

## PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (<http://bmjopen.bmj.com/site/about/resources/checklist.pdf>) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	Effect of virtual reality simulation training on the response capability of public health emergency reserve nurses in China: a quasi-experimental study
<b>AUTHORS</b>	ZHANG, Dandan; LIAO, Hongwu; JIA, Yitong; YANG, Wenren; HE, Pingping; WANG, Dongmei; CHEN, Yongjun; YANG, Wei; ZHANG, Yin-Ping

### VERSION 1 – REVIEW

<b>REVIEWER</b>	Broccoli, Morgan Brigham and Women's Hospital
<b>REVIEW RETURNED</b>	28-Mar-2021

<b>GENERAL COMMENTS</b>	<p>I think that this is a very interesting question, but the paper is very difficult to read. Overall, there are numerous grammatical errors in the paper. Please proofread thoroughly prior to resubmission. Some additional specific comments:</p> <p>Abstract:</p> <ul style="list-style-type: none"><li>- Methods, line 14: Please reword the sentence “The nurses in the control group received conventional training, while those in the experimental group received virtual simulation training combined with offline training on the basis of the intervention of the control group”. Is “offline training on the basis of the intervention of the control group” the same “conventional training” that the control group received?</li><li>- Methods, line 20: do you mean “operational skills”?</li></ul> <p>Summary box:</p> <ul style="list-style-type: none"><li>- Line 52: what is a “rescue team”? Do you mean medical team?</li><li>- Line 54: your paper is about pandemic response, specifically a respiratory pandemic. Please avoid using the generic word “disaster”</li></ul> <p>Introduction:</p> <ul style="list-style-type: none"><li>- Page 7 Line 15: Again, unclear what “competent emergency rescue ability” means.</li><li>- Page 7 Line 21: Please define “rescue team” or change the terminology. Please do not use “disaster response” if you mean “pandemic response”.</li><li>- Page 8 line 44: The operation and practice of what?</li><li>- Page 8 line 50: Need to describe what an “emergency reserve nursing rescue team” is</li></ul>
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	<p>Discussion:</p> <ul style="list-style-type: none"> <li>- Page 21 line 7: This is a very strong statement. Your data also showed that the control group performed skills better – I wouldn't say that the intervention group "achieved a better outcome" overall.</li> <li>- Page 21 line 24: And what percentage of the control group were satisfied with their training?</li> </ul>
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<b>REVIEWER</b>	Nayahangan, Leizl Joy Region Hovedstaden, Copenhagen Academy for Medical Education and Simulation (CAMES) and the Capital Region of Denmark
<b>REVIEW RETURNED</b>	07-Apr-2021

<b>GENERAL COMMENTS</b>	<p>Thank you for the opportunities to review this paper. I commend the authors for developing a virtual simulation training program for emergency reserve nurses. And have compared their performance with the traditionally trained group. Both training programs were very intensive with the inclusion of theoretical courses, technical skills sessions, and post-disaster teaching. The intervention group performed better than the traditional group. Comments from interviews favoured simulation. It is an interesting read however, I have raised a few questions and comments that I hope the authors will consider and will help improve the quality of the paper. generally, the entire manuscript would benefit from proofreading by an English native speaker. Title is apt.</p> <p><b>Abstract</b> More information is needed in the abstract, especially in the methods section where the conventional training was mentioned however it is not well-defined. What kind of training did they go through? How did you assess them? How were influencing factors gathered? Were there questions pertaining to this in the disaster preparation questionnaire or was this done using another platform?" How do you define "operation skills"? Is this referring to technical skills? Results section, please remove 's' in knowledge.</p> <p><b>Introduction</b> The introduction can be shortened and focused in order to concisely define the problems that nurses face today- that there are no structured training for emergency response. In line 25 until 39, you described that there are virtual simulation-based training already in China that is offered to preventive medicine and public health students. Were there no aspects in these training programs that can be adapted or revised to fit the nursing students that you had to start from scratch? From line 41: is this the aim of the study? this seems to be the methodology. You have stated the objectives in the abstract but have deliberately presented that in the introduction. I find that the aim of the study is not clearly stated and well-defined here.</p> <p><b>Methods</b></p>
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Page 9, line 11- is that true that there were no cases reported after March 2? I am wondering what pushed the initiative to train 120 nurses if that's the case- was it for deployment to other cities or mainly for disaster preparation?

