Author’s response to reviews

Title: Cardiovascular risk factors and memory decline in middle-aged and older adults: The English Longitudinal Study of Ageing

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Version: 2 Date: 14 Oct 2019

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Tovah Honor Aronin, PhD
Editor-in-chief
BioMed Central, USA
October 2019
Ref: BGTC-D-18-00459R1
Title: Cardiovascular risk factors and memory decline in middle-aged and older adults: The English Longitudinal Study of Ageing

Dear Editor,

Thank you so much for giving us a new opportunity to send a revised version of the manuscript entitled “Cardiovascular risk factors and memory decline in middle-aged and older adults: The English Longitudinal Study of Ageing”.

Please find below editors’ comments in bold and our point-by-point response in regular typeface.

We hope that this new revised manuscript proves satisfactory to you.

Thank you for the opportunity to improve the manuscript. We look forward to hearing from you.

Yours sincerely,

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Editor’s Comments:
As reviewer 2 was not available to evaluate your revision, and reviewer 1 has returned a report which is somewhat negative regarding your revision, we sought further advice from a member of our editorial board. In general, they are positive about your submission, however, they do support some of reviewer 1's comments, and they suggest that you make further revision to your analysis, as outlined below.

Comment from Editorial Board Member:
One comment- referring to the following comment of reviewer 1: "It is odd that the authors use reported number of prior cardiac events (CVDs) as a covariate and adjust for it. Why would this information not have been used in the CVRF score?" The authors provide a rational for that. Still, cardiovascular risk factors (CVRF) are correlated with cardiac events (CVD) so correcting for CVD may attenuate the association of CVRF with cognition. I would suggest to repeat analysis on the association of CVRF on decline in cognition without correction for CVD. This could become a supplemental table (and figure).

Re=We are grateful for the editor’s comment. Following his/her suggestion, we re-run the adjusted models for middle-aged and older adults (shown in Table 2) but excluding the variable “number of cardiovascular diseases” from the analysis. Results are now shown in a supplemental table. As can be seen, results from adjusted models with and without CVDs are practically identical.

We added the following sentence in the Methods section (pages 7 and 8):
Since CVRFs are highly correlated with the presence of CVDs, adjustment for CVDs may attenuate the association of CVRF with cognition. Thus, we also calculated the adjusted models excluding this variable (see Supplemental Table 1).

And in the results section:
The exclusion of CVDs from the adjusted models yielded similar results, as can be seen in Supplemental Table 1.

We added a Supplemental Table 1 at the end of the manuscript.