Reviewer’s report

Title: Prevalence, Determinants and Association of Unawareness of Diabetes, Hypertension and Hypercholesterolemia with Poor Disease Control in a Multi-ethnic Asian Population Without Cardiovascular Disease

Version: 0 Date: 28 Apr 2019

Reviewer: Matthew Zack

Reviewer's report:

The authors studied 6,904 adults participants in Singapore enrolled in a cross-sectional study of the epidemiology of eye diseases to determine the prevalence of unawareness of diabetes mellitus, hypertension, and hypercholesterolemia among those without any of these conditions or cardiovascular disease and the relationship of this unawareness with poor control of these three diseases. The authors also studied the relationship between this awareness and other potential demographic confounders and risk factors.

The authors found that awareness of the three diseases was better in older participants, Indian participants, and those with awareness of other conditions but worse in younger participants and Malay participants. Increasing body mass index improved and current smoking reduced awareness of hypertension and hypercholesterolemia. Awareness of hypertension and hypercholesterolemia improved clinical control of these diseases but awareness of diabetes mellitus seemed to worsen clinical control of diabetes mellitus.

The authors recognize strengths of their study--its large, population-based design with standardized assessment of the three diseases under study and the collection of information about other demographic confounders and risk factors. The authors also specify the study's limitations--the lack of a longitudinal design, lack of data on information-seeking behaviors, and protocol processes that may have underestimated awareness of the three disease conditions.

The authors should also discuss two other limitations of their study methods:

1. It is unclear what are the test characteristics (sensitivity and specificity) and the test performance (predictive values of positive and negative tests) of the authors' questions on unawareness of diabetes mellitus, hypertension, and hypercholesterolemia.

For example, it is difficult to believe that participants who reported taking medications for diabetes mellitus, hypertension, or hypercholesterolemia were classified in this study as being unaware that they had those conditions. In the Discussion section (lines 342-346), the authors admit that
participants who took medications for hypertension and hypercholesterolemia were more aware of their conditions than those who did not take such medications. Perhaps the authors should recast their conclusions about unawareness by emphasizing that specific medication use implies awareness even if the participant cannot articulate that awareness (cf., make Supplemental Table 3 more prominent in the Results).

2. The authors’ explanation about why awareness of diabetes mellitus was associated with worse control of their diabetes mellitus (lines 315-326) is unconvincing. The difference in HbA1c levels between participants who were unaware of their diabetes and those who were aware of their diabetes is small, and nowhere near the levels when diabetes symptoms get "dangerously high".

Level of interest
Please indicate how interesting you found the manuscript:

An article whose findings are important to those with closely related research interests

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.
I declare that I have no competing interests. 
I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published. 

I agree to the open peer review policy of the journal