Reviewer's report

Title: What about N? A systematic review of sample-size reporting in focus group studies

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Reviewer: Cicely Kerr

Reviewer's report:

Overall I think this is a well-written manuscript that addresses an important aspect of methodological rigour in qualitative research involving focus groups. The manuscript may be a useful addition to the qualitative research field, however I do have some concerns that the authors need to address:

• Major Compulsory Revisions

o My most significant concern with the paper is the quality of the literature search conducted. The electronic literature search described is rather limited and simple and I am concerned about the impact this may have had on the search and review results.

# Limitation of searching for only open-access publications. I appreciate there may be a pragmatic reason for this but it is a significant limitation that needs addressing in the manuscript. I ran a simple search on Pubmed (focus groups MeSH term, publication year 2008 and English Language) to attempt to quantify the effect of using the free full text filter. Without the filter the search identified 1284 publications. However, when I applied the filter the search only identified 264 publications, which meant just under 80% of potentially relevant publications are likely to have been excluded from this review as a result of this easy access approach.

# Conducting searches only in PubMed. Firstly, no justification for the use of PubMed is made in the manuscript. In my experience PubMed/Medline is not the best database for conducting literature searches for qualitative publications. Searches of databases which provide better coverage of nursing of psychological journals (e.g. EMBASE or PsychINFO) often identify greater numbers of qualitative publications. If searching for qualitative health publications it would be more common to conduct systematic searches in one or more of these databases as well as PubMed.

# Simplicity of search terms. This is perhaps less of a concern than the free full text filter and PubMed only searches. However, it is surprising that the authors did not make use of the ‘focus groups’ MeSH term available on PubMed and did not use more alternative terms for focus groups (e.g. group interviews, group discussions) to broaden the search.

o At the bottom of Page 12 there is a sentence which states “A small number of focus groups, on the other hand, was frequently described as a limitation, also when authors claimed that this number had been decided by data saturation (and
thus, according to theory, should be ideal”. I do not understand the point that is being made here about saturation. Is it that conducting only a small number of focus groups was either described as a limitation or justified by a claim that data saturation had been achieved? This needs clarifying.

O The discussion of practical reasons for the number of focus groups conducted (Page 15) is quite brief and should be expanded to include discussion of the optimum number of participants in each focus group. This is widely discussed in guidance literature and may influence the number of groups conducted. The phrase ‘how many groups the participants were divided into’ implies that researchers recruited their full sample before making a conscious decision about how to divide participants into groups. This may not have been the case. Another quite typical approach would be to schedule the first focus group when a sufficient number of participants have been recruited to make a group feasible. Then schedule the next as soon as another batch of participants has been recruited. Because of the risk of non-attendance, researchers may invite slightly more than the optimum number to a group in the hope that a sufficient number attends. Hence the numbers who participate in a group may be somewhat unpredictable. These additional practical reasons may influence the number of focus groups that can be run through recruitment difficulties.

O On Page 18 the authors refer to ‘the theory of saturation’. As far as I am aware, saturation is not a theory, rather it is just one component of qualitative research methodology that originates from grounded theory. The authors should not refer to it as a theory without expansion and citing supporting references.

O The manuscript stops short of making specific recommendations for good practice guidelines for deciding how many focus groups to conduct and reporting this with acceptable justification. As a result the manuscript risks identifying a problem without contributing to a solution. I do not think it is sufficient to simply refer to existing guidelines for reporting methods for qualitative studies e.g. RATS as these do not cover the issue of number of focus groups specifically. RATS, for example covers report of sampling methods but does not mention justification of sample size or number of focus groups. RATS hints at inconsistent reporting of methods in the red flags section but only in reporting related specifically to grounded theory. Further guidance or at the very least a good practice example identified by this review would be a useful contribution.

O The formatting of all the tables is poor. They look to have been pasted directly from SPSS output, and as such they are not print ready. Commas need to be replaced with decimals points in Tables 1 and 2. Table 3 is unwieldy and to some extent repetitive of Table 2. The number of groups in Table 3 needs to be collapsed into ranges, particularly at the higher numbers as this will make the table simpler to interpret and will better support statements made in the text. Also, I think that Tables 2 and 3 can more usefully be combined to include cross-tabulating studies that did not specify number of groups with author explanation (in case explanation of sample size/number of groups is given without specifying the exact number of groups) so that the table represents the full 220 studies.
• Minor Essential Revisions – These are just minor typos/grammatical issues
  o Line 3 on page 8, ‘then’ should be ‘than’
  o Missing close of bracket in line 3 of the bottom paragraph on page 12

• Discretionary Revisions
  o It would be useful if the authors could expand on the methods used in their ‘matrix-based qualitative analysis of texts’. Was any assistive qualitative analysis software used? How was the separate document analysed by the authors. How does this differ from the content of the standard data extraction forms?
  o At the top of page 13, in the second sentence of the Saturation section, the authors state “However, we were unconvinced by more than half of these explanations”. This sounds rather subjective and could be better phrased using the justification given in the following sentence, that more than half of these explanations were inconsistent with other methodological procedures identified.
  o There is an additional ethical issue relating to the conduct of an unnecessarily large number of focus groups, particularly focus groups with patients. Studies should not involve patients in research unnecessarily and if a qualitative research project continues to run focus groups which add no additional information then this is placing unnecessary burden on patients for no contribution to research findings and hence unethical.

**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