Reviewer's report

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

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Reviewer: Franziska G. Rauscher

Reviewer's report:

The current manuscript investigates the question of driving self regulation and associated depressive symptoms. They stress that research previously has shown that “perceived control” may be a regulatory factor as to why subjects develop depressive symptoms after restriction of driving or driving cessation (by choice versus involuntary). The manuscript is clearly written and is of great interest to research within this specific field as well as to researchers and government bodies outside this specific area, as it will influence directly how regulations should be made in the future. The population across the world is getting older with the current generations (broad availability of driving licences) depending greatly on mobility; the association with quality of life has been shown.

Compulsory revisions

Methods:

1. Page 6 second paragraph: the study design is well chosen with interesting data (page 6-8) collected a week before first eye cataract surgery. However, a direct influence on the depressive symptoms (if caused by driving cessation or restriction of driving due to visual symptoms) must be the time waited, i.e. the time surgery was “necessary” based on visual symptoms but subject spent on the waiting list. Here it is necessary to include the time waited for first eye surgery and the stage of cataract of both eyes (e.g. LOCS III scale (see pdf attached), Lens densitometry (grey level http://www.cnpg.com/Video/flatFiles/1462/index.aspx), C Quant straylight meter) when describing the participants and when discussing the results later on. Page 10 first sentence of discussion also needs to mention the length of time waited.

2. Page 7 first paragraph: Please present a comparison of subjective answers of the questionnaire with objective data obtained from the medical records reviewed. This not only validates the questionnaire used for other studies in future where those hard facts/ objective data is not often available (impact of the current manuscript), but it also underlines subject’s subjective answers on the other instruments employed.

3. Page 7 third paragraph: please explain the MMSE by highlighting the data obtained and how it could be of use to the research question, e.g. how were the results later used in the analysis. Especially as this is an Ophthalmology Journal the reader may not be familiar with this instrument.
4. Page 8 thirds paragraph: there is a correlation between binocular visual acuity and binocular contrast sensitivity with the same measurements taken of the better eye. This is an important finding and although it is logical to most eye care practitioners it would be helpful to state some of the statistics here to back it up as this finding would be beneficial for citation in quality of life studies. Additionally, the current manuscript needs to build on this finding by including references to the better eye in the calculations as this is what influences perception of the subject overall. Therefore, if the better eye deteriorates further this might be an indicator for a jump in depressive symptoms, a connection to be looked at in longitudinal studies (which this manuscript could highlight in the conclusions) as this may help current movements to promote earlier cataract surgery (see EVER symposia 2012 and 2013 both organised by Ralph Michael), improving quality of life.

5. Page 9 Table 1: Please include into the table the time waited for cataract surgery of the first eye and a measure describing the cataract severity (e.g. LOCS III scale (see pdf attached), Lens densitometry (grey level http://www.cnpg.com/Video/flatFiles/1462/index.aspx), C Quant straylight meter).

Conclusion

6. Page 13 second paragraph: Very interesting study and important conclusion! Just one more question to incorporate in earlier sections perhaps: is it possible that depression is associated to decrease in vision and not related to driving restriction? If depressive symptoms were grouped for “vision of better eye” would the results show that subjects with worse vision were at the lower end of the depressive scale independent of driving experience? What about a comparison sample of non-drivers with equal vision restriction?

7. Table 2: Would regression analysis look differently if cataract severity based on independent measure was introduced into the analysis. Alternatively subjects can be looked at grouped based on their cataract status (based on some independent measure). Can a separate analysis be done to look at the effect of vision loss on depression directly, independent of self-regulating driving?

Essential revisions:

Background:

1. Page 4 second paragraph: It is not obvious why stereopsis should be influenced by cataract (unless one eye has end stage and the subject becomes monocular?), please include a reference why stereopsis can be affected by moderate forms of cataract (i.e. prior to surgery in western nations).

2. Page 4 second paragraph: Please include the reference for the statement that cataract may lead to difficulty when driving at night, or explain it further.

3. Page 4: end of second paragraph. It is not clear from your sentence whether this refers to waiting for surgery of the first eye, or waiting for surgery of the
second eye (see also later comment on visual acuity of the better eye influencing binocular vision, regarding page 8 third paragraph and comment regarding table 2 and regarding conclusions).

4. Page 5 third paragraph: please include a half sentence after reference 25 is quoted to briefly describe by what means this was established in the cited paper, otherwise the relationship top the current manuscript is unclear. The reader cannot be asked to search for all the cited work before being able to make this connection.

5. Page 5 fourth paragraph: Include a sentence to alert the reader that it is important to adjust for depressive symptoms based on other factors or confounding factors such as age.

Methods:


7. Page 8 third paragraph: “co-morbid eye condition”: please explain the difference between this sentence and page six final paragraph where you stated that “other significant ocular conditions” were excluded. Which of the ocular conditions were allowed into the study sample and therefore were controlled for as confounders?

Discussion

8. Page 10 second paragraph: analogue to Page 6 second paragraph: please include statement on "time waited for cataract surgery".

9. Page 10 second paragraph: include information from the methods here again “….measured at one week prior to first surgery, ....”

10. Page 10 third paragraph: reference 13 and 34 present important findings, please include a half sentences each on which measures were used there and if they are therefore comparable to the current manuscript.

11. Page 11 second paragraph: data of the current manuscript presents a correlation of poorer contrast sensitivity in the worst eye with self-regulating in the tested subjects. How significant is this, though, as the better eye’s vision relates to binocular visual status. Please state the influence of the worst eye with respect to the research question more clearly. Reference 28 and 29 indeed identify contrast sensitivity as an important measure for driving reduction, however, this however may relate to the better eye (independent of visual attribute investigated, it is always the better eye which relates to the result found in binocular vision, which is why binocular vision can be regarded as an adequate screening tool for quality of vision related to quality of life).

12. Page 11 third paragraph: confounding factors: please include in methods how potential confounding factors were controlled for.
13. Page 11 thirds paragraph: how did references 11,17,125 measure negative psychological effects, possibly include half sentence “…with comparable measures to the current study protocol.”

14. Page 11 third paragraph: Is cataract perceived as such involuntary restriction of driving?

References:

15. Page 15 ref 11 Charlton et al: is this published? If yes, where, Vol, pages?

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

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests