

Research letter

Final title: **Bridging early clinical exposure in basic science with clinical years to reinforce medical education**

Title at submission: Bridging early clinical exposure in basic science with clinical years to reinforce medical education



OPEN ACCESS

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The author would like to express their gratitude to the Editor for their supportive and insightful remarks on our article. We believe that these suggestions are extremely detailed and beneficial in improving the content, as well as in increasing the scientific merit of our revised article. We have taken all the comments, suggestions, and addressed all the comments, with appropriate revisions in this amended part of the revised manuscript, which are outlined in our response below.

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Reviewer

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Ethical approval

Approved by Scientific Review
Committee and Institutional Ethical
Committee (Ref.No. IEC/IMS.SH/
SOA/2023/633, Dated: 18 Nov
2023)

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None

Trial registration number

Not available

1. Comment Title. The short title is redundant as it repeats the main title

Response

Short title is redundant as it repeats the main title. We acknowledge your kind observation and modified the short title to newer one i.e. "Enhancing Medical Education Through Early Clinical Exposure" with yellow colour highlights in line number 3 and page 1. Hopefully, the above clarifications adequately address the concerns.

2. Comment Key Message (lines 21-27).

Lacuna: The statement is fragmented and lacks conciseness

Response

The Key Message i.e. The statement is fragmented and lacks conciseness. We acknowledge your kind observation and concise the key message with yellow highlights in line number from 21 to 23 and page number 2. Hopefully, the above clarifications adequately address the concerns.

3. Comment Introduction (Lines 31-49)

Lacuna:

1. Medical education in India is currently undergoing a significant transformation, need to align → Grammatical error.
2. Historic reforms like Flexner Report and Hopkins Circle laid the groundwork. Missing articles.
3. ECE is a student-centre teaching-learning method. → Spelling error.

Response

Grammatical mistakes. We acknowledge your kind concerns and we have corrected the grammatical mistakes as follows first error "Medical education in India is currently undergoing a significant transformation, need to align" corrected to "Medical education in India is currently undergoing a significant transformation. There is a need to align with international standards". Second error "Historic reforms like Flexner Report and Hopkins Circle laid the groundwork" cited with reference article [2]. Third error "ECE is a student-centre teaching-learning method" spelling error has been corrected to "ECE is a student-centric teaching-learning method". The above following changes are highlighted with yellow colour within revised manuscript and respective changes are highlighted with bearing line no 25-26 for first error, 28 for second error and 33 for third error in page no 2. Hopefully, the above clarifications adequately address the concerns.

4. Comment Methods (Lines 50-61)

Lacuna:

- 244 1st Professional MBBS students randomly divided into two groups. Unclear phrasing.
- Group A received ECE sessions on Parkinson's disease video clippings, case scenarios, and clinical inputs from a neurologist. → Needs better structure.

Response

Unclear phrasing and needs to better structure. We acknowledge your kind concerns regarding unclear phrasing statement and better structure clarity. We have made the changes within our revised manuscript as first error "244 1st Professional MBBS students randomly divided into two groups" was corrected to "244 1st Professional MBBS students were randomly divided into two groups, A and B". Second error "Group A received ECE sessions on Parkinson's disease video clippings, case scenarios, and clinical inputs from a neurologist" was restructure the sentence to "Group A participated in ECE sessions on Parkinson's disease which included video clippings, case scenarios, and clinical inputs from a neurologist".

Response

The above following changes are highlighted with yellow colour within revised manuscript and respective changes are highlighted with bearing line no 45-46 for first error and 47-48 was addressed for second error in page no 2. Hopefully, the above clarifications adequately address your concerns and found to be satisfactory for publication of our manuscript.

5. Comment

Results (Lines 62-70).

Lacuna:

- * Post-test scores showed statistically significant improvement in the ECE group compared to the traditional teaching group across both clinical topics→ Redundant phrasing.
- * The perception of students described in stacked bar (Table 1) → Incomplete sentence.

