Reviewer's report

Title: Figure Interpretation Assessment Tool-Health (FIAT-Health) 2.0: from a scoring instrument to a critical appraisal tool

Version: 0 Date: 24 May 2019

Reviewer: Damir Sapunar

Reviewer's report:

The manuscript deals with important and interesting question on figure interpretation with the overall goal of developing tool for systematic assessment of figures in healthcare. Unfortunately, the main objective of the manuscript is not achieved due to lack of statistically valid evaluation of the results, i.e. appropriate qualitative data analysis was not provided. The conclusion that "most users make critical and systematic assessment of figures, using similar consideration as experts" is not proven. In addition, the manuscript in burdened with numerous unclarities and confusing usage of certain phrases (e.g. "motivate assessment"). Also there are numerous questions that needs to be addressed.

What is meant by "publicly reported" figures? Figures from primary publication are also publicly available. What was the difference between figures in primary publication and publicly available ones? The figures used in the study are relatively simple ones. It would be more appropriate to have combination of complex and simple figures.

It is not clear from which healthcare institutions participants are coming from? What is their background, training, current position in institution? All these elements can influence their expertise in figure evaluation. It is not clear why participants did not assess all four figures? It is not clear what was expected from comparisons of participants with experts? Since, the experts are considered as gold standard we can only expect the participants won't achieve their expertise in figure evaluation. The more appropriate analysis should include two groups of participants, one assessing figures with assessment tool and one without it, and finally comparing the results with expert opinion (e.g. gold standard).

The number of included participants is confusing. The whole section on Participants and recruitment needs to be reformulated in order to make it clear how many participants were included. It is not clear how the e-mails of participants were obtained.
The number of participants in user groups is very small. This fact calls for sample size determination in order to justify number of included participants.

Figure 2 lacks gray bars mentioned in figure legend.

Due to all these problems, the manuscript is not acceptable for publication in a current form.

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

Quality of written English  
Please indicate the quality of language in the manuscript:

Not suitable for publication unless extensively edited
Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

No conflict of interest

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal