Reviewer's report

Title: Can blended e-learning improve end of life care in nursing homes? A small-scale mixed-methods case study

Version: 2
Date: 29 January 2014

Reviewer: Gørill Haugan

Reviewer's report:

Major Compulsory Revisions
1. Is the question posed by the authors well defined?
REPLY: NO.
The research questions are not clearly and well defined. Also, I miss that the author states a clear aim for this study, followed by the research question. The aim and the research questions should be presented before the Methods section.

2. The Background section is quite clear, pointing to some important issues. However, the second paragraph from the top of page 4 is very hard to understand and follow. I read it four times and actually, I indeed had to make an effort to understand what this section is trying to present.

3. Are the methods appropriate and well described?
REPLY: NO.
I miss that the author describes the questionnaires used; developed by who? When? Measuring what? Previously used? Psychometric properties? Validated? Cronbach’s alpha? Or developed for the purpose of this study? How is the scale rated? Why is the scale adopted for this particular study? E.g. what is the NHS SHA questionnaire measuring, and the 8-item author-designed freetext pre- and post-course questionnaire? I am aware that the scales are provided as appendixes, but nevertheless to some degree they should be described to the reader.

4. In the Methods section, second paragraph, the author states: “With the exception of the audit of deceased resident notes (see below), which can be understood as indirectly measuring end of life care outcomes via “process” measures (i.e. procedures carried out to and for patients while providing care) such as advance planning discussions, data collection focused on participants’ perceptions of end of life care and their own practice rather than outcome per se”. This part is difficult to understand and to me, it is unclear and inconsistent. What is measured? How? For what intention? How is reliability-validity secured?

5. I also miss a description of the participants; either as part of the methods section or at the beginning of the result section. Only their profession is reported. What are the sample characteristics?
Methods section, the fourth paragraph states that “Interviewees (N=15) were recruited on a theoretical sampling basis…”

Is the sample used comprising these interviewees (N=15) for both quantitative measures as well as qualitative interviews? What were the main topics included in the interview guide?

However, in the Methods section, sixth paragraph, the author states “A total of 20 staff members opted to participate….only 12 of these had finished the course at the end of data collection (Table 1)”, indicating a high drop-out rate. Still, this point is not discussed as a part of a Limitation section which is a weakness of this study and the manuscript.

And, consequently, which sample is used? N=15? N=20? N=12? And which scientific approach is utilized collecting data from who? The abstract informs that “the participants were 20 members of staff at a nursing home”. And, as mentioned above, “the interviewees were N=15”.

This is confusion; it is difficult to follow the scientific approach and thus the reliability of these results.

6. Moreover, I miss that the ethical considerations are presented in the Methods section. They seem to be excluded, mentioned after the main manuscript. This is unusual, but I guess this is due to space.

7. Finally, since this paper intends “to evaluate the impact of the course on participants’ understanding of, and confidence in delivering, end of life care in one nursing home”, the kind of intervention used, that means the course, to some degree should be described.

8. Are the data sound?
   REPLY: NOT fully sound.

The results are presented together with the discussion named “RESULTS AND DISCUSSION”. I would prefer to presents the results clearly in reference to the research question(s), and then discuss these results in a “Discussion section”. Mixing it all together causes less clarity and clutters the results.

9. The Figures 1, 2, 3 and 4 are nice, but I am not convinced that they deserve such a space. I suggest that the author states clearly the main findings based in the quantitative data without giving all these figures.

10. Then follows a real lot of various sources of data collection: “Freetext questionnaire”, “Interview and workshop observation” as well as “Resident Notes Audit”; the latter based in “patient records of 10 deceased residents (5 pre and 5 post course) assessed by ABC course facilitators with regard to three categories of care:” stated in the second paragraph. How the data were collected and for what intention should be clearly stated in the methods section, and not in the results/discussion section. In addition, this part is unclear and confusing. I miss a description of the scientific approach showing how you came to these data and these results.
11. Does the manuscript adhere to the relevant standards for reporting and data deposition?
REPLY: NO
See the comments above as well as below.

12. Are the discussion and conclusions well balanced and adequately supported by the data?
REPLY: NO
The results are not clearly presented, and poorly discussed, probably because the author is trying to include too many different types of data into one single article. Moreover, the author presents the results and the discussion in a single section, instead of a separate presentation of each. I do not think this was a wise choice. With regard to the manuscript's clearness and consistence, I think it might be wiser to separate results and discussion. Further, the results and discussion section is separated into subsections (a good idea, in general) with reference to type of data rather than to the main findings. Most likely, this causes even more cluttering of the results.

The Discussion section comprises a lot of abbreviations; GP, GSF, DNAR, PPC, LCP, NHS SHA questionnaire, SHA questionnaire, EoLCS, ABC-course. This makes the manuscript difficult to read.

The CONCLUSION section comprises parts which should be part of the Discussion (paragraph 2 in particular). Furthermore, the conclusion is almost two pages (at least 1,5); the conclusion is long-drawn-out, imprecise and blurred. I miss a distinct statement of: What are the findings? How reliable are these findings? And what importance do they have?

The conclusion should state clearly the main conclusions of the research and give a clear explanation of their importance and relevance. Summary illustrations may be included.

13. Are limitations of the work clearly stated?
REPLY: NO. They are missing.

Discretionary Revisions

14. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?
REPLY: YES

15. Do the title and abstract accurately convey what has been found?
REPLY: The title seems appropriate. The Abstract is good; so, if the entire manuscript had been consistent with what is presented in the abstract, this paper would have been readable and useful.

16. Is the writing acceptable?
REPLY: YES.

I am not native English; therefore, in respect for the English language and the native Englishmen I feel that I am not the expert who should evaluate the English grammar. I think that the language is acceptable.

**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,