Reviewer’s report

Title: Health professions digital education on clinical practice guidelines: a systematic review by Digital Health Education collaboration

Version: 0 Date: 08 Dec 2018

Reviewer: Soudabeh Khodambashi

Reviewer’s report:

The article is well written and the applied methods for research were well described. However, one of the issues in the study is the Methods is the study selection. Authors excluded studies that "focused on computerized decision support systems" and they did not provide justifications for that. It is not clear why the computer based clinical guidelines are excluded. Computer based clinical guidelines research domain has been explored for years and there are many reasons published to justify why they are more effective in guideline dissemination and adoption than other methods, such as busy clinicians do not have enough time to spend on reading new guidelines which are updating frequently. Another reasons is that it is easier for clinicians to use computer based clinical guidelines for guidelines that are frequently getting updated and needed to be used based on patient specific problems at the point of care, rather than reading the new guidelines as an educational material.

In the Discussion section: Authors stated that "in our review we only focused on clinical practice guidelines studies and may have missed studies that report evidence-based". When we need to adopt guidelines or recommendation that required patient data, then reading guidelines by itself by busy physicians without combining it with patient data may not have good enough impact for guideline adoption and their effectiveness. If guidelines are providing certain routine procedures it may easier to deliver them as an educational material. However if guidelines and recommendations in guidelines need to be combined with patients information, then it becomes cumbersome to deliver them as an educational material, expecting clinicians to memorize and adopt them at the point of care. Therefore, I recommend that authors to differentiate between different types of guidelines and the method of delivery to the clinicians as an educational material.

In the Conclusion section: "Yet, digital education overall led to little or no difference in health professionals' behaviour as compared to control interventions.". We need to differentiate between guidelines as routine procedures and guidelines that need to be used at the point of care according to patient data. Therefore making such conclusion may not be correct as other researchers tried to apply different methods for guideline delivery and adoption for certain types of guidelines that had positive impact on health professionals' behaviour.

Since the inclusion criteria for study selection is limited, it resulted into limited conclusion that may not necessary correct. With that much of frequently updated guidelines and busy clinicians to keep track of the updates, providing guidelines to them as an educational material with i.e. 50 pages may not have much positive impact on their adoption.
In the Discussion section: authors stated that "A study on computerized clinical practice guidelines reported that more..". As stated in Methods section, weren't those studies excluded?

In the Discussion section: Authors stated that "Also, none of the studies used mobile devices for delivery of digital education interventions. Mobile-delivered education may be more suitable to meet the needs of healthcare professionals...". As the inclusion criteria in article selection was limited and did not include computer based clinical guidelines, they could not find any relevant article. Otherwise, in the domain of computer based clinical guidelines there are many studies focused on guidelines delivery on mobile devices.

In Data synthesis and analysis:

SMD should be defined at the beginning of the article.

"The I2 statistic was employed to": Reference is needed.

"The metaanalysis was performed using Review Manager 5.3 (Cochrane Library Software, Oxford, UK)": Reference is needed.

Digital learning (more interactive) vs digital learning (less interactive): These two concepts should be defined first and then present results for these two concepts.

**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.

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 recommend additional statistical review

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