Reviewer’s report

Title: Simulation training in vitreoretinal surgery: A systematic review

Version: 0 Date: 31 Dec 2018

Reviewer: S. Swaroop Vedula

Reviewer's report:

This seems to be an interesting study, but I have some major concerns that I’ve listed below.

1. I wonder whether the authors are trying to conflate quality with risk of bias or they are ignoring risk of bias. I think using MERSQI to evaluate studies in this systematic review defeats the purpose of the effort. MERSQI does not capture what is important in the context of a systematic review because it does not adequately capture an assessment of risk of bias. Of note is the fact that MERSQI was developed in the context of "quality of studies" and its association with study funding and not as a method to be integrated with systematic reviews. For example, if we applied MERSQI to the current manuscript then we will have some score. But what is important to me, and I imagine to other reviewers and readers as well, are details such as review of title/abstracts and study quality by a single author, unclear eligibility criteria, etc. These are examples of details that matter to me when I try to decide whether your findings are likely to be biased, and if so then by how much and in what direction. These are overlooked by MERSQI because its purpose is different. I’m not convinced that MERSQI is the correct methodology to use here. I would stick with risk of bias assessments described in the Cochrane Handbook for Systematic Reviews of Interventions for the purpose of a systematic review. Note that there are methods for both randomized and non-randomized studies.

2. The aim or objective of the systematic review is rather vague. What did the authors want to investigate in the current literature on simulation and training for retinal surgery?

3. The Methods section now includes results, specifically about what studies were excluded. These details belong in the Results section.

4. Exclusion criterion pertaining to studies on training curricula is confusing because reportedly, Grodin, et.al., is included but evaluated a training curriculum.
5. What are the outcomes evaluated for this systematic review?

6. Title/abstract review and evaluation of studies was done by a single author. I appreciate the transparency in reporting this detail, but it is neither standard practice nor reassuring about methodological rigor. I don't see what reasons might preclude independent assessment by two individuals.

7. The use of a score to summarize "quality" of studies in a systematic review is primitive. Please see the Cochrane Handbook for related literature. See my note above on using MERSQI for systematic review purposes. Furthermore, while the score for the MERSQI scale was shown to be reliable for a small number of raters, who were also involved in developing the scale, its reliability in any other sample of raters remains unknown.

8. This study is a potentially useful catalog of studies evaluating simulation for training in retinal surgery. But its current format for presentation, with a summary of each included study, is not useful. I would ask that the authors consider additional ways to synthesize data from the included studies, perhaps along concepts described in the data simplifications section.
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

No

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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