Author's response to reviews

Title: Effectiveness of Evidence-Based Medicine Training for Undergraduate Students in a Chinese Military Medical University: a self-controlled trial

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Author's response to reviews: see over
Authors’ Responses to Reviewers’ Comments

RE: Effectiveness of Evidence-Based Medicine Training for Undergraduate Students in a Chinese Military Medical University: a self-controlled trial (1030815228120956)

Dear Mr Aldrin Ulep,

Thank you very much for your letter, and to the reviewers for their thoughtful critique of our manuscript. Specific responses to each comment follow, with our responses being highlighted with RED color.

Reviewer: francie williams
Reviewer's report: The manuscript systematically evaluated the effect of integration of EBM into the medical curriculum on improving undergraduate medical students’ EBM knowledge, attitudes, personal application, and anticipated future use. This is an interesting area of research in which there is limited information in developing countries, and is appropriate to explore in a qualitative fashion. I recommend this paper to be accepted after discretionary revisions, and some comments were attached below.

Discretionary Revisions
1. Is the question posed by the authors well defined? Yes
2. Are the methods appropriate and well described? yes
3. Are the data sound? yes
4. Does the manuscript adhere to the relevant standards for reporting and data deposition? yes
5. Are the discussion and conclusions well balanced and adequately supported by the data? yes
6. Are limitations of the work clearly stated? yes
7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?
   Yes, I know the related literature well and the authors did a very good job with their description of the literature and the significance of this work.
8. Do the title and abstract accurately convey what has been found? Yes
   Response: Thanks for the comments. We appreciated the reviewer’s accreditation.

9. Is the writing acceptable? Some editing as follows is needed:
   Introduction
   (1) First paragraph, line 2: ‘use of current’ should be ‘usage of currently’;
   (2) First paragraph, line 2: ‘opinion’ should be ‘opinions’;
(3) First paragraph, line 8: ‘often’ should be ‘also’;
(4) Second paragraph, line 3: ‘school’ should be ‘schools’;
Discussion
(1) Third paragraph, line 8: it should be ‘the questionnaire was developed and validated’;
(2) Fourth paragraph, line 3: ‘post-training’ should be ‘across the training’.
Response: all the editing errors have been corrected.

Reviewer: Ana Vujaklija Brajkovic

Methods should have more details:
1. study subjects and design
   a. ….students who had finished the premedical education and clinical courses –explain which courses
Response: Details of the finished the premedical education and clinical courses were presented in
Appendix 1:

<table>
<thead>
<tr>
<th>Premedical courses</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychology</td>
<td>human anatomy</td>
<td>histology and embryology</td>
</tr>
<tr>
<td>physiology</td>
<td>biochemistry</td>
<td>cell biology</td>
</tr>
<tr>
<td>microbiology</td>
<td>parasitology</td>
<td>immunology</td>
</tr>
<tr>
<td>statistics</td>
<td>medical genetics</td>
<td>pathology</td>
</tr>
<tr>
<td>physiology</td>
<td>pharmacology</td>
<td>pathology</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Clinical courses</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgery Pandect and operation</td>
<td>diagnosis</td>
<td>internal medicine</td>
</tr>
<tr>
<td>surgery</td>
<td>gynecology and obstetrics</td>
<td>pediatrics</td>
</tr>
<tr>
<td>Oral medicine</td>
<td>otolaryngology</td>
<td>neurology</td>
</tr>
<tr>
<td>reproductive medicine</td>
<td>rehabilitation medicine</td>
<td>dermatology and Venereology</td>
</tr>
<tr>
<td>infectious diseases</td>
<td>critical care</td>
<td>emergency medicine</td>
</tr>
<tr>
<td>Ophthalmology</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. educational intervention and assessments
   a. 20 hour EBM course – how many lectures, seminars……
Response: the 20 hour EBM course includes 5 lectures and 2 seminars. This has been added to the
methods section.