How did you randomize the nurses into control and intervention groups? This is not fully described in the methods, however, was mentioned in the abstract.

The traditional training program sounds very intensive, with only four hours to accommodate the full training program. I would like a comment on this from the authors, considering cognitive load- did you get any feedback from the participants regarding

And they also did simulation-based training. What kind of training did they do?

Page 10, line 13-14: what did you mean by anti-pressure ability in the anti-epidemic effort?

Virtual simulation training- despite the extensive description about the training program, I was still a bit confused what it meant by virtual simulation- is it an immersive one using VR glasses or is it computer-based VR equipment? Please describe clearly.

The offline training is also not well-described, but it is one of the variables the authors looked into. It was briefly described that they can train on their spare time by making booking. How many times are they allowed to go? Was it training on their own or were they guided by an assistant or were they given feedback while training offline? And what did you mean offline?

Page 9, line 60. Secession should be changed to "session"

Evaluation criteria- please delete criteria

The intervention group were also tested for knowledge. Did they have any lectures before practical training? Was this an MCQ test? Please specify. How did you perform the skills assessment?

The participants had to be assessed using 4 different instruments- one for knowledge, one for skills, one for Emergency rescue ability using a developed assessment tool, and one for disaster preparedness. These are also long tests as well and I am wondering if the 4-hour training once a week for 3 months was enough.

The Cronbach's alpha in lines 50 and 51 should be in the results section if these reflect the results from your study. I am not sure what these are referring to.

Was it necessary to have four tests? What were the outcome measures that you were most interested at?

Was an interview performed to gather feedback from the participants?

#### Results

Please clarify Table 4- analysis of influencing factors on disaster preparedness. Where did these scores come from (disaster preparedness, response and post-disaster recovery)? How did you come up with the influencing factors?

#### Discussion

Please start the discussion with a summary of this study, followed by the most important results. At current, the results from an interview that was not mentioned in the methodology is being discussed!!

	<p>Line 60, page 22- the trainees considered virtual training as not so helpful in real operations, and need time for offline training- since the offline training is not well-described in the methods, how is this helpful in terms of translation to the real clinical setting?</p> <p>Page 22, line 11 and on: what is the second life software? Is this a game? How about neighborhood software? How is this related to your study- or how can you use these to enhance learning, if you decide these should be considered?</p> <p>There are many studies using simulation technology and comparing this to traditional teaching. This is not a novel method any longer. There is ample evidence that this works, however implementation remains a challenge. How do you plan to implement this in your organisation and across China? Or maybe beyond since the world is still experiencing further waves of the pandemic- please comment.</p>
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### VERSION 1 – AUTHOR RESPONSE

Reviewer:1

Reply: Thanks for your suggestive comments! In order to make the article more readable, we have undertaken proof reading thoroughly according to your suggestion. And we have also carefully checked and corrected the grammatical errors in the paper. Thank you!

Some additional specific comments:

1.Abstract:

( 1 ) Methods, line 14: Please reword the sentence “The nurses in the control group received conventional training, while those in the experimental group received virtual simulation training combined with offline training on the basis of the intervention of the control group”. Is “offline training on the basis of the intervention of the control group” the same “conventional training” that the control group received?

Reply: Thank you for your constructive comments! “Offline training on the basis of the intervention of the control group” is not exactly the same as “conventional training” that the control group received. The nurses in the control group received conventional training of emergency response with 48 hours in total, including theoretical lectures with 18 hours, technical skills training with 18 hours, psychological training with 4 hours, and an 8-hour-long, twice, emergency drills. The intervention group received virtual reality simulation training in combination with technical training, including 18 hours of virtual reality simulation training, 12 hours of technical skills training, after class, the participants reviewed and exchanged the training every time, 6 hours in total. It also included 4 hours of psychological training, and 8 hours of emergency drills, as same as the control group.

Psychological training and emergency drills were the same in the two groups. The difference between the two groups was that the intervention group used virtual reality simulation training, while the control group used theoretical lectures. The content of technical skills training in the intervention group was the same as that in the control group, but the training time was only 2/3 of the control group, after class, tutors' Q&A and participants' experience exchanges were added.

We have reworded the sentence; please see “Abstract” part, “Methods” section. Page 3 line 26-32 (Please see the page number at the bottom of the page). Thank you!

( 2 ) Methods, line 20: do you mean “operational skills”?

Reply: Thank you for your suggestive comments! According to your comment, we have revised the description by the “technical skills”. Thank you!

