Author's response to reviews

Title: Prevalence of Cardiovascular Risk Factors across Six African Immigrant Groups in Minnesota

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### Reviewer: 1

1. Although information on these increasing African populations in the US are lacking, the currently data based on self-reported data particularly on hypertension and diabetes may give false impression about the magnitude of the problem among these populations as the authors rightly alluded to. To make a firm conclusion about the status of CVD among US African migrants, they need more objective measures on both hypertension and diabetes. I find the authors conclusion from these self-reported data that ‘The implication of this study is that African immigrants taken as a whole in the United States appear to have lower prevalence rates for CVD risk factors and health behaviors than U.S born populations’ very dangerous and might dissuade policy initiatives desperately needed on these populations. In fact, on the contrary, a recent report by: Commodore-Mensah et found that the overall prevalence of hypertension among African migrants (Nigerian & Ghanaians) in the US was 53% (males (46%) and females (57%)) (Circulation. 2014; 129: AP176: http://circ.ahajournals.org/content/129/Suppl_1/AP176.abstract?sid=a4311631-55b2-4a28-90cd-O'Connor MY E et al also found that blood pressure, fasting glucose, and 2-hr glucose were higher in the African immigrants than African Americans in the USA. (Metab Syndr Relat Disord. 2014 Aug;12(6):347-53).

This is a good point raised by the reviewer. However, we think there are likely regional differences in the health profile of African immigrants partly based on the socio economic status of those included in the studies being cited which is also related to how people got here. The SES and health profile of refugees will likely be different from those of “voluntary” immigrants. The majority of our sample are immigrant refugees. We have a very small population from Nigeria or Ghana in our study sample. The 2014 circulation study cited by the reviewer includes immigrants from Nigeria and Ghana that are hardly represented in our sample. Under the section: *Immigration-related factors and socio-demographic characteristics*: we have added the following sentence for clarification:

About 65% of our participants were from the East African region specifically from Somalia and Ethiopia.

In the discussion we have qualified our use of the term “African immigrants” to East African immigrants in the context of our sample population.

We have included both citations (12 and 14) in the introduction section mentioning the differences.


We have a very small population from Nigeria or Ghana in our study sample. The studies cited by the reviewers include immigrants from Ghana that are hardly represented in our sample. However, in the Discussion section we have included the following sentence:
However, several other studies have shown different results. Commodore-Mensah et al. found hypertension prevalence of 53% among Ghanaian & Nigerians (West Africans) in the Washington area in the US. [12]. Goosen et al. showed a higher prevalence of diabetes in Somali immigrants in the Netherlands compared to other populations [20]. These variations in cardiovascular risk factors among immigrants from different locations and different immigration histories warrants further exploration.

**Reviewer: 2**

<table>
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<th>Responses</th>
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<tr>
<td><strong>1.</strong> How did you define public and private insurance? Did you learn whether insurance was purchased on the exchanges or employer based? Did you get a sense of what types of jobs people have or is there some info available about this?</td>
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<td>The comment on exchanges would not hold for our study as healthcare exchanges did not exist when the data were collected. However, we have stated clearly what we mean by public and private insurance under the section: <em>Immigration-related factors and socio-demographic characteristics</em> ; Private insurance was defined as health insurance obtained by participants as a result of their work place, while public insurance is one that participants obtain from the state given their immigration and or economic status.</td>
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<td><strong>2.</strong> Can you comment a bit more on the Liberians? They seem to have a more unhealthy profile regarding weight and more financial stress. They also appear to have high rates of private insurance, so also employed? Could it be that their exercise habits reflect medical guidance?</td>
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<td>We looked at employment data and found nothing significant. However, we can only speculate along the lines suggested by the reviewer.</td>
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<td><strong>3.</strong> Somewhat related, do you think persons who are survivors of torture or former refugees/asylum seekers are more likely to have received medical care and thus more exposed to exercise and other CVD risk reduction advice? It might help to have a little more info about the ways in which person’s form these countries came to the US.</td>
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<td>We did not ask about experiences of torture or trauma and so while it is an important topic, we cannot comment. We do think that while the survey did not ask about immigrant versus refugee status, there might be likely variations.</td>
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