Reviewer’s report

Title: The BARRIERS SCALE - the Barriers to Research Utilization Scale: A systematic review

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Reviewer: marije bosch

Reviewer’s report:

Thank you for the opportunity to review this potentially interesting paper, exploring the use of the BARRIERS scale, which is widely used in nursing research to identify barriers to research use. The paper provides an extensive overview of studies that used this instrument from 1991 onwards.

Major Compulsory Revisions

1. I have to say that, after reading the paper, I felt not completely sure about the exact focus and the aims of this study. The structure of the paper -I feel-, is not very clear. According to the abstract, the aim was to:
   • examine the state of knowledge resulting from use of the scale, and to
   • make recommendations about future use of the scale.
More specifically, 3 objectives are mentioned:
   • to examine the characteristics of the scale, as well as the use of the scale,
   • to determine the main barriers over time and by geographic location
   • to identify associations between nurses’ reported barriers and reported research use.

The results section in the abstract reports that
   • the majority of studies used a cross sectional design
   • the main barriers reported were related to the setting
   • and overall, identified barriers were consistent over time and across geographic location, a finding that was independent of sample size, response rates, study setting, and quality of the study.

The conclusion then is that:
   • the scale is a non specific tool
   • there is no evidence that it is a useful tool in planning implementation interventions
   • the consistency of reported barriers suggests that no further replication studies are warranted. Barriers should be measured specific to the particular context of implementation and the intended evidence to be used.

I am, however, not sure how these conclusions can be derived from the study
results?
For example, yes, the tool is non specific, but that is simply by its design?
Also, on what basis did you conclude that there is no evidence that it is a “useful”
tool? And was this one of your research questions?

2.
In the introduction on page 6, it is explained that "the current review differs from
earlier ones because: 1) the quality of the studies included is assessed; 2) the
literature is analysed, and the validity of the scale is discussed (using both
individual items as well as the four subscales, and 3) the authors provide: a
comprehensive and more in-depth analysis of trends, concordance between
studies, and associations between the results and the study characteristics.
Finally, strong conclusions “calling into questions the appropriateness of
continuing this line of inquiry” are drawn”. I am just not quite sure, based on
exactly what these strong conclusions are drawn? And I am not sure what the
current review adds to the 2008 review on this topic? Why do we want to further
study alpha values of subscales of the BARRIERS Scale, if it is decided on
forehand that we need other instruments that are more suitable for measuring
barriers that are specific to the setting / topic / research to be implemented?

3.
Clearly, ‘systematic’ methods have been used to gather data and analyse data,
but in its present form, the review feels rather ‘narrative’.

4.
The paper is rather lengthy, and it needs to be edited for language use, although
some of the language problems, such as use of incorrect tenses, (e.g. pg 6: two
previous reviews has been published) can easily be resolved by simply using the
spelling check on your computer.

5.
In the discussion section, there is no paragraph that deals with the strengths and
limitations of the current systematic review. There is also no discussion of what
this study adds to previous reviews on this topic? Especially a comparison with
the 2008 review on this topic (Carlson & Plonczynsci), in which 45 studies were
included, using partly the same research questions would have been appropriate.

6.
Also, I am not sure the headings in the discussion section are appropriate and in
concordance with the content of the text. For example, under the heading: “is the
scale reliable and valid?” there are 6 paragraphs, some of which seem to have
nothing to do with reliability or validity? (The last paragraph, for example, (pg 21)
deals with alternatives for this scale (such as the epoc classification of barriers)
and seems to be better in place under the heading “where do we go from here?”.

Minor Essential Revisions
Pg 2: apparently, medline was searched to September 2007. In the rest of the article, you use: 1991-2007.

Pg 2 + rest of paper: CINAHL instead of CINHAL.

Pg 6. “Of note Carlson… etc.”. What does ‘of note’ mean?

Pg 7.; re “slight modifications”. Would it be useful to mention how this was operationalised? For instance, was cut-off point used for the number of items (out of 28) that had to be included in the scale?

Pg 7: inclusion criteria: as one of the aims of the study was to assess the quality of the included studies: would it be useful to state what study designs were eligible for inclusion?

Pg 8: “The tools were modified to reflect that fact that all included studies used the same instrument for data collection”. What does that mean?

Pg 10; consider rewording following sentence: “also in this analysis we included articles presenting the whole study sample in preference to those reporting sub samples of the total sample”.

Pg 10: regarding the p-value to represent statistical significance: would it be helpful / appropriate to include the rational / calculation for the 0.01 level?

Pg 18: “Similar findings also resulted in 14 of the 21 studies reporting alpha values”. I am not sure what this sentence means? Perhaps similar findings were observed in 14 studies?

Pg 20: perhaps reword ‘greatest’?

Pg 21. “state of science on barriers using the BARRIERS scale”. What does that mean?


Pg 22.: Does the paragraph on the updated search belong to the methods section? And what was done with these later studies in terms of data extraction etc? Were they included in the analyses as well?

Pg 32: please note the numbering on table 4 is somewhat messy

Pg 33: table 5: column 'sample': what does ON mean?

Table 5: what do the question marks mean in the hommelstad study?

Level of interest: An article of limited interest

Quality of written English: Needs some language corrections before being published
**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'