Response

Redundant phrasing and incomplete sentences. With following your kind suggestion, we have incorporated the suggestion as follows first error "Post-test scores showed statistically significant improvement in the ECE group compared to the traditional teaching group across both clinical topics". The following correction are made with omitted the redundant phrasing from the above following sentence i.e., across both clinical topics. The new clear sentence is "Post-test scores showed statistically significant improvement in the ECE group compared to the traditional teaching group". In second error "The perception of students described in stacked bar (Table 1)". The following correction are made with modification of incomplete sentence and a new clear sentence has been created as "The perception of students described in stacked bar which is shown in Table 1." The above following changes are made within revised manuscript with bearing line no 57 for first error and 60 for second error in page no 3. Hopefully, the above clarifications adequately address your concerns and found to be satisfactory for publication of our manuscript.

6. Comment

Discussion (Lines 71-93).

Lacuna:

- Traditional didactic lectures in medical education are not much effective. → Informal phrasing.
- ECE promotes experiential learning, which is consistent with Kolb's theory, where learners cycle through observation, reflection, conceptualization, and application, thereby foster deeper insight. → Grammatical error.

Response

Informal phrasing and grammatical error. We acknowledge your kind concern and following your suggestion we have made the following changes within the revised manuscript. The first error "Traditional didactic lectures in medical education are not much effective. → Informal phrasing" are corrected the informal phrasing i.e. "Traditional didactic lectures in medical education are ineffective due to their lack of clinical relevance, resulting in a fragmented learning experience". For second error "ECE promotes experiential learning, which is consistent with Kolb's theory, where learners cycle through observation, reflection, conceptualization, and application, thereby foster deeper insight." also corrected the grammatical mistakes as "ECE promotes experiential learning, consistent with Kolb's theory, where learners cycle through observation, reflection, conceptualization, and application. Thus, it fosters deeper insight and real-life application, enhances higher-order thinking and bridges the gap between theory and clinical". The above following changes are made within revised manuscript with bearing line no from 65-66 for first error and 69-72 for second error in page no 3. Hopefully, the above clarifications adequately address your concerns and found to be satisfactory for publication of our manuscript.

7. Comment

Ethical Approval (Lines 107-111)

Lacuna:

The present analytical study was an interventional, quasi-experimental study conducted in a tertiary care Hospital in Bhubaneswar. → Unnecessary repetition.

Response

Repetition in ethical approval sentence. With following your kind concerned the repetition sentence are excluded from the revised manuscript and rest of the ethical approval statement has been included as "This study has the permission from the scientific review committee and institutional ethical committee letter no. Ref.no. /IEC/IMS.SH/SOA/2023/633, dt18. Nov.2023". The above following changes are made within revised manuscript with bearing line no from 102-103 in page no 4. Hopefully, the above clarifications adequately address your concerns and found to be satisfactory.

8. Comment

Data Availability Statement (Lines 112-114)

Lacuna:

We confirm that the data supporting the findings of the study will be shared upon resonable request.→ Spelling error.

Response

The spelling error of reasonable. The following changes has been made with correction of spelling error i.e. reasonable. The following correction are highlighted with yellow colour bearing line no 107; page no 5. Hopefully, the above clarifications adequately address the concerns.

9. Comment

References

Lacuna:

Inconsistent formatting (e.g., URLs mixed with DOIs, missing italics for journal names).

Response

Inconsistent in references. With following your kind suggestion all references are amendment carefully within the revised manuscript and the reference no 5 also formatted according to the journal guidelines. Hopefully, the above clarifications adequately address the concerns.

