Reviewer’s report

Title: Curricular changes: The impact on medical students knowledge of neuroanatomy

Version: 1 Date: 19 Aug 2019

Reviewer: Reviewer 2

Reviewer's report:

PEER REVIEWER ASSESSMENTS:

OBJECTIVE - Full research articles: is there a clear objective that addresses a testable research question(s) (brief or other article types: is there a clear objective)?
Yes - there is a clear objective

DESIGN - Is the current approach (including controls and analysis protocols) appropriate for the objective?
No - there are major issues

EXECUTION - Are the experiments and analyses performed with technical rigor to allow confidence in the results?
No - there are major issues

STATISTICS - Is the use of statistics in the manuscript appropriate?
No - there are issues with the statistics in the study

INTERPRETATION - Is the current interpretation/discussion of the results reasonable and not overstated?
No - there are major issues

OVERALL MANUSCRIPT POTENTIAL - Is the current version of this work technically sound? If not, can revisions be made to make the work technically sound?
Maybe - with major revisions

PEER REVIEWER COMMENTS:

GENERAL COMMENTS:
The authors provide a comparative evaluation on the acquisition of neuroanatomical knowledge and subsequent performance on a neuroanatomy examination in medical students exposed to the
information from either a clinically integrated curricular approach or a traditional stand alone approach. Evidence based studies to evaluate the efficacy of various pedagogical approaches are critical to advancing medical education however the design for this study has confounders that strongly limit the capacity to infer what differences may or may not bear out in these 2 approaches. First of all the two groups representing exclusively 3 years medical students in one group and 4th year in another. Several confounders regarding the time of exposure to the material, other background educational demographics and exposure that maybe different between the two groups were never presented and therefore could weigh heavily on how these results panned out. For instance the 3rd year students who completed the course more recently may have performed better merely because the information was more fresh in their mind? This could explain why they performed better as a group then the traditional students on the subsections that include more complex neuroanatomical networks like the cerebellum, subthalamus etc. Perhaps the 4th year traditional group did better on senses and hearing because more of them have completed a subspecialty rotation in ENT. Also no mention of how these classes may compare in terms of number of neuroscience education prior and during medical school? Without this information, it becomes quite cloudy in terms of interpreting the results that these two approaches appear to provide similar outcome efficacy?

REQUESTED REVISIONS:
comparing students who have completed the same years of medical education is the most sound in addition providing and analyzing for any differences between the groups that could also impact level on knowledge in neuroanatomy ie. previous and ongoing exposure to neuroscience education and material

ADDITIONAL REQUESTS/SUGGESTIONS:
please see suggestion regarding design and additional comparative data that could improve overall strength of the manuscript. However even with that said, a more sound approach would be to compare students who are not at 2 levels of medical school training.

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.

I am able to assess the statistics

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

Acceptable

**Declaration of competing interests**
Please complete a declaration of competing interests, considering the following questions:

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