Reviewer’s report

Title: Preparing Competent Graduates for Delivering Pharmaceutical Care: an Experience from Northern Cyprus

Version: 0  Date: 22 May 2019

Reviewer: Caroline K. Carrico

Reviewer's report:

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Methods:
1. Were reviewers/graders calibrated? The methods discuss a lot of pilot exercises but nothing about formal assessment of calibration on the grading. If not, this should be mentioned as a limitation. If it was, you should report the results of the calibration exercises.
2. Methods also discuss the student evaluations which were reported in a previous paper- no need to include it in this methods section if you already reported the results elsewhere.
3. Statistical methods are not appropriate for the data in this study. For example, the one-way ANOVA done on the 12 OSCE Stations should technically be a repeated-measures ANOVA since the same student contributed 7 grades to the analysis (i.e. completed 7 stations) and you would expect there to be some natural correlation among their scores on the 7 stations. Additionally, since this is a pre-post study design, a paired data analysis should be used for the t-test and McNemar's Chi-squared test instead of the traditional Chi-squared test. Although I'm not sure I noted where the chi-squared test was performed.
4. Results mention that the students only completed 7 of the OSCE stations and that they were randomly assigned. This should be explained in the methods section.

Results:
1. The results in comparing scores across the various stations doesn't seem necessary or informative. If it's important, why was the analysis not repeated for the post scores in Table 3? Did you only compare to the 2 highest scoring stations and the 2 lowest (assuming the footnote should read St 8 and not St 7).
2. Also since the results in Table 1 show there are differences based on the stations, it makes it difficult to justify comparing the pre-post scores since the stations are all completely different.
3. Comparing the OSCE competencies (tables 2 and 4) makes more sense pre/post. I think these results are presented in the text but I would recommend combining the two tables and including the p-value (from paired t-test, not t-test as performed based on the methods section) to demonstrate the changes before and after. If you cannot do the paired analysis due to the data structure (i.e. no way to link the students' two scores, you need to acknowledge this in the limitations).
4. There seem to be several mistakes in the results section:
- Table 1: assuming you should be referring to Station 8 not Station 7
- "Additionally pharmacotherapy knowledge application [...] scores were improved but not significantly" - this competency had an average score of 2.5 for pre and 2.54 for post based on the two tables... there were competencies with larger magnitude of difference so I'm assuming this was a type-o
- How can you not discuss the (likely) significant reduction in Clinical prescription management problems (3.1 vs 2.5)? Even if it's not statistically significant, it's still worth discussing.
- Results also mention significantly improvements in "promoting public health" but I don't see that item in Table 2 or 4. The titles/phrases should be identical in the tables and the text. Don't leave it to the reader to figure out what items you are referring to.
- Table 5- the p-value for 4.1-4.4 is clearly a type-o and needs to be corrected.

Discussion
1. Need to include limitations section and address: calibration of multiple graders, differences in stations pre/post, statistical analysis (unpaired analyses), etc.
2. "OSCEs were set with rigid statistical analysis to assure reliability." What is this referring to? I don't think you've made this point very clearly, especially in light of the comments I have provided regarding your methods.

Conclusion
1. "The students' competences (misspelled) were strengthened overall in eight domains of the CAPE 2013 ...." This is not supported by your results. Some of the competencies had a reduction in average score (clinical rx management problems)

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

No

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

No

**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.

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