Author’s response to reviews

Title: Clinical Training: A Simulation Program for Phlebotomy

Authors:

Jun-ichi Taniguchi (tanijun@fc.kuh.kumamoto-u.ac.jp)
Kunihiko Matsui (kmatsui@kumamoto-u.ac.jp)
Toshitaka Araki (t-araki@fc.kuh.kumamoto-u.ac.jp)
Kazuhiro Kikawa (kkikawa@fc.kuh.kumamoto-u.ac.jp)

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Author’s response to reviews: see over
Dear Dr. Lolu da-Silva,

Thank you very much for your work to review our manuscript.

First of all, we should apologize for the delay to submit this revised manuscript again. It took longer time than we had expected to finish the English editing.

Following the referees’ comments, we have changed many parts of the text. Moreover, we have asked English editing for the whole text. Changed parts from the previous version were shown with colored letters. Although many parts were changed from the previous version, we have confirmed that the changed parts had the same meaning as in the previous version what we have intended to say.

Sincerely,
Kunihiko Matsui, MD
Dear Dr Dickmann,

Thank you very much for your comments to our manuscript. Following your comments, we have changed many parts of the text showing below. Moreover, we have asked English editing for the entire text. Changed parts from the previous version were shown with colored letters.

Sincerely,
Kunihiro Matsui, MD

page 5:
The trainee for a physician role could feel realistic tissue and vein wall resistance through the needle [...]  
*unclear...The trainee in the physician role... might be better”*  
We have changed as following: The phlebotomy simulator provided a realistic tissue feel and realistic vein wall resistance that the trainee in the physician role could feel through the needle. (Line 113)

[...] medical school and have passed the national board examination but they have few experience of phlebotomy both to simulator and to person.  
*check use of experience*

We have changed as following: Despite having completed medical school and having passed the national board examination, at this stage residents have had few chances to perform phlebotomy, either simulated or with a patient. (Line 85)

We report here the satisfaction level of this program on the participants, including their direct opinions on the value and effectiveness of the program as an educational tool.  
*check opinions about*

We have changed as following: Thus, in this study we designed a simulation-based education program of phlebotomy for first-year residents and assessed participant satisfaction with the program as an educational tool. (Line 83)

Another issue is the still far fetching interpretation of your results on page 9:  
Our report confirms the important educational effects of this type of training program.  
*This is interpreted too far*  
We have changed as following: Our results suggest that the unique experience of simulation education may contribute to quality improvement of patient care and safety. (Line 227)
I am unclear about the status of the text on page 16. Why would you need this text there?

We had just left for a convenience to edit. We have deleted the whole page of that part.
Dear Dr. Santen,

Thank you very much for your comments to our manuscript. Following your comments, we have changed many parts of the text showing below. Moreover, we have asked English editing for the entire text. Changed parts from the previous version were shown with colored letters.

Sincerely,
Kunihiko Matsui, MD

Abstract Line 33; results should have mean of satisfaction score.

We have changed as following: In general, they were highly satisfied with the education program, with all survey questions receiving scores of 3 or more on a scale of 1-5 (mean range: 4.3 – 4.8), with 5 indicating the highest level of satisfaction. (Line 31)

Line 37 Conclusion: the authors demonstrated satisfaction but did not demonstrate “how it might contribute to improve patient safety…”. Conclusion are over-reaching.

We have changed as following: We demonstrated a high satisfaction level among the participants for this unique educational program and expect that it will improve medical training, patient safety, and quality of care. (Line 37)

Background: line 70: The authors says “recent reports from European…” but yet the article they site is from 1999. I’m not sure there is really literature arguing that students performing procedures causes “psychological damage”. The usual arguments are ethical issues of consent.

We have changed as following and cited some references: It has been suggested that even so-called basic techniques, when performed without adequate training, can do physical and psychological damage to the patient (3). Additionally, informed consent of patients to be treated by clinical clerks would be necessary (4, 5). (Line 68)

Methods Line 135: I see nothing of OSCE in what they describe as OSCE. “They were assessed by themselves whether they were confident enough….” This is not clear. I think the authors mean that the residents judged each other on the skill using a checklist. That process does not make it and OSCE. OSCE are standardized and structured. The suse of a checklist does not make it right.

We have changed as following: 5. Peer assessment (15 min). The quality of each trainee’s blood drawing technique was assessed by their peers based on the same structured assessment sheet used in the previous simulator exercise session (Table 1). This was done prior to the next step of
performing actual blood draws on each other. The results were not collected by the researchers but were used to gauge the confidence level of each trainee’s peers in their ability to properly draw blood. (Line 141)

Line 150 “the questions and the …” refers to results not methods.

We have moved that part to the result section and changed as following: The survey questions given to each participant in this study along with the corresponding results displayed as boxplots are presented in Figure 2. (Line 162)

Results line 159/ figure 2. The figure with results of survey questions does not have clear legend and is not interpretable.

We have changed as following and cited a reference to explain about boxplot: These results were tallied and displayed using boxplots (9). (Line 157)

Additionally, we have changed the legend of the figure 2: Figure 2. Participant survey questions (left) with the corresponding boxplots of the results (right) (n=43) (Line 291)

Line 161. Results of survey reported to 0.02 decimal is detail not supported by the research.

We have changed as following: For example, detailed questions about their impressions produced answers with mean scores ranging from 4.3 to 4.8 on a scale of 5 (5 being the highest level of satisfaction). (Line 164)

Line 163: the survey did not ask questions of did the participant “appreciated [the ability of the model] to simulate the psychological and emotional experiences of their patient.”

We have changed as following: Moreover, for the question regarding their experience as a real practice subject for their colleagues, the trainees were in agreement that it not only improved their blood drawing technique, but it also simulated the psychological and emotional experiences of their patients. (Line 166)

Conclusions, Line 189: over-reaching. The study did not “confirm educational effects…” It showed only that learners were satisfied.

We have changed as following: Our report further shows that this type of program is of great value to the trainees themselves. (Line 190)

Conclusions: line 227: Again over-reaching. The study only shows satisfaction not educational effect.

We have changed as following: Our results suggest that the unique experience of
simulation education may contribute to quality improvement of patient care and safety. (Line 227)