Author’s response to reviews

Title: Development of an e-learning prototype for assessing occupational stress-related disorders: a qualitative study

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Author’s response to reviews:

Dear editor, Dear Liam Messin,

We are herewith resubmitting the revised original manuscript ‘Development of an e-learning prototype for assessing occupational stress-related disorders: a qualitative study.’

This paper has undergone a revision in line with the reviewers’ suggestions.

Please find attached to this letter a detailed reaction setting out how we have dealt with the reviewer’s comments as requested in your e-mail 1th March 2019 (subject: submission to BMC Medical Education -MEED-D-18-00822).

We hope this paper is now suitable for publication in BMC Medical Education.

Looking forward to your reply.

Yours sincerely, also on behalf of my co-authors,
Responses to the comments from the reviewer on Manuscript MEED-D-18-00822: ‘Development of an e-learning prototype for assessing occupational stress-related disorders: a qualitative study.’ Below are the editors’ and reviewers’ remarks and suggestions stated in italics followed by our statements on how the manuscript has been changed accordingly (see ►).

Editors

The 'Ethical approval and consent to participate' statement suggests that this study protocol was not assessed by an Ethics Committee/Institutional Review Board. We would ask that you contact such a group now, local to your University, to confirm that this study would not have required ethical approval.

► The research was conducted in accordance with the declaration of Helsinki. The study protocol did not meet the criteria of the “Medical-scientific research with human participants Act”, i.e. it was not a study of a medical nature and the participants are no subject to procedures or are required to follow rules of behaviour [CCMO (Central Committee on Research Involving Human Subjects)]. So, ethical approval was not necessary to require for this study. We stated this also clearly in the document.
Reviewer #1

This paper reports on first-stage user testing of an e-learning package designed to enhance knowledge of occupational physicians in diagnosing (and preventing) occupation-related stress disorders. While the method is clearly reported, I am not sure what this paper adds to the overall literature. This "user testing" component of the development of this e-learning package is a critical component of ensuring that the final resource is useful. However, the data reported in this paper is very specific to the development of this specific resource, so think it has fairly limited contribution as a stand-alone paper. Perhaps what is presented in this paper might be more suited to be one section of a fuller description of the overall user-testing process.

This is a well-written and interesting article that presents results in a clear and straightforward manner.

► Thank you for your compliment and time for reviewing our manuscript. This study indeed is limited to ‘user testing’ component of the development of this e-learning package. We clearly defined this in the introduction (see lines 101 – 108).

1. The first sentence of the background states "Common mental disorders, defined as minor, non-psychotic mental-health problems" - I don't agree that all common mental health disorders are "minor" - I would suggest rewording this so as not to minimise the disruption or distress that if often associated with common mental disorders.

► Thank you for your comment; we agree with your statement. We skipped the wording ‘minor’. (see line 54).

2. Burnout is usually presented as one word (in the manuscript it is presented as "burn-out"). On line 59, burnout is also presented as a "disorder". While there is debate in the area about this, burnout is not currently - to my knowledge - classified as a distinct disorder.

► We agree with your first statement and have rephrased the term burnout. We know that there is a discussion about the definition and description of the term burnout. However, until now in the Netherlands burnout is classified as an occupational stress-related disorder. As such, we will apply the term disorder in this context.
3. Line 64-65: The sentence "However, consensus among occupational physicians (OPs) when it comes to assessing their work-related factors is debatable [3]." needs revision as it is currently fairly circular. Additionally the "their" is not properly identified - whose work related factors are being discussed? A revision might be "However, consensus has not been achieved among occupational physicians (OPs) when it comes to assessing the work-factors related associated with occupational stress-related disorders."

► We have rephrased the sentence in line with your suggestion (see line 63 – 65).

4. On line 69, the authors refer to "occupational diseases" - I think this should be revised to occupational stress-related disorders for consistency with other nomenclature used in the paper as well as to specify that this guide applies only to OSRD rather than the whole gamut of occupational diseases.

► To prevent confusion we have revised “occupational diseases” into “OSRDs”.

5. Methods: Line 122: the authors describe the sample as "representative". This isn't generally a term used in qualitative studies, and is also not accurate. A representative sample is one that is drawn at random from the full population sampling frame. Participants in this study were not selected in this way.

