Reviewer’s report

Title: Evidence-based medicine self-assessment, knowledge, and integration into daily practice: a survey among Romanian physicians and comparison between trainees and specialists

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Reviewer: Maureen Mcevoy

Reviewer's report:

Manuscript title: Evidence-based medicine self-assessment and factual knowledge: a survey among Romanian physicians

Thank you for the opportunity to review this manuscript. The authors are clearly passionate about encouraging stronger training in EBP in Romania.

The title needs to be reconsidered. The objective in the abstract has a secondary aim, of a comparison between trainees and specialists, and the aim at the end of the Background in the main text of the article states: 'Secondarily, mobile medical applications used as EBM resources were also evaluated.'

Abstract
Within correct length (is <200 words).
Page 1, line 24: First part of the structure does not comply with BMC Medical Education- this should be Background: give the context before giving the purpose or objective of the study. The objective reported included a comparison; this is not reflected in the title. Was the comparison a secondary objective?
Page 2: Methods: needs to include a brief overview of analysis.
Page 2, line 32: Results: there are some errors that impact on clarity eg the use of 'vs,' in a significantly high percentage in both groups were women (72.4% vs 70%) in inaccurate.
Page 2, line 40: Typing error in final line: 'are/not'

Background

Page 2 line 40-51: This sentence requires further explanation or re-wording, particularly '...through which it might engender better research results.'

Page 2-3, lines 51-52: This sentence requires further explanation or re-wording, particularly 'This involves using guides resulting from systematic research on individual patients,....'

Page 3, Paragraph 2, lines 55-59: this paragraph needs to be re-written for clarity and English grammar. There are also many other studies in this area of discrepancies between perceptions of EBM and knowledge. Can the authors please clarify why this particular article by Aguirre-Raya et al 2016) was chosen here?

Page 3, lines 67-68: this sentence could be restructured: 'There is a scarcity of scientific research related to evidence-based medicine in Romania.'
Methods

Page 4, Paragraph 1, lines 79-93 Study design: there is insufficient detail about the survey including the format, wording, types of questions, options for responses and how the questionnaire was developed. The abstract stated the '…survey consisted of 18 multiple choice questions and five open-response items…' There needs to be a comprehensive overview of the survey presented in the methods. Page 5, line 103 states: 'Details related to the survey development and validation were previously published.' The reference is Reference 14: 'Capras RD, Drugan TC, Bolboacă SD. Development and Validation of a Questionnaire to Assess Evidence-Based Practice. Proceedings of the 6th IEEE International Conference onE-Health and Bioengineering - EHB 2017;6:129-132. doi:10.1109/EHB.2017.7995378.' This 2017 published manuscript refers to a 38 item questionnaire and the article itself lacks detail of the layout and format of the questions. There needs to be an explanation of the difference in the number of items alluded to in the current manuscript (23 items) and in the Capras et al (2017) article (38 items).

Page 4, Paragraph 2, lines 95-102: Further clarification is needed about the administration of the questionnaire. The Facebook professional groups to which the questionnaire was administered -how were these chosen? The authors could summarise in the text that there were 24 professional groups encompassing about 70-75,000 members (with potential overlap ie members who belonged to a number of groups?). Were any measures in place to ensure the survey was completed only once?

Page 4, line 107: can you clarify what is meant by: 'The respondents not active in their first specialty were considered as trainees.'

Page 5, Data analysis: it is difficult to comment on this when there is not a clear presentation of the types and format of questions.
Page 5, lines 114-117: there is insufficient detail about what is meant by 'the degree of recommendation was specified' and 'the level of evidence was presented' eg which evidence classification was used? Later in results (Tables 2 and 3), the format of at least 18 questions becomes clearer, but not the specific wording of the items. There are 10 multiple choice items related to knowledge awareness and attitudes to EBM and 8 multiple choice items related to medical applications on mobile phones. What were the 5 open response items? Overall, the items in the questionnaire could be better summarised and reference made to Table 2 and 3 for details

Results
Page 5, lines 123 and 125: clarify that, for example, (77.6% [70.6 to 83.5])' refers to mean and range
Page 5-7 presents the results for the participant characteristics (Table 1) and n=10 Knowledge, awareness and attitudes items with adequate clarity.
Page 8, line 138: make it clear here at the beginning, that the results of professional application usage on mobile phones will now be presented. What was the wording of these questions? As there was limited areas where there were significant differences in findings between specialists and trainees and as this comparisons x vs y contributed to some 'awkwardness' in the Discussion it may be better to give the overall results in Tables 2 and 3 in addition to the results of the two groups

Discussion
This is very long approx. 2300 words.

