. However, it is possible that this might be the case. Further
study is therefore necessary. This point has been addressed in the discussion section (page 8, 3
paragraph 3, line 6-8).

Reviewer 4: Dr Giovanni De Pergola
We thank Dr De Pergola for finding our study interesting, well performed, well written, and original.