2.Summary box:

( 1 ) Line 52: what is a “rescue team”? Do you mean medical team?

Reply: Thank you for your constructive comments! Here, the “rescue team” is the “emergency medical team” designated to respond the public health emergency. We have replaced “rescue team” with “emergency medical team”. Thank you!

( 2 ) Line 54: your paper is about pandemic response, specifically a respiratory pandemic. Please avoid using the generic word “disaster”

Reply: Thank you for your constructive comments! As suggested, our paper is about pandemic response, specifically a respiratory pandemic. Using the generic word “disaster” is not precise, and we have already replaced those descriptions. Thank you!

3.Introduction:

(1)Page 7 Line 15: Again, unclear what “competent emergency rescue ability” means.

Reply: Thank you for your constructive comments! We have deleted the unclear descriptions. Thank you!

(2)Page 7 Line 21: Please define “rescue team” or change the terminology. Please do not use “disaster response” if you mean “pandemic response”.

Reply: Thank you for your constructive comments! According to your suggestion, we have revised the “rescue team” with the “emergency medical team”, and replaced the “disaster response” with the “pandemic response”. Thank you!

(3)Page 8 line 44: The operation and practice of what?

Reply: Thank you for your constructive comments! According to your suggestion, we have revised the related description as “the trainees can learn the pre-set theories and practice the technical skills that are essential to treat and care COVID-19 patients”. Please see the last paragraph of the “INTRODUCTION” part, Page 8 line 21-23. Thank you!

( 4 ) Page 8 line 50: Need to describe what an “emergency reserve nursing rescue team” is

Reply: Thank you for your constructive comments! The “emergency reserve nursing rescue team” consists of registered nurses who are in readiness for responding emergency. They usually participate

the training of responding epidemic emergency at regular intervals. After passing the assessment, they are qualified team member and have the capability of responding epidemic quickly. Once an epidemic breaks out, the local authority or the hospital can quickly deploy the team. For readers' better understanding, we have replaced "emergency reserve nursing rescue team" with "emergency reserve nursing team". Please see the last paragraph of the "INTRODUCTION" part, Page 8 line 26. Thank you!

4. Discussion:

( 1 ) Page 21 line 7: This is a very strong statement. Your data also showed that the control group performed skills better – I wouldn't say that the intervention group "achieved a better outcome" overall.

Reply: Thanks for your suggestive comments! According to your suggestion, we have modified the related description. In this study, the score of technical skill for the conventional training group (90.35±3.38) was slightly higher than that of the virtual simulation training group (88.47±4.19) after the intervention. The difference may result from the less time (reduced by 1/3) of practical training in the virtual simulation training group compared to the conventional training group. The result indicates that more attention is brought to ensuring balance between virtual training and conventional training. According to your comments, we have replaced the relatively inappropriate description. Please see paragraph 4 in the "DISCUSSION" part , Page22 line 28-44. Thank you!

( 2 ) Page 21 line 24: And what percentage of the control group were satisfied with their training?

Reply: Thanks for your comments! In the control group, about 73% of the reserve nurses were satisfied with their training, which is lower than the reserve nurses from virtual simulation training group (95%). We have deleted the discussion of the results from an interview that was not mentioned in the methodology. Thank you!

**VERSION 2 – REVIEW**

<b>REVIEWER</b>	Nayahangan, Leizl Joy Region Hovedstaden, Copenhagen Academy for Medical Education and Simulation (CAMES) and the Capital Region of Denmark
<b>REVIEW RETURNED</b>	12-Jul-2021

<b>GENERAL COMMENTS</b>	<p>Thank you for the opportunity to review the revision from this author group. The authors have done an extensive edit in response to the reviewers' comments- thank you. I still have major comments and questions in the below. I also suggest another review from a proofreader to ensure readability and clarity. I referred to the manuscript with tracked changes (for reference to line and page numbers).</p> <p>Title. The title has improved and is more specific.</p>
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## Abstract

Line 31- change skill training to “skills training”. Is the training model the virtual reality simulator, which includes COVID-19 cases?

## Introduction

The authors expanded the introduction which unfortunately has made it very long and has lost focus to what the problem is. The first paragraph, for example can be shortened, there were a lot of repetitions- which is also evident in succeeding paragraphs.

Line 25, page 41. What results were you referring to here?

Lines 23-60, page 42. This is a long introduction to simulation, many of which can be moved to the discussion.