- 10. Comment** Table 1
Lacuna:
Traditional teaching on cerebellar disorder is repeated unnecessarily. Some statistical values are incomplete (e.g., "6.40 - 0.14 -").
- Response** Incomplete values in Table 1 and repetition in table sentences. With following kind suggestion the repeated inside titles of Table 1 are modified and highlighted in yellow colour as well as statistical values are also included in the revised manuscript bearing line no 135 and page no 6. Hopefully, the above clarifications adequately address the concerns.
- Responsible editor:** Tahniyah Haq, 0000-0002-0863-0619
- 11. Comment** There are grammatical mistakes in lines 44, 52 and 66.
- Response** The grammatical mistakes in lines 44, 52 and 66. We acknowledge your kind observation and correct the grammatical error and include as i.e., was, the, and in line number 45, 52 and 66 respectively bearing page number 2 and 3 with yellow in colour highlighted in the revised research letter manuscript. Hopefully, the above clarifications adequately address the concerns.
- 12. Comment** Include the rationale stated in response to Editor's comment 2 in short.
- Response** Include the rationale stated in response to Editor's comment 2 in short. We acknowledge your kind comment and concise the sentence according to the Editor's comment 2 i.e. "with their rational objective among the faculty community on its implement ability or achieving its desired goal as well as accelerate teaching learning methodology for medical education", integrated in line number 32-33 and page number 2 in the revised research letter manuscript. Hopefully, the above clarifications adequately address the concerns.
- 13. Comment** In line 49, were pre and post tests taken for only Group B. Please correct this.
- Response** The pre and post tests taken for only Group B. We acknowledge your kind observation and corrected the sentence in the revised research letter manuscript i.e. "Group B underwent pre-and post-tests with validated case-based MCQs administered via Google Forms to assess the knowledge domain" bearing line number 49-51 and page number 3. Hopefully, the above clarifications adequately address the concerns.
- 14. Comment** The results and table are still not clear. There is no stacked bar in Table 1. There is no need to report median, SE and df. Express mean values as mean (SD) and report 1 up to decimal place. Consider using teaching method as column head instead of using mean and SD; and pre, post test scores and difference as row head. Compare the post test scores between the 2 methods, and pre and post test scores of each method. Show this in the table and describe it clearly in the text.
- Response** Table 1. We acknowledge your kind observation and recreated the table 1 with your kind suggested concern with yellow highlights in line number from 135 to 136 and page number 6 in the revised research letter manuscript. Hopefully, the above clarifications adequately address the concerns.
- 15. Comment** Please follow the ICJME authorship criteria, where each author must fulfil all 4 criteria.
- Response** The ICJME authorship criteria, where each author must fulfil all 4 criteria. We acknowledge your kind observation we have orderly include the authorship criteria, in accordance with ICJME guidelines within the revised manuscript which are clearly presented in line number 89-93 on page number 4 with yellow colour highlighted. Hopefully, the above clarifications adequately address the concerns.
- 16. Comment** The rationale for conducting this study is still not clear. What is the importance of seeing the effectiveness of ECE, when it has already been proven as an effective teaching method and implemented into the curriculum? The reasoning in line 32-33 is not clear.
- Response** Although NMC has introduced ECE since 2019, its adoption by the faculty community of medical teaching institutions has been slow and tardy to say the least. There remain concerns among the faculty community on its implement ability or achieving its desired goal. The outcome from studies such as the current one may help in clearing any such apprehensions and accelerate acceptance of ECE as a teaching learning methodology for medical education. The following above response has been highlighted in yellow in colour bearing line number 34-36 in the revised manuscript. Hopefully, the above clarifications adequately address the concerns.
- 17. Comment** The methods is not clear. Did Group B undergo traditional teaching? Why did Group B only have tests? How was group A
- Response** The methods, which is not clear. We acknowledge your kind suggestion that group B students undergoes traditional teaching by teacher centered didactic lectures. The following test was evaluated through a post-test questionnaire to both (A&B) groups using case-based MCQs in online Google Forms. The following above response has been highlighted with yellow colour bearing line number 54-56 in the revised research letter manuscript. Hopefully, the above clarifica-

- 18. Comment** The author has mentioned "validated case-based MCQs to assess the knowledge domain". Was knowledge the only domain tested, or were other domains like understanding, analysis and application also tested through the case based questions? This is important to clarify as ECE is said to improve higher order learning, as mentioned in the discussion.

