Reviewer’s report

Title: Training to reduce LGBTQ-related bias among medical, nursing, and dental students: A systematic review

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Reviewer: Petra Verdonk

Reviewer’s report:

This is an interesting paper, well-written, and relevant for a wider audience, not in the least medical school leadership... LGBT health issues are mostly overlooked in medical education and hence, in health care (and vice versa), and it is important that we prepare future doctors for health care for all, including sexual and gender minorities (SGM). Furthermore, doctors themselves may belong to SGM, which adds another layer to this topic. Despite the importance of this topic, its timeliness, and despite the fact that I highly welcome a review which can really add to our understanding, I have some feedback on the paper. Below, I propose changes that I hope will lead to the insight which, I think, is much much needed.

Introduction:

- I am a bit puzzled about the homeless and migrant farmer groups in the study. I do understand how bias affects health care for these groups - in fact, bias affects all health care, and these are two vulnerable groups that are hardly ever addressed, and yes, they do require attention. The authors have a fair point here, and I applaud their attempt to address the gap in the literature. But it is still a bit confusing what these groups are doing in this paper - bias towards LGBTQ individuals is already a huge and understudied topic and still deserves a paper on its own, as do the other two vulnerable groups. But I just do not understand why they are also in this paper, and why these two groups, and not other ones - undocumented migrants for instance (rather than migrant farm workers - why farm workers...?), there is no clear explanation for the choice of groups out of all the overlooked vulnerable groups in US society? Or other societies for that matter? I would much prefer a focus in the paper on LGBTQ, and I would love to see an advocacy paper from the authors about the other vulnerable groups, a paper calling out the research community for studying the usual suspects only, and forgetting about those who need our attention the most, and why on earth we do not do more to address the health needs of these groups in our curricula. Long overdue already. I just do not fully grasp the combination of these groups in this one paper.

- I am obviously not a native speaker in English. So I am never really sure whether it should be subconscious or unconscious - I know unconscious is common language use, but also a bit weird in the medical field...

- The authors refer is a lot to the IAT, which is a widely used and studied tool, but there are more scales to study stereotypes e.g. the Stereotype Content Model (Fiske and colleagues, for
instance). But I do miss a proper theoretical reflection on implicit bias, what it is and what it does, in medicine, and how it is studied in health care and from which perspectives. Next, the important step is to make the change - can implicit bias be changed, can we learn, can we overcome what we were trained to do for so long and in a context that is highly reinforcing implicit bias? That is the real question I guess, but the authors do not reflect on that issue. However, medical education in this case is about unlearning what we have learned to do automatically... My excitement with the paper was that maybe, the authors were going to answer that question, but the introduction hardly mentions the unlearning/learning to be unbiased topic itself. And I would like to see the introduction build up to that question - what do medical educators do to teach students to unlearn stereotypes and bias and what can we learn from their experiences?? The introduction does not necessarily lead us to the study of the reduction of bias in medical education - the RQ comes kind of as a surprise. It would help if the authors would

a. make a case for how bias is present in medical education and health care

b. focus on LGBTQ

c. explore the possibilities for reducing/targeting bias and effects of interventions in medical education

d. use a theoretical framework for bias reduction and learning; how can we unlearn such deeply embedded ideas, when we are entrenched in them? As DiAngelo says: white people are swimming in the ocean of whiteness - how can we see the needs of LGBTQ patients in a heteronormative society?! Then, the RQ would make fully sense, and also, much needed!!

Methods

The methods seems sound and fine, well-described. I only missed the terms 'stereotype' and 'stigma' in the search terms, would that have made sense, to add?!

Results

Seem fine, well-described

Discussion

I miss reflection about the hidden curriculum, the message conveyed in the 'rest of the curriculum', that patients are automatically assumed to be heterosexuals, the heteronormativity in the materials and delivery of education, a discussion of 'how' LGBT content is delivered, the climate in the schools etc. Furthermore, I would like to see some critical reflection on the findings. Does a lecture about LGBT health make our students better doctors, when the rest of the curriculum, the rest of medical education including the climate, and the rest of society is heteronormative, homo- and transphobic, when doctors themselves are not supposed to be gay?
What kind of education, from an SGM inclusive perspective, is really needed in medical education to avoid the reproduction of damaging stereotypes and bias, to foster health care for SGM patients? Is it possible that, if we do not take these issues seriously, our LGBT health lectures and patient cases do more damage than good? Again, like in the introduction, the combination with homelessness and migrant farm workers does not really make sense. The authors could make a case for marginalized populations in general, including homeless and migrants and farm workers, and undocumented migrants, and sex workers, and all of us located on invisible intersections, and how would their findings ‘work’ for other groups too, and how would they not work?

In general, I think the review is well done and rigorously carried out and described. I miss an adequate structure to the introduction, and I miss a critical perspective in the discussion. If the authors can take another look at that, I would be happy to see this paper published.

**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

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Not relevant to this manuscript

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