What is your research question? What was the aim of the study? It was deliberately mentioned in the abstract but is not evident in the introduction. This was also my question in the final review, which the authors have attempted to respond, stating “to improve the capability of nurses to respond to the public health emergency..”, however this was not the same as in the abstract- which I thought was more specific. Please revisit your research question.

## Methods

The authors indicated that this is a pre and post-test quasi-experimental design. While it is true, I suggest removing the pre and post-test because this was not the main focus. The focus of your study was the development of the simulation-based training program and the exploration of its effectivity as a learning tool as compared to conventional training

Thank you for specifying the interventions performed for each group, including the number of hours for each module and in total. I suggest putting this in a figure (e.g. flowchart) for ease of reading. It did say these are presented in an Appendix but I cannot find it in the pdf.

Line 48, page 45. Who developed the emergency capability rating scale? I can see it is by Wang when I read further in page 48, but it was not referenced here. Please revise

Line 16, page 48. How did you pre-determine the reliability of the scale?

For the Technical skills training- did this include team training or was this individual technical skills training?

Line 57, page 45. What kind of training was done to relieve stress felt by patients? Was this communication skills? Or are you referring to psychological stress felt by the nurses? Please clarify Statistical Analysis. Please specify further what analysis you have performed to achieve the results.

## Discussion

Line 37, page 55. What do you mean by “..providing isolation ward”? This paragraph about the working environment has not been the focus in the methodology.

Line 26-28, page 56. So there was team training included as well! But this was never mentioned in the methodology. Was it for the two groups?

Line 34, page 56. Trainees- does those refer to nursing trainees or the nurses themselves?

	<p>Line 43. Excellent references to other studies regarding simulation for emergency preparedness. A recently published systematic review regarding training and education of healthcare workers during viral epidemics could also be a great resource for the authors and can be referenced. This was published on BMJ Open:</p> <p>Nayahangan LJ, Konge L, Russell L, Andersen S. Training and education of healthcare workers during viral epidemics: a systematic review. <i>BMJ Open</i>. 2021 May 28;11(5):e044111. doi: 10.1136/bmjopen-2020-044111. PMID: 34049907; PMCID: PMC8166630.</p> <p>Conclusion: Simulation-based training has been around for many years and is being adopted in health professions education. I do not believe this is a novel method. Please edit. Also, please move the future plans to the discussion. The conclusion should only address the importance or implications of the findings from this current study. I suggest revisiting the research question once again to see if this has been addressed.</p>
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## VERSION 2 – AUTHOR RESPONSE

Reviewer: 2 1.

Thank you for the opportunity to review the revision from this author group. The authors have done an extensive edit in response to the reviewers' comments- thank you. I still have major comments and questions in the below. I also suggest another review from a proofreader to ensure readability and clarity. I referred to the manuscript with tracked changes (for reference to line and page numbers).

Reply: Thank you for your constructive and insightful comments! We have worked carefully to improve the quality of our manuscript. The revised manuscript has benefited greatly from consideration and incorporation of the comments. According to your suggestions, the manuscript has also been reviewed and fully edited by a proofreader to ensure readability and clarity. The corresponding revisions were marked in red. Thank you! Yin-Ping Zhang, Ph.D, Health Science Center, Xi'an Jiaotong University West Yanta Road 76, Xi'an City, Shaanxi Province, 710061, China 2

2. Title. The title has improved and is more specific.

Reply: Thank you!

3. Abstract Line 31- change skill training to “skills training”. Is the training model the virtual reality simulator, which includes COVID-19 cases?

Reply: Thank you for your suggestive comments! The “skill training” has been changed to the “skills training”. Please see Line 26 of the ABSTRACT part. In this study, the control group received the conventional training of emergency response (e.g., theoretical lectures, technical skills and psychological training), while the intervention group underwent the virtual reality simulation training in combination with skills training. The COVID-19 cases were incorporated into the intervention group training. We have added the COVID-19 cases related information. Please see Line 26-28 of the Intervention section, the ABSTRACT part. Thank you!



4. Introduction ( 1 ) The authors expanded the introduction which unfortunately has made it very long and has lost focus to what the problem is. The first paragraph, for example can be shortened, there were a lot of repetitions- which is also evident in succeeding paragraphs.

Reply: Thank you for your suggestive comments! According to your suggestions, we have improved the introduction carefully. The first and the succeeding paragraphs were shortened and the contents of the introduction focused on the problem more clearly. Please see the INTRODUCTION part. Thank you!