   b. students were asked to formulate answerable clinical questions based on common clinical scenarios – which ones, needs further explanation
Response: details has been added as follow. For example: (1) questions concerning the ability of a test
to predict the likelihood of a disease (diagnosis); (2) questions concerning the effectiveness of a
treatment or preventative measure (therapy); (3) questions concerning the likelihood of many factors coming to cause an illness (etiology); (4) questions concerning outcome of a patient with a particular condition (prognosis).

c. large group interactive lectures – how many students per lecture
Response: every lectures were conducted four times, and there are about 60 students per lecture.

d. evidence based medicine (EBP) – this is the first place where authors explain abbreviation even though they mentioned it in abstract and introduction
Response: The issue about abbreviation has been revised.

e. The EBP –K section included 5 items, the EBP-P and ABP-A 6 items -----define the minimum and maximum score
Response: defined.

3. You mentioned program subtypes in Abstract – they are not described in the manuscript
Response: we have added description of the program subtypes in the methods and results section. Also, we performed stratified analysis by program subtypes (Table 2). It did not result in any significant changes to the results.

Results
Most important results should be presented in the text. Explain surrounding factors; what stratified analyses?
Response: Sorry for the confusions. The content has been revised as follow: Furthermore, stratified analyses were conducted. The percentage change of scores, were similar when stratified by gender, and program subtypes (Table 2).

**Table 2 stratified comparisons of percentage change of scores before and after an EBM training course**

<table>
<thead>
<tr>
<th></th>
<th>Percentage$_{EBP-K}$</th>
<th>Percentage$_{EBP-A}$</th>
<th>Percentage$_{EBP-P}$</th>
<th>Percentage$_{EBP-F}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>19.21 ± 3.2 %</td>
<td>20.83 ± 2.1 %</td>
<td>48.97 ± 8.6 %</td>
<td>17.82 ± 5.7 %</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>19.23 ± 2.2 %</td>
<td>20.84 ± 2.8 %</td>
<td>48.96 ± 7.9 %</td>
<td>17.83 ± 1.7 %</td>
</tr>
<tr>
<td>Female</td>
<td>19.18 ± 1.8 %</td>
<td>20.82 ± 2.2 %</td>
<td>48.99 ± 8.4 %</td>
<td>17.88 ± 6.1 %</td>
</tr>
<tr>
<td>$P$ value</td>
<td>0.920</td>
<td>0.200</td>
<td>0.414</td>
<td>0.925</td>
</tr>
</tbody>
</table>

**Program subtypes**
<table>
<thead>
<tr>
<th></th>
<th>Five-year</th>
<th>Eight-year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>19.25 ± 2.8 %</td>
<td>19.01 ± 3.4 %</td>
</tr>
<tr>
<td></td>
<td>20.82 ± 1.7 %</td>
<td>20.86 ± 1.1 %</td>
</tr>
<tr>
<td></td>
<td>48.95 ± 7.6 %</td>
<td>49.11 ± 9.5 %</td>
</tr>
<tr>
<td></td>
<td>17.80 ± 5.4 %</td>
<td>17.85 ± 4.8 %</td>
</tr>
</tbody>
</table>

*P* value 0.508 0.094 0.528 0.283

Minor Essential Revisions

Keywords: using MeSH terms is advisable  
Response: The MeSH terms have been used as keywords.

Discretionary Revisions

These are recommendations for improvement which the author can choose to ignore. For example clarifications, data that would be useful but not essential.

Response: Thanks for the comment. We have clarified some definitions and some terminology to make it more coherent.

Quality of written English: Needs some language corrections before being published

Response: we have got our manuscript edited by an experienced native speaker of English, also edited by Springer –EDANZ (No. C1312-30208).

Level of interest: An article of importance in its field  
Statistical review: Yes, and I have assessed the statistics in my report.  
Declaration of competing interests: I declare that I have no competing interests

Best Regards

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