Reviewer's report

Title: What motivates medical students to select medical studies: A systematic literature review

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Reviewer: Yen-Yuan Chen

Reviewer's report:

Thank you for this opportunity to review the manuscript—What motivates medical students to select medical studies: A systematic literature review. Here are some suggestions which may make this manuscript better:

1. In the 42 articles finally included in this study, 14 of them seemed to be focused on dental students/dentists/dentistry. However, the title of this paper seems to future readers that this systemic review is focused on medical students. I would like to suggest the authors to provide the reason(s) why dental students/dentists/dentistry were included in this systemic review which was supposed to be focused on medical students, or re-analyze the 28 articles only covering medical students, or revise the title of this systemic review.

2. In the list of the 42 articles, two of them were systemic review/literature review. Why other systemic review/literature review was included in a systemic review study which usually is expected to include only original articles.

3. The systemic review, #15, covered articles and conferences published from 1979 to 2010. This systemic review, as reported by the authors, covered articles published from 2006 to 2016. #15 was included in this study. It seemed that the weight of the articles published from 2006 to 2010 was doubled. This should be clearly mentioned in the weakness of this study, or re-analyzing the dataset again by excluding the two systemic reviews/literature reviews.

4. The authors pointed out that students in high income countries have strong financial backgrounds, so that they are more likely to pursue the third and fourth segment in the pyramid. This may not be true in some high income countries. In the U.S., as well as the likes, tuition for studying in medical schools is very high, therefore, medical students usually have loans for studying medicine. I would suggest that authors to do more literature review regarding this point.
5. One of the important results is the high-income, middle-income, low-income…. I would suggest the authors to provide a definition of the country level.

6. In the first paragraph in Background, the authors talked about health care workers shortage, and in the second paragraph, the authors presented the definition of motivation. I suggested that the authors need a transition between the two paragraphs.

7. In Discussion, the authors discussed a lot about the pyramid, which is an important point in this paper. However, medical educational implications of the study results were also very important. I would suggest the authors to clearly discussion more educational implications for this study results.

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.

Yes

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

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