Response Yes. The knowledge was the only domain tested. This study is continuing & examination of other domains will be studied in future years. Hopefully, the above clarifications adequately address the concerns.
- 19. Comment** The results are not clear. Were post vs pre test scores higher in the 2 methods and 2 topics? Was post test score of ECE significantly higher than post test score of traditional method for both topics? This is not clearly mentioned.

Response Yes, Post-test vs pre-test score higher and it was also described in Table -I. Regarding significance, The post-test score of ECE higher than post -test score of traditional method for both topics, mentioned in Table 1. Hopefully, the above clarifications adequately address the concerns.
- 20. Comment** In the table, show the statistical difference and p value for all 4 groups. The title of the table should be more representative of the contents.

Response We have modified the Table title within the revised manuscript in line number 141-143 on with yellow colour highlighted. Hopefully, the above clarifications adequately address the concerns.
- 21. Comment** ICJME authorship criteria has not been followed. Please revise.

Response The author contribution criteria according to ICJME with yellow highlights in line number from 94-99 in the revised research letter manuscript. Hopefully, the above clarifications adequately address the concerns.
- 22. Comment** Although we accept your rationale for the study, the sentence construction in lines 34-36 is not correct.

Response We apologize for the unclear sentence construction in lines 34-36. We have revised the sentence for better clarity and grammar and also highlighted in yellow colour bearing line number 34-37 in our revised manuscript. The corrected version now reads as follows: "Although the implementation strategy by the NMC is clear, concerns remain among the faculty community regarding its implementability and effectiveness in achieving its desired goals. Consequently, there is a lack of clarity and acceptance of this teaching-learning methodology in medical education". Hopefully, it significantly improves the readability and academic quality of the text and adequately address the concerns.
- 23. Comment** Line 52 "Group B underwent pre-and post-tests with validated case-based MCQs administered via Google Forms to assess the knowledge domain. "can be omitted. When was the study done?"

Response Following your kind suggestion we have omitted the line from our manuscript which present "Group B underwent pre-and post test with validated case-based MCQs administered via Google Forms to access the knowledge domain. The study was conducted in a tertiary care Hospital in Bhubaneswar after obtaining permission from the scientific review committee and institutional ethical committee letter no. Ref. no. /IEC/IMS.SH/SOA/2023/633,dt 18.Nov.2023 which was already mentioned in line no 49-51 and 110-111. Hopefully, the above clarifications adequately address the concerns. Line 52.
- 24. Comment** The results are still not clearly written. Was post test score of ECE significantly higher than post test score of traditional method for both topics?

Response The lack of clarity in our results section. We have revised the text to explicitly state the statistical significance for both topics. Yes, the post-test scores of the ECE group were significantly higher than the traditional method group for both topics. For cerebellar disorders, the mean post-test score of the ECE group was 6.40 ± 1.4 , which was significantly higher than the traditional group's score of 2.85 ± 1.0 . Similarly, for Parkinson's disease, the mean post-test score of the ECE group was also significantly higher, with a p-value of <0.001 . Hopefully, the above clarifications adequately address the concerns.
- 25. Comment** In the table, give the statistical difference and p value for all 4 groups.

Response Thank you for your valuable feedback. We apologize for the incomplete data in the original Table. We have revised the table and include the statistical difference and p-values for all four groups, as per your concerned. The table has been revised and yellow colour highlighted in our revised manuscript. Hopefully, the clarifications adequately address the concerns.
- 26. Comment** The line "Higher order learning of students was examined by case-based MCQ with improved scores in post-test..." should be omitted as this was not seen. It should be mentioned as a limitation.

Response We acknowledge your valuable insightful concerns. Following your kind suggestion we have omitted the line from our manuscript which present "Higher order learning of students was examined by case-based MCQ with improved scores in post-test". Hopefully, the above clarifications adequately address the concerns.
- 27. Comment** Overall, the structure and sentence construction need improvement, especially in the method and result section.

Response We acknowledge your valuable insightful concerns. With following your kind suggestion we have made revision with improve structure and sentence construction in the method and result section with yellow highlights in the revised research letter manuscript. Hopefully, the above clarifications adequately address the concerns.