Reviewer's report

Title: A Prospective, Longitudinal, Observational Cohort Study Examining How Glaucoma Affects Quality of Life and Visually-Related Function Over 4 Years: Design and Methodology

Version: 2
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Reviewer: Hiroshi Murata

Reviewer's report:

First of all, I believe this study is well designed and what the authors aimed to elucidate is novel. However, I would like to raise some minor concerns.

1) The patients enrolled in this study had minimum 2-year diagnosis of glaucoma, so I think they had undergone at least one VF test before they were enrolled. However, because of learning effect of VF test, the number of VF tests, before they enrolled, should be referred to.

2) The age of the patients ranged from 21 to 85; therefore some of them might have suffered from dementia. Neurological disease, which is included in the exclusion criteria, may include it, but I still believe the authors should refer to dementia in Table 1 because it would have affect not only the QoL (or VRQoL, and so on) of the patients but also the accuracy of the results.

3) Page 8, line 184: Time is treated as a categorical data in this study, according to the manuscript, but I am wondering why it is not treated as a continuous variable. As far as I know, visual field impairment associated with glaucoma is irreparable, which means it is progressive. So I could not understand the rationale of treating it as a categorical variable ignoring the time course deterioration of visual field defect.

4) Page 9, line 199-201: I could not understand this sentence. For example, what “extension of GCMM” means and how it contributes to “multiple outcome trajectories.” I suppose that the authors employed an extended GCMM model for multiple outcome trajectories somehow. Please clarify and elaborate this sentence.

5) Page 9, line 208-210: The authors calculated confidence interval based on a linear model. However, with reference to page 8, line 183-184, linear and quadratic curves are also employed. I understand that quadratic regression (second order linear regression) is a kind of linear (as in linear algebra) regression, but I think it is somewhat confusing for some ophthalmologists.

I recommend that the authors should discuss the usefulness of employing non-linear regression in page 8; otherwise this sentence should be deleted.

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

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

Declaration of competing interests:
No competing interest.