► You are right, we have deleted the term “representative”.

6. It would be typical to present demographics table with more detail about the participants. This helps the reader to determine if the results from this study may be applicable to their population.

► Thank you for your note; we have added a demographics table.

7. I think that there is a typo on line 172: "For perceived usefulness, all sub-themes 77 620were related to the theme 'diagnosing and preventing 173 occupational diseases'" - I'm not sure what "77 620" refers to.

► This is indeed a typo, which we deleted. Thank you for pointing it out.

8. In the section starting at line 177, the authors report "The participants who relied on this approach generally perceived the e-learning programme as less useful, since its structure and
steps did not suit their intuitive way of diagnosing and preventing OSRDs, or the personal approach or system they had developed over the years. I would like to see more detail about how this conclusion was drawn and a deeper explanation of how many individuals described this approach and who they were (e.g., how long had they been practising / specialising in this area?). I think that this is an important finding. When coming back to this finding in the discussion, it is generally dismissed without much discussion, and I think that more could be done here. Are these "experts" the target group for this e-learning package? Did they report that the e-learning packages would be good for novice Ops? Did they think the step-based approach presented in the package was worthwhile or did they perceive that it was missing important components? I think more attention needs to be paid to this section in the results and the discussion to more fully "pick apart" the result and then examine the implications of this.

► Thank you for your comment; you make some interesting points. Because of the inductive and qualitative research method, the amount of times this statement was made has not been counted. However, it has been a pattern that occurred in our data, since it was labeled as one of the four central themes, as explained in our “method” paragraph. For this e-learning, a target group has not been specified in terms of for instance years of experience. Initially it was meant to be useful for all OPs in The Netherlands. We added this statement in the Background (line 99-100) and also added a demographic table. Your point indeed raises the question if the target group has not been too broad. However, in our discussion section (line 250–256) we mention that tailoring the e-learning to fit the needs of OPs who relied on their own expertise was not realistic for this e-learning, since our goal was to increase the knowledge and skills to use developed registration guidelines, which were the basis of the e-learning.

9. As mentioned above, I think that the discussion need to be substantially revised to make more clear the implications that this research has to the broader field of medical education. While some reference is made back to existing literature, these references are generally to fairly well established "best practice principles" of the development of e-learning materials. If this paper is to stand alone, I think that a much more nuanced discussion is necessary.

I think the background (and discussion) requires quite a lot of revisions to support a better description of how the results from this study have applicability to the broader field of medical education.

► This study was aimed to assess the usability and feasibility of a prototype of an e-learning to support occupational physicians in diagnosing OSRDs. In the introduction we clarified the background of existing guidelines in more detail (see Box 1 and line 65-71) and already provided arguments and references why e-learning could be helpful in the medical education of occupational physicians.
To draw implications to the broader field of medical education, in the discussion we noticed the implications concerning the OPs who developed their own system to assess OSRDs over the years (see lines 256 – 262).

10. As mentioned in the results section, I think that the issue around more experienced OPs reporting that the e-learning package didn’t assist them in gaining "the full picture" needs more discussion and exploration in this section.

► The theme “constructing full clinical picture” was difficult to take into consideration, because OPs reporting on the ‘full clinical picture’ often criticised compliance with guidelines since they feel it is a ‘cookbook’ without possibilities to deviate from it. Therefore, it was complicated to adjust the e-learning programme to cater for OPs who rely on their own expertise and use a different approach from the one in the e-learning programme. Contrary, we aimed to develop an e-learning to increase the knowledge and skills of OPs in assessing and prevent OSRDs in compliance with evidence-based guidelines. (...) In order to also meet the needs of OPs who rely on their own, more intuitive system, a next step might be to adjust the e-learning according to their existing knowledge. For OPs with doubts concerning the use of guidelines, other (training) interventions could be useful to improve compliance with existing guidelines. E.g. feedback from peers or case reports may enhance knowledge and skills for work attribution. We have added this exploration in the discussion section (see lines 250 – 262).

Reviewer #2

1. The detailed explanations of an e-learning program are needed to lead the readers to understand. In lines 78-92 page 3, authors described the explanation, but that's not enough.

