Reviewer’s report

Title: Revisiting the Trajectory of Medical Students' Empathy, and Impact of Gender, Specialty Preferences and Nationality: A Systematic Review

Version: 0 Date: 25 Nov 2019

Reviewer: Thelma Quince

Reviewer's report:

Detailed comments

The title is slightly misleading since although relative comparisons are made (eg females versus males) there are few results about the actual levels of empathy (particularly given that most of the reported studies have used the JSPE) The review is about the trajectory of medical students' empathy, and impact of gender, specialty preference and nationality.

Background:

"Describe the rationale for the review in the context of what is already known." This has only been done with respect the importance of empathy and the conflicting findings concerning the trajectory of medical student empathy. The rationale for looking at gender, specialty choice and nationality in the context of what is already known has not been set out.

P1 is 22 and 23 GPs' plural or the GP's singular?

P2 I 22 additional reference to studies relating to communication skills training etc

Method:

Search strategy

The lack of discussion in the background about the impact of gender, specialty choice is mirrored in the search protocol which appears to focus on the trajectory. This is likely to have caused bias, this is acknowledged as a limitation by the authors. Similarly the search appears to have been restricted to what are albeit the major databases but there are others.

Selection of data

A little more detail is needed here: briefly background and or experience of researchers/reviewers, indication that the titles and abstracts were screened independently and some comment on intrarater reliability? (IRR is a general issue here: how the quality assessments
were made and by whom and again how potential differences were resolved.) The quality "scores" for cross sectional studies are given in the supplementary materials: was quality appraisal a selection criterion?

Results:

P5 1 1 aim or aims? As suggested above there may have been bias in the search procedure focusing on the trajectory of medical students' empathy.

Country.

Whilst the list of countries is acceptable it might have been useful to have grouped them up, particularly in the light of the comments made in respect of "Western and Non-Western" countries.

For all of the results some indication of the size (absolute or relative) of differences would have been helpful.

(I should just point out that on table 1 the authors have stated in respect of multi-centre study published in 2016 that there was a low response rate among final year students in New Zealand. This is incorrect, the response rate was 52%.)

Overall view: This is really an issue for the editor.

A] Most of those interested in empathy among medical students will be familiar with the literature and know that there is a debate about the trajectory and gender differences.

B] There is a huge "so what"? The article does not really advance the understanding of empathy among medical students. There are more pressing questions which need to be answered concerning how medical schools can develop and or select empathetic doctors, the duration and impact of interventions and most importantly the lack of association between medical students' and or physicians' self reported empathy and patients' assessment.

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.

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.

Not relevant to this manuscript

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

Acceptable

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