2 ) Line 25, page 41. What results were you referring to here? 3

Reply: Thank you for your comments! The results referred to “the results of the studies conducted by researchers after the SARS epidemic and during the COVID-19”. In order to streamline the content of the introduction and focus on the problem more clearly, we have deleted this sentence. Thank you!

(3)Lines 23-60, page 42. This is a long introduction to simulation, many of which can be moved to the discussion.

Reply: Thank you for your constructive comments! According to your suggestions, we have shortened the introduction to simulation, and moved part of the contents to the discussion. Please see the INTRODUCTION part and the DISCUSSION part. Thank you!

(4)What is your research question? What was the aim of the study? It was deliberately mentioned in the abstract but is not evident in the introduction. This was also my question in the final review, which the authors have attempted to respond, stating “to improve the capability of nurses to respond to the public health emergency..”, however this was not the same as in the abstract- which I thought was more specific. Please revisit your research question.

Reply: Thank you for your suggestive comments! According to your suggestions, we have revised the research question and the aim of the study in the introduction. The statement has been added to the paragraph concisely, which is specific and in accordance with the description from the abstract. Please see Line 12-22, page 34, the last paragraph of INTRODUCTION part. Thank you!

5. Methods (1) The authors indicated that this is a pre and post-test quasi-experimental design. While it is true, I suggest removing the pre and post-test because this was not the main focus. The focus of your study was the development of the simulation-based training program and the exploration of its effectiveness as a learning tool as compared to conventional training 4

Reply: Thank you for your suggestion! According to your suggestions, the pre and post-test description has been removed. Please see the Design section of the METHODS part, page 34. Thank you!

(2) Thank you for specifying the interventions performed for each group, including the number of hours for each module and in total. I suggest putting this in a figure (e.g. flowchart) for ease of reading. It did say these are presented in an Appendix but I cannot find it in the pdf.

.Reply: Thank you for your constructive comments! According to your suggestions, the interventions have been specified and presented with a flow chart for ease of reading. Please see the Figure 1, page 55. Appendix is presented in the page 57-59. (Figure 1 and Appendix are also attached at the end of this document).Thank you!

(3) Line 48, page 45. Who developed the emergency capability rating scale? I can see it is by Wang when I read further in page 48, but it was not referenced here. Please revise

Reply: Thank you for your suggestion! The related reference has been added. Please see Line 32, page 36 of the METHODS part, and Line 49-51, page 52 in the REFERENCES part. Thank you!

(4) Line 16, page 48. How did you pre-determine the reliability of the scale?

Reply: Thank you for your constructive comments! We assessed both the content validity index (CVI) and the reliability of the revised emergency capability rating scale. The CVI was performed to quantify scores for each item and the whole scale. CVI had been computed by asking 5 nursing experts in emergency department or infectious disease to rate the relevance of each item on a 4-point scale from 1 (very invalid) to 4 (very valid). The results showed that the CVI of each item was 0.81 to 1.00, and the CVI of the total scale was 0.90, indicating excellent content validity. We also performed a pilot to assess the reliability of the scale before the intervention. We randomly selected 24 emergency nurses to complete the scale. Then the reliability test of the scale was carried out, and the Cronbach's  $\alpha$  coefficient of the internal consistency of the scale was 0.79. For assessing test-retest reliability, the 24 participants were 5 asked to complete the scale again after two weeks. The overall test-retest reliability of the scale was above 0.80, and the test-retest reliability of each item was between 0.68 and 0.82. We have added the related information in the Evaluation section of METHODS part. Please see Line 48 in Page 38. Thank you!

(5) For the Technical skills training- did this include team training or was this individual technical skills training?

Reply: Thank you for your constructive comments! The technical skills training indicated individual technical skills training in both groups, while the virtual reality simulation training program had both the individual and team training, nurses can log into the system in different roles, conduct individual training or teamwork training and real-time interaction according to the training plan. We have added a description in the METHODS part; please see Line 22-24 in Page 36 and Line 50-56 in Page 37. Thank you!

(6) Line 57, page 45. What kind of training was done to relieve stress felt by patients? Was this communication skills? Or are you referring to psychological stress felt by the nurses? Please clarify

Reply: Thank you for your constructive comments! We conducted a 4-hour psychological training for each group, including relaxation training, etc., to relieve the psychological stress felt by the nurses. We have clarified the description. Please see Line 40 of the METHODS part, Page 36. Thank you!

