Author's response to reviews

Title: Harmonising Evidence-Based Medicine teaching: a study of the outcomes of E-learning in five European countries

Authors:

Regina Kulier (r.kulier@bham.ac.uk)
Julie Hadley (JULIE.HADLEY@bwhct.nhs.uk)
Susanne Weinbrenner (weinbrenner@azq.de)
Berrit Meyerrose (meyerrose@azq.de)
Tamas Decsi (tamas.decsi@aoe.pte.hu)
Andrea R Horvath (Horvath@clab.szote.u-szeged.hu)
Eva Nagy (neva@clab.szote.u-szeged.hu)
Jose I Emparanza (joseempa@gmail.com)
Sjors FPJ Coppus (s.f.coppus@amc.uva.nl)
Theodoros N Arvanitis (t.arvanitis@bham.ac.uk)
Amanda Burls (A.J.BURLS@bham.ac.uk)
Juan B Cabello (jcabello@redcaspe.org)
Marcin Kacor (katarzyna.stawiarz@vp.pl)
Gianni Zanrei (gianni.zanrei@unicatt.it)
Karen Pierer (piererk@uhbs.ch)
Katarzya Stawiarz (katarzyna.stawiarz@vp.pl)
Regina Kunz (Rkunz@uhbs.ch)
Ben WJ Mol (b.w.mol@amc.uva.nl)
Khalid S Khan (k.s.khan@bham.ac.uk)

Version: 2 Date: 23 March 2008

Author's response to reviews:

Response to reviewers

We would like to thank both reviewers for their comments.

Below we listed our response to each comment in detail.

Comments S Strauss:

Major revisions:

1) was their questionnaire validated prior to implementation in this study?

Answer: we changed in’ Outcome measures (Assessments)’, line 209: The questions had previously been validated.

2) was the content in the sessions discipline specific given the various clinical disciplines of the participants?
Answer: we added in ‘Description of the e-learning course’ line 172: The content of the training materials are for medical postgraduate trainees in general. The systematic review referred to in the examples is about treatment of deep venous thrombosis, a condition known and important to all medical specialties.

3) did all the facilitators receive the same training?

Answer: we added in Administration of e-learning courses’, line 187: The facilitator was usually the principal investigator in the country and had participated in the development of the materials.

4) how were participants recruited to the sessions? Was participation mandatory?

Answer: we added in ‘Administration of e-learning courses’, line 188: Participation to the course was voluntary and participants could leave the study at any point.

5) could additional details be provided on the participants including their level of training, age, years since graduation, and the extent of previous EBM training?

Answer: we added in ‘Results’, line 259,: Age of the participants varied and therefore their level of clinical experience. In Switzerland, for example, participants were aged between 30 to 49 years.

And refer to: line 262:

In the UK, only four participants were able to attend the presentation of the e-session for module 4 due to other professional commitments. Almost all participants indicated that they are currently clinically active (92/101). Most participants in the UK (20/29), about half of all participants in Spain (5/12), 7/17 in Switzerland, 3/27 in Hungary and none in Germany had previous formal, structured EBM training.

6) Could they clarify, were the pre-and post-questionnaires completed on the same day? Have they done further follow-up to look at behaviours or if knowledge changed over time?

Answer: Part one: we changed a sentence in ‘Administration of e-learning courses’ line 193: After each module the participants completed the assessment for that module straight after before moving on to the next module.

And: line 197:

In Hungary, Spain and Switzerland modules were completed over 2-3 days, with the pre-course assessment on the first day.

Answer: Part two: we changed in ‘Meanings of our findings’, line 347: We cannot draw conclusions about the effect of the course on behavioural change or long-term educational outcomes.
7) who scored the tests? Were the assessors blinded to pre/post status of the participants?

Answer: we added in ‘Strengths and weaknesses’ line 315: Assessors were not blinded towards the pre-course scores of the participants. However, outcome measures were differences between objectively measured scores and it is unlikely that being unblinded to pre-course scores could have influenced the results.

8) the knowledge changes are statistically significant but are they clinically/educationally significant?

Answer: we added in ‘Strengths and weaknesses’ line 321: Although, statistical significant change in knowledge scores was observed between pre-and post-course tests, we cannot assume that the increase in knowledge would continue beyond the testing phase without additional follow-up assessment. To address this void, we have commenced a multi-centre randomised-controlled trial with follow-up assessment to determine if the findings are not only statistically significant but also educationally significant and that the knowledge gained is in fact retained.

9) On page 12, the authors state that this course is likely to be successful in provision of a competency certification in EBM – does this mean that they believe this level of change indicates competency?

Answer: we changed in ‘Meaning of our findings’, line 345: The aim of our study was to evaluate the feasibility of a multilingual e-EBM course and we have shown that such a course is likely to be successful in providing EBM training across countries within the EU

10) could they provide a description of their next steps? For example, given the collaborations they have achieved, do they plan to evaluate their educational intervention in an randomized trial and to determine the impact on behaviours and other outcomes?

Answer: we added and changed in ‘Recommendations for practice’, line 366: The EU EBM partnership aims to evaluate the current project in a randomised controlled trial and expand and adapt it to cover subjects other than systematic reviews of effectiveness.

Comments A Shaughnessy

Minor essential revisions:

1) The setting for this study is highly structured and not at all typical of the setting
in which the educational intervention will be used in practice. Future users are not likely to complete all modules at one time in a supervised, group session, in which they know their performance will be measured. Given a likely reactive effect due to experimental design (Hawthorne effect), results of this intervention in practice will likely be different.

Answer: we added in ‘meaning of our findings’ line 360: We are aware that our study was conducted in a more supervised and controlled environment than may be the case in a real setting which could influence future results.

2) The outcome of this study was knowledge, not behaviors. We have no idea whether the increased knowledge translates into meaningful clinical practice change. While not the focus of your study, this limitation should be mentioned.

Answer: added in ‘Meanings of our findings’ line 345: The aim of our study was to evaluate the feasibility of a multilingual e-EBM course and we have shown that such a course is likely to be successful in providing EBM training across countries within the EU. We cannot draw conclusions about the effect of the course on behavioural change or longterm educational outcomes.

3) The continuing medical education literature (see reviews by Dave Davis) has many examples of how immediate post-testing results are not maintained over even a short period of time. This limitation also should be pointed out in ‘meanings of our findings’ section.

Answer: we added in ‘Meanings of our findings’ line 345: The aim of our study was to evaluate the feasibility of a multilingual e-EBM course and we have shown that such a course is likely to be successful in providing EBM training across countries within the EU. We cannot draw conclusions about the effect of the course on behavioural change or longterm educational outcomes.

Discretionary revisions:

The authors may wish to indicate, in some way on Figure 3a, the highest possible score for each module. The bar graphs for each module are presented on the same graph, inviting readers to compare changes not only within modules but between modules. Since, I think, the unit of change for each module is an integer (i.e., one could get a score of 5 or 8 or 10, but not 5.2, 8.6, or 10.8), a change in score will have different meaning based on the total possible score.

Answer: The scores for each module are below figure 3a.