Reviewer's report

Title: Driver self-regulation and depressive symptoms in cataract patients awaiting surgery: A cross-sectional study

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Reviewer: Alex Black

Reviewer's report:

This is an interesting study examining the associations between the driver self-regulation and depressive symptoms in a cohort of older adults awaiting cataract surgery. In general, the research question was well defined and the study conducted was appropriate. However, there are some minor and major significant revisions required that should be addressed by the authors.

Minor Essential Revisions:

Page 10: Please clarify what is meant by "better depressive symptom scores" – do you mean less depressive symptoms?

Methods: For the vision measures, did the authors consider testing peripheral visual field sensitivity? Cataracts create a generalised depression in the sensitivity of the peripheral visual field, and visual field measures have been linked to driving restriction and cessation in previous studies (e.g. Keay 2009). Was any consideration given to collecting data on recent motor vehicle crashes, given the possible links between MVCs and driving restriction?

Methods: Please specify testing distance for the ETDRS and Pelli-Robson charts, as well as the scoring procedure used.

Discussion, 3rd para: While the present study did not find any association between self-regulation and older age or gender, the sample size of the present study is rather small, when compared the larger population studies which did find these significant differences. As such, limited conclusions can really be drawn from the small sample presented in the current study.

Discussion, 4th para: Are the authors suggesting that the self-regulation measured in the present study is an "involuntary" restriction of driving?

Discussion, 6th para: It is more likely that the study design, rather than the sample size, meant that longitudinal changes in self-regulation and depression could be addressed. Also, can the authors provide any support for the comment relating to the over or under-reporting of the DHQ items?

Major Compulsory Revisions:

Introduction: Please comment on the ability of older adults to appropriately self-regulate their driving. For example, drivers with poor vision who don't self-regulate may be considered dangerous, while those with better vision who overly self-regulate may be overly cautious. The issue of appropriate
self-regulation is less likely to occur among those with any cognitive impairment.

Statistical analysis: For the linear regression models, it is assumed that the confounding variables were included in the multivariate analyses regardless of their statistical significance. Given the small sample size, it may have been prudent to minimise the confounding factors to those which due actually potentially confound the relationship between depression and driving self-regulation. Also, given that the visual function measures are generally highly inter-correlated (particularly the central vision measures of visual acuity and contrast sensitivity), I would suggest selecting one or two visual function measures, rather than enter them all into the model. The current model suggests that reduced visual function in this cohort is not related to their depressive symptoms.

Discussion, 2nd para: I disagree with the authors’ statement that the data presented shows that older drivers with visual impairment may be aware of visual problems, and hence appropriately self-regulate. Given that there were very little differences in vision measures between the two groups (and importantly, no differences in the binocular vision measures, which are more likely to represent driving vision), then there is no indication in the data to suggest that greater vision loss, or greater awareness of vision loss, is associated with greater self-regulation in this cohort.

Discussion, 3rd para: More discussion is required relating to reduced contrast sensitivity and self-regulation. There is no mention of the fact that neither the better-eye, nor binocular measures of contrast sensitivity were significantly different between the two groups. Keay 2009 reported significant findings using the better eye measures (which are generally highly correlated with binocular eye measures), and found that CS was a significant predictor of driving restriction/cessation, yet this wasn’t found in the present study.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests.