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A Comparative Study of Case-Based Learning vs. Traditional Teaching Method in Pathology in Indian Medical Graduates

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1 Original submission

0 comments

No public comments in this round.

2

Revision 1

AUTHORS' RESPONSE TO REVIEWERS

Authors' reply to reviewers

The next pages contain the authors' point-by-point reply to the comments of this revision round, as submitted with the revised manuscript. It is published as the authors wrote it.

Introduction:

It is better to mention some studies that have examined the effectiveness of case-based learning in promoting students' learning, as you have described this learning method in good detail in the introduction. Additionally, studies that have examined the impact of adopting other solutions to increase medical students' knowledge of pathology are worth mentioning. What was the reason for doing the present study? In this section, it is crucial to describe the problem in detail.

Added in introduction.

⁃ There are two paragraphs in the statement with only one reference. This needs to be reviewed. –

Added additional references.

⁃ The researcher stated that this study was necessary because there are few original studies in this field. Here are some questions. Such as:
⁃ Using this claim, you have searched every database and come up with a few studies. Have you checked all databases in the world?
⁃ It would be better than to say, as an example, that the researcher did not find any study examining the effect of this method in pathology in his / her access to databases, so he/she conducted the present study.
⁃ Or, in studies that have been found, researchers have concluded that other interventions can be designed, implemented, and evaluated to assess the effectiveness of this method using the CBL.
⁃ The existing studies in this field have either been before and after studies, or semi-experimental studies, and your study design is innovative in comparison with the existing studies.
⁃ Alternatively, you could say you found some studies that found this educational method effective in promoting the learning of medical students, and then there were other studies that found this method was not effective. You now decide to try it out.
⁃ Alternatively, this method was used in nursing classes to teach students about the pathology of diseases, and now you wish to apply it to medicine.

Have edited and added proper explanation regarding the statement.

Method & methodology:

⁃ There is no mention of the study design, but according to your explanations in the article, it appears that there were two groups before and after the study. The sampling method was not described.

Pre-post interventional study. non-random sampling based on convenience. Added.

⁃ In your study, you claimed that your questionnaires looked at both the perceptions of students and professors, while the main purpose of your study was to assess the effectiveness of the CBL method and compare it with the lecture method as the common method of instruction for students.

Yes. We compared the pre-CBL and post-CBL knowledge of both groups (i.e. comparison between routine and CBL method of teaching). Also, a secondary goal was to check the perceptions of students and faculties regarding CBL (which was done using likert scale questionnaire for both students and faculties, FGD for students and in-depth interview for faculties)

⦁ You didn't mention why you opted to concentrate your pathology education on anemia and jaundice over other topics, didn't you? What was your reasoning and logic behind this choice?

Cases of Anemia and Jaundice were selected as they are in Pathology Curriculum and so were relevant and contextual. And these are topics which require integration of basic sciences and clinical knowledge and thus clinicopathologic correlation. They are also one of the most commonly encountered clinical cases.

⦁ What if there was a comparison of the CBL method and the routine method, why divide students into Group A which received anemia cases, and Group B which received jaundice cases? It seems that one group should receive the routine method and the other group should receive the CBL method. What method is used to divide students into two groups? Random or non-random??

Yes, the study is about comparison of CBL method with routine method. The routine method was applied to all the students initially itself. Lectures on anemia and jaundice were already taken for all students. This was followed by a division of students into two groups using their roll numbers and then group A received anemia case and group B received jaundice case.

Explained in better way in manuscript.

⦁ You haven't explained how to develop clinical cases for CBL training. In your training, pathologists who may be among your colleagues should discuss the content validity of clinical cases. Experts in the field should approve the alignment of scenarios with educational goals and mention it in the article's text.

Yes, the cases were developed by pathology faculties and approved by subject experts. Added.

⦁ Traditional intervention is not explained by you.

Lectures and practical of the same topics were taken before applying CBL.

⦁ A theoretical lecture and practical class are provided in the text, and a pre-test is given afterward. After the pre-test, you divided groups A and B into 5 subgroups and performed CBL on each of them. It is possible that the results were due to lectures and practical classes and not the CBL intervention.

The results obtained in pre-test (pre-CBL) were due to lectures and practical. Hence, the post-test (post-CBL) was done to check any significant improvement in the knowledge of students after applying CBL as compared with pre-test (pre-CBL).

⦁ In this CBL, why did you mention that one group received the jaundice scenario while another received the anemia scenario? The impact of educational content on learning seems to be ignored by you.⦁ What about the other 3 groups? What scenarios have they received? You mentioned two groups, yet you mentioned the CBL group into five subgroups.

The entire class was divided into two groups of 75 students each. One group was given anemia case and another was given Jaundice case. Then these 75 students were divided into 5 subgroups of 15 students each. They had different components of the same case.

⦁ The pre-test-post-test was used to analyze the performance of the students. However, you did not explain what questions they had or how they checked validity and reliability.

They were multiple choice questions regarding the same topics. The questions were prepared and validated by pathology experts.

⦁ Students' and faculty members' understanding of using CBL to teach pathology was assessed using a 5-point Likert scale. You have not described this Likert scale, its scoring method, or the validity and reliability of the tool. You have also noted that you used the interview method after completing the faculty members' questionnaire. What were the interview questions? How did these participants participate in the interview process? How did you analyze the data?

It was a one to one interview process of the facilitators who conducted the CBL sessions. It was regarding the perception of these faculties about the CBL sessions. They were same for all students.

⦁ No information has been provided throughout the text about the number of faculty members participating in the program.

Added. 6 faculty members

⦁ In the data analysis section, it should be noted what statistical methods did you use to examine in-group and out-group comparisons? How did you check the normality of the data?

Paired samples test was used. Detail added.

⦁ In this situation, how did you prevent the dissemination of information and the transfer of educational experiences between the two groups? Did the publication of information have an effect on the results of your study?

In each group, students were further subdivided and were revealed different aspects of case separately. Which prevented exchange of information. Also, this was one of the reason for taking two separate cases.
NO, as per our knowledge, the publication of information did not have an effect on the results of our study.

Findings:
⦁ According to the results, 150 students participated in your study, but you only obtained data from 110. If this is the case, what is the cause of the loss of 40 people in the present study? You did not provide an explanation.

150 students attended the CBL sessions, however only 110 students were present for both Pre-test, Post-test and feedback questionnaire sessions. So, data of 110 students was evaluated.

⦁ To support the researcher's statements, the qualitative data from the interview should be provided as quotes in the findings section.

Done.

Discussion:
⌋ As discussed in the discussion, you said that CBL enhances students' critical thinking, however, you haven't examined students' critical thinking, so you don't need to state that.
⌋ In your discussion, you concluded that the CBL method improves students' participatory, clinical, analytical, and logical skills, but this conclusion is not based on any findings from this study.

Removed from discussion.

Conclusion:
⌋ The last sentence does not contain a suggestion to other researchers.

Added.

1. In a word file, reply to all comments one by one (reply to reviewer)
2. In the word file of your manuscript, reply and apply all comments as marked or highlighted lines/paragraphs.

2 Revision 1

1 comment · 1 Aug 2022

Referee 1 Reviewer

ACCEPT 1 Aug 2022

All corrections requested by the referee have been made by the author.