Reviewer’s report

Title: Better or just more practical? An evaluation of an online postgraduate module on evidence-based medicine (EBM)

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Reviewer: Nai Ming Lai

Reviewer’s report:

Thank you for the opportunity to review this manuscript on online EBM module. The subject is important in the evolving field of EBM education and the manuscript is generally well-written. There are however three major issues which impacted on the quality of the manuscript, that I hope the authors will address: first, there was a lack of description on how the online module was designed and delivered, second, the authors seemed to have mixed up validation and user-perception of the module, and third, there were statements throughout the manuscript that referred to face-to-face learning as a comparison to online module but face-to-face teaching was not assessed in this study. Below are specific comments relating to each part of the paper.

• Major Compulsory Revisions (which the author must respond to before a decision on publication can be reached)

Overall

The study examined user-perception of an online EBM learning module, and it appeared that the participants were asked to offer their opinion on the effectiveness of the module in comparison to their past experience in learning in general, which presumably have mainly been face-to-face learning. However, the wording throughout the text seemed to suggest that this was a study that directly compared online versus face-to-face learning on EBM, which was not the case. I think the texts should be reworded to omit any reference on face-to-face learning, and if the participants were asked to reflect on the online module by drawing their previous experience on face-to-face learning, this should be clearly stated in the methods.

Abstract,

Background: “The aim of this study was to formatively evaluate this module; the broader purpose to assess the usefulness of having an online rather than a face-to-face module on EBM.”

The objectives need to be more specific: were the authors trying to evaluate the module in terms of its effectiveness in delivery, user-friendliness or relevance to practice for example? the second half of the sentence implies a comparison between online and face to face module but there was no comparison group, as commented earlier.
Methods, results

“….A document review to compare the content of the module to EBM competencies”

I feel that this should come under validation of the EBM module to determine the content validity (which should have been done during the development of the module), and not evaluation of the effectiveness of the module (which was done after the introduction of the module)

Main text

Background

The authors included predominantly information on the importance and positive aspects of online learning, and this would come across as too one-sided. It would be good to include some description on the possible short fall of online learning, such as the inability to obtain timely feedback and relative inflexibility in allowing spontaneous interaction between the learners and teachers and among learners, would be useful here so that the readers are presented with uncertainties around the overall value of online learning, which would justify the study.

Methods, study design

A major part missing was a description on how this online module was developed and delivered. These would include rationale for developing this online module in the authors’ institution, who were involved, how the module was designed, what items were included, what references were used, any validation undertaken and when it was introduced. Was there any assessment or progression rule? Was there a certificate after completion?

Results, document review

The whole paragraph is essentially a description on how content validity of this module was determined. This should have been done during the development of the module and so it is more appropriately placed in the methods alongside other details about the online module which the authors should provide, as commented above.

Discussion

Paragraph 2: “Students’ self-perceived confidence in EBM knowledge and skills shows that they were least confident in their ability to critically appraise a study on effects of interventions, even though the bulk of the module focused on this aspect of EBM”

Does it mean that critical appraisal skills delivered via the online module, or even the online module as a whole, was not effective? This is a major finding that deserves more discussion.
Conclusions

“Our study has shown that it can be effective in increasing EBM knowledge and skills of postgraduate students - not necessarily better or worse than face-to-face EBM teaching and learning; and with similar generic challenges.”

There are two problems with this statement: first, there was no objective assessment on EBM learning gain and the furthest one could claim based on the results was that the module appeared to be well-received, and second, face-to-face learning was not assessed in this study. The statements should be rephrased without any mention on face-to-face EBM learning – or the authors may qualify their statements on face-to-face learning by making it clear that they were referring to the participants’ previous learning experiences which occurred mainly via traditional face-to-face mode.

• Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Abstract, Results

“They also emphasised the importance of making EBM learning relevant and applicable.”

This statement should be made in relation to the educational intervention being assessed: was the online module effective in making EBM learning relevant and applicable?

Abstract, Conclusions

“Our study has shown that an online module on EBM can be effective in increasing EBM knowledge and skills of postgraduate students - not necessarily better or worse than face-to-face EBM teaching and learning;”

This is too non-committal. It should be rephrased with specific reference to the results of the study. Also as I have commented earlier, the reference to face-to-face EBM teaching is misleading and should be removed.

Main text, Discussion

Paragraph 3, “information overload was listed as barrier when in fact it should be motivating health care professionals to acquire the skills to deal with this overload...”

Reading the text, it appeared that the authors referred to information overload from the literature, whereas to me this might not necessarily be what the participants meant. Were the learners referring instead to the amount of information that they were required to learn in the module? This is worth exploring and elaborating.

• Discretionary Revisions (which are recommendations for improvement but which the author can choose to ignore)
Main text, Results, Tutors’ perception of the module

“Critical appraisal and a doctor’s comprehension thereof, was seen as being essential for quality reading and implementation of the evidence in practice, but also the most difficult aspect of EBM to teach to students.”

How much emphasis was given to searching pre-appraised resources in the module? I would imagine that searching pre-appraised resources would to some extent alleviate the doctor’s fear of having to critically appraise papers.

The authors also discussed the role of social media such as facebook, twitter etc. Was social media part of the module?

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests