**Reviewer’s report**

**Title:** Mentored peer review of standardized manuscripts as a teaching tool for residents: a pilot randomized controlled multi-center study

**Version:** 0 **Date:** 08 Jan 2017

**Reviewer:** Ana Marusic

**Reviewer's report:**

This is an important study that demonstrates that training in peer review and research methodology could be implemented in residency programme in order to increase competencies for critical assessment of evidence and evidence-based practice.

Unfortunately, the pilot randomized controlled trial described in this study did not demonstrate the effectiveness of the education intervention in relation to the primary outcome of the study. However, it would be important to publish the study so that future trails could be better planned.

It was difficult to assess the manuscript in some places, as the CONSORT checklist was missing - I would suggest that the authors submit the checklist with the revised manuscript, so that there is full information on the trial. For example, the sample size calculation was not addressed, so it is not clear whether the study had enough power to detect the effect of mentoring.

I have several comments regarding the methodology and presentation of results - they are listed below in order of their appearance and not importance:

1. Abstract, page 3, lines 51-58: Significant results are only for secondary outcomes, ie. satisfaction with the intervention - this should be clearly stated here.

2. Methods: Description of important aspects of the trial have not been described in detail, so it is difficult to assess them, such as sample size, methods for sequence generation in randomization, mechanism used to implement the random allocation sequence, including who who generated the random allocation sequence, as well as who enrolled participants, and who assigned participants to interventions.

3. Methods, page 7, lines 1-15: The description of the manuscript used for peer review and the introduction of errors were not described in sufficient detail. Were these manipulated manuscripts pretested with experts to make sure that the errors are discoverable and logically introduced. This could be explained in more detail on the Additional file 2 (currently this document only states which items in a reporting guidelines were altered, but not what kind of alteration this was).
4. Methods, page 6: I don't see the value of Figure 1 - it does not add important information, and the course is well described in the text.

5. Methods, page 7: Were the knowledge tests identical to those published previously in cited literature? If now, they should be provided as an additional material to this manuscript.

6. Methods, page 8, lines 21-45: The authors used means and standard deviations as measures of central tendency and variability, but then they use a non-parametric statistics for comparisons. Where the data normally distributed? If so, why then a parametric statistics was not used? The use of Cronbach's alpha for inter-rater reliability is not a usual measure - kappa statistics would be more appropriate, as Cronbach's alpha is usually used to test the reliability of an instrument. The values for inter-rated reliability should be reported in Results.

7. Table 2: Although the numbers in groups are small, it would be useful to provide percentages for the groups and not only for the total column.

8. Results, page 12, line 46-48. The number of mentor-mentee meetings is presented as mean and standard deviation, but it would be more useful to present it as a median or as some categories, such as how many residents had more than 2 or 3 such meetings.

9. Table 3: The headings for the first part of the table are missing.

The authors have addressed different biases of the trial; sample size and other methodological aspects that have not been described in detail should also be addressed in the revised manuscript. It would be useful to discuss what should be the focus of future studies, including methodological approach.

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