Please describe: Target of the program (starter or expert occupational physicians),

Goal of the program (what is performance goals and by what conditions the goals were measured) in Introduction section.

► Thank you for your comment. The e-learning was not tailored to a specific group of OPs (i.e. younger or older, experienced or starting). As such, the target group consisted of the whole group OPs as target population in The Netherlands. We added this to the Introduction (line 99 – 100). The goal of our e-learning was to increase the knowledge and skills of OPs in assessing and preventing OSRDs in compliance with evidence-based guidelines. Besides our statement in line 65 – 67 and line 72, we added this statement to our discussion section in line 254 – 257.
The e-learning consisted of four parts, namely 1) A pre-test, consisting of multiple choice questions; 2) An explanation of the six steps in the updated guideline for stress-related disorders; 3) Three cases, in which the six steps in the guideline are applied in an interactive manner; 4) A post-test, consisting of multiple choice questions. Performance was tested by assessing the OPs’ skills when it came to diagnosing OSRDs in the pre- and post-test. However, our study focussed on the parts two and three. We added this in lines 80 – 85.

2. Please describe the evaluation of the program as to the target and goal above in Discussion section.

- The e-learning was meant to be useful for all occupational physicians (OPs) in The Netherlands. In our discussion section (line 250 – 254) we mention that tailoring the e-learning to fit the needs of OPs who relied on their own expertise was not realistic for this e-learning.

The theme “constructing full clinical picture” was difficult to take into consideration, because OPs reporting on the ‘full clinical picture’ often criticised compliance with guidelines since they feel it is a ‘cookbook’ without possibilities to deviate from it. Therefore, it was complicated to adjust the e-learning programme to cater for OPs who rely on their own expertise and use a different approach from the one in the e-learning programme. Contrary, we aimed to develop an e-learning to increase the knowledge and skills of OPs to assess and prevent OSRDs to comply with evidence-based guidelines. (…) In order to also meet the needs of OPs who rely on their own, more intuitive system, a next step might be to adjust the e-learning according to their existing knowledge. For OPs with doubts concerning the use of guidelines, other (training) interventions could be useful to improve compliance with existing guidelines. E.g. feedback from peers or case reports may enhance knowledge and skills for work attribution. We have added this exploration in the discussion section (see lines 250 – 262).

3. In lines 79- 80 page 3, "The two main chapters of the developed…" And in line 81 page 4, "In the first chapter, …" Where is the second chapter?

- Thank you for your comment. We now explained the e-learning parts in more detail (see lines 80 – 85.

The e-learning consisted of four parts, namely 1) A pre-test, consisting of multiple choice questions; 2) An explanation of the six steps in the updated guideline for stress-related disorders; 3) Three cases, in which the six steps in the guideline are applied in an interactive manner; 4) A post-test, consisting of multiple choice questions. Our study aimed on the parts two and three.
4. #3: Please describe "six steps" in line 68 page 3 etc. in detail for readers.

- We now described the six steps in an additional box (see Box 1)

Box 1. Six step guideline to assess and prevent occupational diseases [ref 4]

Step 1. Determination of diagnosis OSRD

Step 2. Determine relationship with work

Step 3. Determine the nature and level of the causative exposure

Step 4. Consider other possible explanations and the role of individual susceptibility

Step 5. Conclusion and reporting

Step 6. Preventative measures and interventions

5. In line 165 page 7. How is the expertise of fifteen occupational physicians? How many years do they have the experience as an occupational physician?

- We have added a table with characteristics of our study sample.

A total of 284 OPs attended the conference about occupational stress-related disorders. The described recruiting and selection method resulted in the sample described in Table 1. The majority of participants was between 50 and 60 years old, male and employed at a health service. We added this information to our method section, line 124-125 and 138 – 139. Table 1 was added as an attachment.

Table 1. Characteristics of study sample of occupational physicians

<table>
<thead>
<tr>
<th>Age</th>
<th>#Participants</th>
<th>Experience in diagnosing OSRD</th>
</tr>
</thead>
</table>
#Participants

40-50  3    None  4
50-60  7    Some  6
60-70  4    A lot  5

Missing value 1

Sex

Employment

Male  11    Employee at health service  11
Female 4    Self-employed 4