Reviewer’s report

Title: TEACHING THE PEDIATRIC EAR EXAM AND DIAGNOSIS OF ACUTE OTITIS MEDIA: A TEACHING AND ASSESSMENT MODEL IN THREE GROUPS

Version: 0 Date: 09 Mar 2017

Reviewer: Samy Azer

Reviewer's report:

I would like to thank the authors for considering BMC Medical Education for their submission. However, the paper has major problems; I summarize them below:

1. Abstract: What are the research questions?

2. Abstract: There is a lack of connection between the aims of the study, and the needed research questions and what was mentioned under methods. What are the authors trying to test? What is the educational basis for their research method?

3. Results: Please place the means +/-SD for these groups and the p-value.

4. Conclusions: Needs to be focused. In two to three sentences what do we learn from this study?

5. Abstract: We use paired t-test when we know that the pre-test answers of student A are compared against post-test answers for the same student. No indication in the study that a code or a similar strategy was used. Then why ANOVA is used?

6. Key words: Omit validity (you have not tested the validity), you may add "Learning about diagnosis", "Curriculum."

7. The word "multi-modal" is not needed as we all use a range of teaching/learning methods.

8. Introduction: First sentence should be followed with a sentence showing figures for what was stated plus a recent reference.
9. Introduction: First paragraph, is the problem over diagnosis or under diagnosis of AOM? There is mix statements. Please, be specific and link this with the rationale for the study. Why do we need such study?

10. Introduction: Please provide a strong rationale for the study with references.

11. Introduction: First paragraph: Is otoscopy is the only means of accurate diagnosis, or diagnosis is based on history, clinical examination, and otoscopy? Are there are groups of children at a higher risk of having AOM?


13. Introduction: what are your research questions?

14. Methods: Needs an introduction " a research design" part to explain what are the bases for your study design? And how this design can enable you to answer your research questions?

15. What is the aim of having a retention group? Define the retention group? How were the students selected/allocated for each group? Explain how this could help in answering your research questions?

16. Page 7: under the title "Curriculum Design". This part does not follow with "Subjects". Here you should explain the design of the curriculum/ and curriculum content/ teaching and learning used in the three groups described earlier. You could then explain the educational basis on which you developed the new design and the pedagogy behind it.

17. Outcome measures: You need to explain how the assessment methods used/tools used will help you to answer your research questions. If you are assessing knowledge, what tools did you use? For skills, what tools did you use? One of the main deficiencies in this model is the lack of assessment of behaviour, and communication with the patient, the authors need to respond to this deficiency, and if they cannot address it, they should add it to the limitation of the model.

18. Assessment: It is not clear how did the authors ensured standardization of marking of students in clinical skills across different groups and different centers included in the
study? What measures were taken to ensure consistency and standardization of ranking of student's skills? Did you train all examiners? Did you use standardized criteria? Did you train examiners on applying the criteria?

19. The results section should be expanded to cover three subitems: Knowledge, Clinical Skills, and Professional behavior/communication skills.

20. Figure 1 Should be turned into a table showing the following columns: Objectives, Content, Learning/teaching methods, Assessment tools.

21. Discussion: It is not clear how the authors plan to fit this component with other components in the pediatric curriculum to ensure harmony and maintaining a balance of the curriculum content. The discussion needs to have a focus.

22. Conclusion: Needs to be rewritten. Please omit words such as "Novel" and Multi-model" etc. Strengthen the conclusions. No references needed in the conclusion part.

23. References: I noted several problems in the references:

   - Page 10, Second paragraph, the authors cited ref (8), which is not related to the statement mentioned.

   - Page 10, Second paragraph, the authors cited ref (5), which is not related to Morris & Associates.

   - Page 10, Second paragraph, the authors cited ref (11), which is not related to statement mentioned.
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

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