Reviewer's report

Title: Assessing the Healthy Immigrant Effect for Older Chinese Immigrants: A Cross-sectional Study

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Reviewer: Gordon Fung

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Review:

1. Is the question posed by the authors well defined? Yes. The question was well formulated and the research design was appropriate to answer the question.

2. Are the methods appropriate and well described? The actual detailed description of the methods and study population was referred to in 2 other articles and not summarized in this article. As I was unable to review those articles, there were questions about the specific results and criteria used to conclude.

a. The first question was what period of time was the study? This is important since in 2010, the “Asian” population by the CDC were the first population to have a change in the leading cause of death from cardiovascular disease to CA. So that if the definition of healthy was the absence of disease, was adequate CA screening performed to determine if the most common types of CA were absent.

b. The second question was the actual definition or criteria used to determine “healthy”. The conclusion of “healthy older Chinese” had less asthma and CVD needs to compared to the actual criteria used. The American Heart Association spent 2 years developing the criteria of optimum, intermediate, and low cardiovascular health based on 7 criteria. Of note only 3 of 1500 people in a particular study achieved optimum cardiovascular health with all 7 criteria met. None of the 7 included asthma or stress or actual cholesterol levels or inflammatory markers, so it would be important to know what the actual definition of healthy was or criteria were.

c. Another question that I had was the location sites chosen for the study. It has been shown that being located close to the freeway with elevated environmental pollution is associated with higher incidence of cardiac events and CVD. Although it would affect both the Chinese and non-Hispanic white population equally, it is not clear if the entire study population was at higher risk than the average population of the city that included people not proximal to freeways.

d. Another question that I had was the diversity of the population of these communities. I saw in the references that the MESA trial was used as a reference. Were there other ethnic populations that could be included in the data analysis? I question this for two reasons: one is that the majority population of non-Hispanic whites is already no longer the majority population in other areas of the US so using the white population as the reference population may not be
meaningful. Secondly, elderly Chinese may not be as willing to be as active walking in the community in very diverse locations. (that is certainly the sense I get from casual surveys in my clinical practice).

e. Although there was no comparison of obesity or excess BMI, I wondered what classification of BMI was used? WHO uses a separate criteria for obesity for the East Asian population with the category of obese being > 27 and overweight being 24-27 BMI as opposed to the Framingham criteria with obese > 30 and overweight > 25 – 29.9. This would certainly play a factor in the “health” of the Chinese compared to the non-Hispanic white.

f. Another question was whether the stress study instruments were all validated or if the participants were just asked if they were under stress or on tranquilizers? Also, if depression screening was performed by qualified personnel? Since mental health is poorly understood and admitted to in the Chinese population due to the stigma, actually detecting stress and depression would be a significant challenge. From informal conversations that I have had with my local mental health specialists in my area, I have been told that there are no validated depression or stress survey instruments for the Chinese to date (albeit a few years ago).

g. It was mentioned in the article in the limitations that which part of the China – even rural vs metropolitan – the participants came from was not gathered, so unknown. This is particularly important to put the conclusion into perspective for the more recent immigrants since the pollution of China – especially in the metropolitan areas has been reported as among the worst in the world. One wonders whether the cleaner air of Boston could affect the rate of asthma or asthma exacerbations.

3. Are the data sound? This was a small population study with a limited number of participants as noted in the limitations portion of the study. So this affects the data. Also, all diseases are self-reported. This is particularly challenging for patients who might have heart failure and angina. It has been said that the Chinese are a model minority since they don’t complain of symptoms and mainly try to compensate for their exertional symptoms by decreasing their activity especially for angina and heart failure. So the actual detection of disease by symptoms may be significantly underestimated. Also, because of this, the actual prevalence of diabetes may be underreported as the prevalence of reportable symptoms are less and recently reported the actual A1c criteria should be modified to be set at > 5.8 for the diagnosis of diabetes in Asians. All the other measured parameters are fine as there have been no literature to designate any ethnic disparities with those measurements.

4. The manuscript does adhere to relevant standards for reporting and data deposition. I could not interpret or understand the findings in figure 2 even with the interpretation in the results section of the manuscript.

5. The discussion and conclusions do not include any of the points of known ethnic disparities reported above. This is important to include to put the findings into perspective and be able to apply it to other populations of Chinese across the US. Otherwise the data do support the findings.
6. The limitations are clearly stated in the discussion section of the manuscript.
7. The authors also clearly acknowledge previous published work in the area of study. There was no mention of unpublished work.
8. The title mainly describes the type of study and the study question not the findings. The abstract does accurately convey the findings.
9. The writing is acceptable.
10. There are no major compulsory revisions for this paper.
11. I consider my questions and comments in the discretionary revisions category that would be helpful to readers to put the findings into better perspective.
12. I would recommend reconfiguring figure 2 or explaining it better.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests.