Author’s response to reviews

Title: Effects on postgraduate-year-I residents of simulation-based learning compared to traditional lecture-style education led by postgraduate-year-II residents: A pilot study

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Version: 1 Date: 02 Feb 2019

Author’s response to reviews:

Mr. Sören Huwendiek
Editor
BMC Medical Education

Dear Editor:

We are very grateful for your review and sincere suggestions. Accordingly, we have revised our manuscript entitled, “Effects on postgraduate-year-I residents of simulation-based learning compared to traditional lecture-style education led by postgraduate-year-II residents.” The answers to all the reviewers’ comments are listed below.

Additionally, please note that our work was supported by JSPS KAKENHI Grant Number 18K10002, not 15K08551.

I look forward to hearing from you.

Sincerely,
1. In the methods part there should be information on the validity evidence of the used questionnaires.

Response 1: Thank you for this comment. Because there is no previous research similar to our study and goal, we needed to create new questionnaires for evaluating the effects. First, we developed a prototype of the questionnaires by referring to several papers related to peer-assisted learning, simulation-based learning, and self-evaluation. Second, they were piloted by a few residents and examined studiously by several experts in medical education. Then, we created the questionnaire we used in our study. Please refer to line 153-154 in page 10.

2. Possible shortcomings with this aspect should be also addressed in the limitations paragraph.

Response 2: Thank you for identifying this point. In our study, our questionnaire was limited in terms of its validity in the course of its creation. Accordingly, we mentioned this limitation in the relevant place. Please refer to line 334-337 in page 21.

3. Why is the following item negatively formulated (this may cause misunderstandings): “Did you get no stress by receiving simulation/lecture?”.

Response 3: Thank you for this question. In our original questionnaire, this item read as “Did you get stress by receiving simulation/lecture?” We had modified this item to connect it with positive data as the numbers are large. However, based on your comment, we have reverted to the original wording. Please refer to Table 3 and 8.

4. Begin the discussion rather with a short summary what it is about and what the main results were before going into details and subdividing in the three themes.

Response 4: Thank you for this pertinent suggestion. Accordingly, we added a short summary at the beginning of discussion section. Please refer to line 234-238 in page 15.

5. Another aspect you should address in the limitations paragraph: You did not check objective parameters in behavioral change, this has to be included.

Response 5: Thank you pointing out this omission on our part. We have thus added the limitation that our behavior-change evaluation was based on subjective parameters and not objective parameters. Please refer to line 340-342 in page 21.
6. It should be made clear that the behavior-change evaluation was a questionnaire study (self-judgement) and not something objective.

Response 6: Thank you for pointing this out. Accordingly, we changed the name of the category “self-evaluation and behavior change” to “self-evaluation of competence and behavior-change” to avoid misunderstanding regarding the behavior-change evaluation. Please refer to line 98 in page 6.

7. It is not so strange that the results are similar in objective knowledge tests when comparing lecture vs simulation.

Response 7: We agree with your comment. It is known that simulations led by experts have equivalent effects on knowledge acquisition from lectures. As in the previous report (Gordon et al. 2006), we confirmed that our simulation program led by postgraduate-year-II residents has effects equivalent to knowledge acquisition. Please refer to 241 to 251 line in page 15-16.

8. Utilizes a randomized method is good. Provides description if processes followed.

Response 8: Thank you for this suggestion. We have randomized the postgraduate-year-I residents by their name order in the Japanese syllabary. Please refer to line 106 in page 7.

9. It is not clear if in the lecture there is only a one way communication.

Response 9: Thank you for pointing this out. We have thus clarified that our lecture was a one-way communication in the Methods section. Please refer to line 133 in page 9.

10. However some items in the tools selected for measurement are not common to both (Table 9 & 10). This introduces a selection bias of items. There are items which are applicable to both pedogies but are not present in the lecture. e.g. find a session meaningful, enjoyable. It is not clear if these items were not present in the questionnaire or residents did not mark them. If it was a free response format how were these questions posed to the two groups? This is not clear and can have a bearing as it can introduce bias. Also if it free response then shouldn't the data collected from it be qualitative? Then this raises the questions of methods of analysis, reflexivity and steps taken to minimize bias.

Response 10: We appreciate your advice. The questionnaires in Tables 9 and 10 are free-response questionnaires. We would like to emphasize the bias in the comments of both groups. However, as you advised, these data should not be evaluated quantitatively. Thus, the description of the numbers was removed from both tables.