The critical appraisal of focus group research articles

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Background: Focus group discussions are becoming an increasingly popular methodology in primary healthcare research. They can be used to understand peoples' beliefs, opinions and attitudes about the topic of interest. With the increasing emphasis on critical appraisal of scientific research, it is obvious that reporting qualitative research has to be transparent. Not only should the methodology itself be easy to understandable and evaluate, but also the question whether focus group methodology is the most appropriate way to serve the research question should be answered. Focus group discussions are relatively new to biomedical journals, often resulting in misunderstanding and frustration for authors, reviewers and editors.
Objectives: To develop a reliable and valid checklist for the critical appraisal of focus group research articles for the information of referees and editors of medical journals, commissioners of research, but most of all to help authors to report transparently.
Methods: A review of the literature in different databases from 1990 to 2000 using the keywords 'qualitative research', 'focus groups', 'methodology' and 'standards' resulted in a checklist being issued. This checklist was submitted to an expert panel, its feasibility was addressed and the inter-rater agreement was assessed by members of the European General Practice Research Workshop.
Results: A critical appraisal checklist for focus group research articles.
Conclusions: The checklist does not replace training in the research method but it can act as a tool for authors, reviewers, editors and commissioners of research.
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Keywords: qualitative research, focus groups, methodology, critical appraisal, checklist

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Introduction

Qualitative research involves the collection, analysis and interpretation of data that are not easily reduced to numbers. These data relate to the social world and the concepts and behaviours of people within it.[1] The best known methods of qualitative research are in-depth interviews, participant observation, written records and discussion group analysis. Their application in healthcare research is rather novel.

Focus group discussions are becoming an increasingly popular methodology in primary healthcare research. This qualitative research method can be used to understand people's beliefs, opinions and attitudes and particularly how they can hold multiple viewpoints, can change their views and develop their thinking in the process of interaction with other people about the topic of interest.[2] Focus group discussions were developed as a research method by market researchers. In the 1980s social scientists started to use the method and developed a critical understanding of its use in academic research.[1] Primary healthcare researchers also started to use the method when the aim of their research was to explore people's beliefs, opinions and attitudes.

Considering the growing emphasis on critical appraisal of scientific research, it is obvious that reporting qualitative research has to be transparent. The question of how qualitative research should be evaluated is highly contested. Researchers argue that quantitative and qualitative research are grounded on fundamentally different paradigms; conventional criteria, such as validity and reliability, are inappropriate in qualitative research.[1] If scientists adopt a subtle realistic position it is possible to hold on to truth as a regulative ideal,

while, at the same time, accepting that it will always be impossible to be absolutely certain that truth has been attained in any particular instance. This allows us to assess both qualitative and quantitative research in terms of two fundamental criteria: those of validity and relevance.[1] The hallmarks of high-quality qualitative research are to be found in the same commitment to rigour, clarity and systematicity, which are the hallmarks of all good science.[1]

For decades a discussion has been going on as to whether conventional criteria can be applied to qualitative research. These criteria were developed in relation to experimental research and, in applying them to qualitative research, it is necessary to modify (or translate) them.[1]

As an applied research discipline, primary healthcare researchers seek to publish their research in journals that reach primary healthcare professionals, rather than in social science journals. However, the focus group method is relatively new to these journals which, in the past, were oriented to clinical and quantitative research. This has resulted in misunderstanding and frustration for authors, reviewers and editors.

Authors willing to publish the results of qualitative studies should thus explain clearly why the methodology used is the most appropriate to serve the research question. The methodology used should be easy to understand and evaluate from the beginning until the end of the analysis, in order to convince the critical readers. Due to a lack of routine, authors regularly have problems with being complete in reporting qualitative research, yet there is no exhaustive checklist for this kind of research articles.

This paper describes the process of development and assessment of a checklist for the critical appraisal of focus group research articles. It is neither possible nor helpful to offer a rigid checklist of rules that qualitative research must observe if it is to be judged valid. Our aim is to develop a reliable and valid checklist for the critical appraisal of focus groups research articles that can guide readers, authors, reviewers, editors and commissioners of research when assessing focus group articles. It is not intended as a substitute for a thorough understanding of the research method needed by those undertaking or supervising such research.