Try to remove the reporting of figures for specialist vs trainees when presenting results as it is
awkward and it is usually the overall combined result, rather than the comparison, that is being discussed when the term is used. This will contribute to better flow of the Discussion.

Overall, parts of the discussion should be re-written in a more focussed/targeted manner. Much of the early discussion is a repeat of the results (especially pages 9-11) with a frequent comparison to previous studies, but without a clear reason as to why these studies have been chosen for comparison. Rather than individual items, It may be better to decide on the main areas of discussion, even focussing on sections eg knowledge, awareness and attitudes as a section, medical applications and professional resources as another sections, and overall making the discussion more robust; eg on page 10 there was the beginnings of an interesting discussion on ‘... the discrepancy between how the respondents perceived their EBM knowledge and the actual knowledge...’ and how this may impact on decision-making. Another area of discussion might be to bring together in a few paragraphs, the similarities and differences between the trainees and specialists in the areas surveyed. A more focussed and concise discussion should be written.

Page 9, line 156-Page 10, line 169: there was some interesting discussion about the age of the sample and the link to use of Facebook and possible interest of younger physicians in EBP which may have resulted in them choosing to complete the online survey. This point could be taken further; essentially it meant there was a potential bias in the sample choosing to complete the survey.

Page 10, line 202-Page 11, line 213: It is not clear why the discussion moved to journal requirements for PRISMA use.

Page 11, line 214-Page 12, line 250: These 5-6 paragraphs discuss the results related to mobile phones and medical apps. This is a contemporary topic, and there are some interesting points raised, but there is still a tendency for repetition of results without depth of discussion. Regarding specialists and trainees, it may be better to pull out the main points of similarity and difference and pull these together more, as previously stated. Particular areas include trainees greater use, compared to specialists, of medical apps out of curiosity and for identifying solutions to clinical problems (where difference appeared significant). This links with the significantly greater use of disease etiology apps by trainees. These may be related to the specialists drawing on greater clinical expertise and clinical pattern recognition (which are part of an EBP approach). The point raised on page 12, lines 248-250 about the lack of EBM sources in most of the mobile medical apps is worthy of more discussion.

Page 12, line 252: Limits, Implications, perspectives (more than 2.5 pages)-use 'limitations' not 'limits'

Page 12, line 253-Page 13 , line 278: The limitation and implications of these were well presented-well done

Page 13, line 279, page 14, line 298: The strengths and contributions of the study were presented here. Caution needs to be applied in referring to specific Romanian courses and training programs when preparing this manuscript for a broader base. Discussion of the importance of greater training opportunities in EBP at undergraduate and post-graduate levels is worthwhile.

Page 14, line 299-Page 15, line 318: Much of this part of the discussion goes beyond the scope of this research, There is a move into discussion of what evidence is and the fluid and changing nature of research evidence. This could be seen as part of the argument for training in EBP to ensure a critical and deep understanding, but should only be presented with this or a similar context.
Conclusion

Adequate presentation.

In summary, the background needs a stronger focus on mobile medical applications and on perceived lower starting level of EBP knowledge, attitudes and behaviours in Romania. The title and aims/objectives need to be clearer and more strongly linked. The methods section needs a better structure, more detail and clarity, with particular attention to thorough presentation of the questionnaire. The clarity of writing and English grammar overall needs to be reviewed and tightened.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

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.

I am able to assess the statistics

Quality of written English

Please indicate the quality of language in the manuscript:

Not suitable for publication unless extensively edited

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