Reviewer's report

Title: Barriers and enablers to implementing antenatal magnesium sulphate for fetal neuroprotection guidelines: a qualitative study using the Theoretical Domains Framework

Version: 3
Date: 14 June 2015
Reviewer: Kristina Edvardsson

Reviewer's report:

Major Compulsory Revisions

1. Is the question posed by the authors well defined?
   Yes, but it is somewhat unclear if the aim of the study also to compare differences in use and knowledge in 2011 and 2012-2013 (differences between the time periods are presented in the results section and figure 1-4). This needs clarification. The study design also needs to be justified if one of the aims was to compare differences between the two time periods.

2. Are the methods appropriate and well described?
   1) The samples were randomly selected. What was the total number of health professionals from which the samples were selected at the two time points?
   2) What determined the size of the study sample (n)?
   3) How many potential participants declined participation? (each time period).
   4) Some discussion about why doctors and midwives were included in the same sample would be of value in this paper. It seems possible that knowledge and use differs between doctors and midwives. Furthermore, the proportion of doctors (obstetricians and neonatologists) in the sample differed between 2011 and 2012-2013. Thus, is it possible at all to compare knowledge and use in 2011 to 2012-2013, considering this?
   5) The set of open-ended questions used during interviews should be presented more clearly, particularly since some of the results are presented quantitatively. Did all interviews include exactly the same set of questions, or could probing questions be different in different interviews?
   6) Quantifying qualitative data is problematic, particularly when the data has not been collected in a completely structured manner. The same base question may generate different responses depending on the probing as well as other factors during interviews. How is this accounted for in the presentation of the results (quantified data). Also, five different researchers conducted the interviews. How much variation were there in the way the interviews were performed? It is stated in the discussion (row 566-7) that ‘individual questions were not framed in order
to explore each domain of the framework individually’. Please clarify this.
Summing up, the study has a qualitative study design and parts of the results are
presented quantitatively, which is problematic.

7) Did the authors use an established method for qualitative data analysis?
Please clarify and provide references if applicable.

8) Information about the length of the interviews is lacking.

9) The authors argue that they reached data saturation (row 558). However, the
manuscript lacks information that supports this statement, i.e. how, and why the
authors thought that data was saturated.

10) Participants’ statements were coded using the 14 conceptual domains of the
Theoretical domains framework. Even though a reference is provided, it would be
valuable to have these domains presented in a table or in text. Some clarification
about the structure of the results presentation would also be valuable.

3. Are the data sound?
I would need some more details about study methods (please see previous
comments) to review the results further.

4. Do the figures appear to be genuine, i.e. without evidence of manipulation?
Yes.

5. Does the manuscript adhere to the relevant standards for reporting and data
deposition?

1) In the beginning of the results ‘Knowledge and use of antenatal magnesium
sulphate’ and ‘Benefits and adverse effects of antenatal magnesium sulphate’:
These results are presented as they are derived from a structured interview, not
a semi-structured interview. Please clarify this. Were some parts of the interviews
more structured than others? The process and content of interviews need more
detail in the manuscript. I would need more information about the process of data
collection to be able to review and comment the results section further.

2) The figures should benefit from including ‘n’. However, I find it problematic that
some of the findings are presented quantitatively, as previously mentioned.

3) Please check the levels of the heading in the results section. For example,
should the heading ‘Barriers and enablers’ (row 222) be on a higher level than
the theoretical domains to which the barriers and enablers were related?

6. Are the discussion and conclusions well balanced and adequately supported
by the data?
Partly. The authors claim that the study shows an increase in self-reported use
over time (row 477-9 and abstract). The study design (qualitative) does not allow
for such comparisons to be made and this statement is thus questionable.

7. Are limitations of the work clearly stated?
No. Limitations of the study need to be addressed and discussed. One limitation is mentioned (row 546), but there are several issues that need attention in this study, particularly in relation to the study methods.

8. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?
Yes.

9. Do the title and abstract accurately convey what has been found?
Yes, the abstract is easy to read and summarises the study well. However, as previously mentioned, quantification of data in this study is questionable.

10. Is the writing acceptable?
Yes.

**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