Methods

A checklist was written based upon a review of the literature and expert panel discussions among primary care researchers experienced in focus group research (the six authors). The search of the literature was performed using the search systems MedLine, Psyclit, Eric, Sociological and Dissertation Abstracts, from 1990 until 2000. The keywords or MeSH terms were 'qualitative research', 'focus groups', 'methodology' and 'standards'. In addition, peer-reviewed journals relevant to primary care were contacted for any guidelines on qualitative research for authors or reviewers.

To test the feasibility of using the checklist, primary care researchers not experienced in focus group research were asked to use the draft checklist to assess five focus group research articles[3-7] randomly chosen from a sample of 70 that was obtained by a MedLine search from 1994 to 1999. They measured the time needed to assess each article, judged and reported on the suitability and the applicability of the checklist. The results were used to adapt the checklist (see box 1).

Inter-rater agreement when using the checklist was assessed by 12 primary care researchers. They were invited to use the checklist to score three articles.[3-5] The GPs were recruited through the European General Practice Research Workshop. They were also invited to comment on the checklist.

Results

Literature search

In 24 review articles and six chapters in edited books no comprehensive checklist for the appraisal of focus group research was found. However, the literature covered aspects of quality assurance of qualitative research in general and focus group discussions in particular. These included standards for the quality of conclusions,[8-10] standards for the presentation of data,[11,12] standards for the selection of the type of qualitative research,[13,14] standards for the selection of focus group methodology,[15-17] critical appraisal of qualitative research,[1,18-21] guidelines for qualitative research in general,[1,8,21,23-27] guidelines for the management of focus group discussions and the analysis of data,[26-31] the importance of critical appraisal of research articles[32,33] and finally the critical appraisal of focus groups.[34]

Several authors emphasise the importance and the necessity of quality assurance in doing qualitative research and that efforts should be made to produce guidelines to critique qualitative research articles.[18,22,32,33]

At the time of our search of the literature only two medical journals, the British Medical Journal[34] and the Canadian Medical Association Journal,[8] made guidelines available for authors and reviewers of qualitative research articles. In the series of fourteen 'Users' Guidelines to the Medical Literature' published by the JAMA between 1993 and 1999, there was no room for the appraisal of qualitative research, only quantitative research was considered.

The most exhaustive critical appraisal checklist presented in the literature[35] was used as the starting point for the development of our checklist.

Expert panel discussions

The embryonic checklist was put on trial testing the topics, questions and subquestions already present, the recommendations in the literature and the knowledge, experience and appreciation of six researchers (from Belgium and UK), who were familiar with focus group discussions.

Box 1. A critical appraisal checklist for focus group research articles in primary healthcare.

Article
Authors
Title

Formulate a conclusive answer for each question assisted by the subquestions.

1 Does the article describe a topic relevant to primary healthcare?

2 Is the research question clearly formulated?

3 Is the qualitative research design appropriate for the research topic or question?
- A Would a different method have been more appropriate?
- B Were the specific purposes of the study to explore, to get a deeper understanding and/or to search for qualities embedded in the topic of interest?

4 Is the focus group technique the most appropriate qualitative research method?
Were the specific purposes of the study to know more about:
- A What and how people feel and think about the topic?
- B Peoples' attitudes, expectations and experiences?

5 Is the sampling technique appropriate?
- A Is the recruitment method explained?
- B Is the way of deciding on the planned and performed number of focus groups explained?
- C Have the relevant characteristics of the subjects been described adequately?
- D Has the relationship between subjects been described?
- E Were the context and setting clearly described?
- F Did the sample include the full range of possible cases and settings that conceptual generalisations could be made? Were efforts made to obtain data that might contradict or modify the analysis by extending the sample?