(7) Statistical Analysis. Please specify further what analysis you have performed to achieve the results.

Reply: Thank you for your comments! We used descriptive analysis to describe the demographic data. The chi-square test and Student's t-test were used to analyze the comparability of the baseline between the two groups. The differences before and after intervention in the results of 6 DPET, theoretical and skill assessments, and the capacity of emergency care scores between the groups were evaluated by the Student's t-test. According to your suggestions, the descriptions of the statistical analysis have been specified. Please see Line 45-60 of the METHODS part, page 39. Thank you!

4. Discussion (1) Line 37, page 55. What do you mean by "...providing isolation ward"? This paragraph about the working environment has not been the focus in the methodology.

Reply: Thank you for your constructive comments! Due to the outbreak of the epidemic, the nurses working in the COVID-19 isolation ward were urgently called from various hospitals, and many of them were not nurses specializing in infectious diseases. In order to facilitate nurses to quickly be familiar with the special layout, working environment, and standard procedures of the area, we simulated the layout and working procedures of the isolation ward in this virtual simulation training. Such training could simulate real-world settings. It was flexible and helped the emergency nurses quickly get familiar with the working environment. This was extremely important for emergency response to emerging infectious diseases. According to your suggestions, we have improved the description as “this virtual reality simulation training provided a simulated scene of the isolation ward” and also added the related information in the methodology. Please see Line 32-34, page 37 in the METHODS part, and Line 38, page 45 in the DISCUSSION part. Thank you!

(2) Line 26-28, page 56. So there was team training included as well! But this was never mentioned in the methodology. Was it for the two groups?

Reply: Thank you for your constructive comments! This sentence refers to “This virtual reality simulation training program has the mode of team/group training”. The team training here was not for two groups. In the intervention group, virtual reality simulation training includes both individual and team training mode, and nurses can choose the corresponding mode for training according to the training plan. When the trainees choose the team training mode, they can cooperate with each other to simulate nursing work according to the case. The technical skills 7 training in the two groups were individual technical skills training. Please see the METHODS part, Line 50-54 in Page 37 and the DISCUSSION part, Line 8-10 in Page 46, and the Figure 1, Page 55, Thank you!

(3) Line 34, page 56. Trainees- does those refer to nursing trainees or the nurses themselves?

Reply: “The trainees” means “the nursing trainees”. In order to avoid misunderstanding by readers, we have revised the terms in the manuscript uniformly. The teacher responsible for training is called “instructor”. The subjects of voluntary participation are called “participants” before the training, and they are called “trainees” during the training. After graduating from the training, they are called “reserve nurses”. At present, our training platform has not been opened to all the nurses in the hospital. After further improvements and optimizations according to the results of this study, we will promote the virtual reality simulation training program to a wider population of emergency nurses in the hospital. We have made revisions in the manuscript. Please see the DISCUSSION part, Line 18 in Page 46. Thank you!

(4) Line 43. Excellent references to other studies regarding simulation for emergency preparedness. A recently published systematic review regarding training and education of healthcare workers during viral epidemics could also be a great resource for the authors and can be referenced. This was published on BMJ Open: Nayahangan LJ, Konge L, Russell L, Andersen S. Training and education of healthcare workers during viral epidemics: a systematic review. *BMJ Open*. 2021 May 28;11(5):e044111. doi: 10.1136/bmjopen-2020-044111. PMID: 34049907; PMCID: PMC8166630.

Reply: Thank you for your comments! According to your suggestions, we have added the excellent reference regarding simulation for emergency preparedness in the discussion. Please see Line 28-52 of the third paragraph in the DISCUSSION part, page 46; and Line 35-38 in the REFERENCES part, page 51. Thank you!

5. Conclusion: Simulation-based training has been around for many years and is being adopted in health professions education. I do not believe this is a novel method. Please edit. Also, please move the future plans to the discussion. The conclusion should only address the importance or implications of the findings

from this current study. I suggest revisiting the research question once again to see if this has been addressed.

Reply: Thank you for your comments! We have edited the related information. And the future plans have been moved to the discussion. Please see the last paragraph in the DISCUSSION part, and Line 14 of the CONCLUSION part. According to your suggestions, we revisited the research question and addressed the importance and implications of the findings from the current study. Please see the "CONCLUSION" part. Thank you!