6 Was the process of information gathering described adequately?
- A Were the parts played by the moderator and observator clearly defined? Were they trained?
- B Were the degree of moderator's involvement and the degree of and the control over participants' involvement described?
- C Was there a scenario with a clear description of the focus group discussion, i.e. a list of presented topics or questions and the duration of the discussion?
- D How were the data collected?
- E How were the data prepared for analysis?

7 Did the researcher make explicit in the account the theoretical framework and methods used at every stage of the research?

8 Was information analysis clearly described?
- A What analysis method was used?
- B What quality control measures were implemented?
- C Has the researcher reflected on the influence of the method used on the results obtained?

9 Do the results address to the research question?

10 Were the conclusions trustworthy?
- A Was each discussion topic accompanied by excerpts from the interviews?
- B Were examples presented with sufficient detail?

11 Does the researcher formulate what he or she thinks the meaning is of the findings?

12 Have the study results been compared with other knowledge?
- A Are the findings consistent with existing knowledge i.e. literature or other field research?
- B Are the findings new?

13 Has the study contributed usefully to knowledge?

Final evaluation
High quality: Yes ——————————————— No
Publication: Yes ——————————————— No

Feasibility of using the checklist
The median time needed to appraise an article using the pilot version was 30 minutes (mean 68 minutes). The applicability for each article was judged as very good for three articles, good for nine articles, not sure for five, poor for one and not mentioned for two.
In the pilot version each item could be scored by 'Yes', 'No' and 'Can't tell'. The scorers found this scoring too rigid and noted difficulty in giving an overall score to the main question if different answers were given to subquestions.

Inter-rater agreement
Three focus group research papers were appraised using the edited checklist by nine primary care researchers (Denmark 2, Slovenia 2, France 1, Netherlands 1, Belgium 1, and UK 2). Three of those recruited were unable to complete the task.
Inter-rater agreement was similar at the feasibility stage and inter-agreement stage of this study. This was 68% agreement, 16% contradiction and 16% of discrepancy because of doubt. All but two questions, numbers five and six, scored more than 60%. Questions five and six (see box) scored 30 and 48%, respectively. Scorers commented on the difficulty of scoring these questions. Several participants suggested the use of a Lickert scale offering scoring possibilities ranging from yes to rather yes, and rather no to no.

Discussion
This paper offers a checklist for the appraisal of focus group research articles, developed from literature on the research method and expert panel discussions. It was tested for its feasibility and inter-rater agreement. We did not introduce the Lickert scale in the checklist because we felt we could not publish this with any further assessment. Some important issues still remain that need to be addressed.

First, this checklist has been assessed and validated for focus group research articles, and it is therefore not useful in the appraisal of other types of qualitative research.
The existing recommendations for the quality of reporting qualitative research are too broad and do not address the specific issues of the focus group methodology. In a focus group a skilled moderator plays an important role in keeping the discussion focused on the topics, statements or questions the researchers are interested in. The moderator conducts the discussion observing that the level of involvement is as non-directive as possible, but meanwhile trying to collect as much data as possible, ensuring that the desired set of topics is covered and encouraging everyone's participation. The participants are free to express their opinions and their normally private perceptions. The observer's role is to gather information on the non-verbal communication and the interaction between participants.[26-28] These are the main differences with other qualitative methods such as participant observation and in-depth interviewing. On the other hand most of the questions could be applied to other methods, replacing the specific focus group methodology questions by questions adapted to, for example, in-depth interviewing.
Second, an important criticism is that although the focus group methodology refers to the process of interaction, the checklist itself does not contain any reference to group dynamics and the interaction between focus group participants. It is precisely this element which is often overlooked in published papers. It is difficult to appraise how well and accurate the process of interaction has been incorporated in the analysis of the data. It is important that authors deal with this issue in the methods section of the article.
Third, a possible handicap is that some expertise on focus group methodology is needed to use the checklist, especially to answer some of the questions correctly. This criticism, however, can be pushed aside as there is no room in any domain for injudicious evaluation.
Fourth, it is sometimes difficult to give an overall answer when there are different opinions on the subquestions.
Fifth, the language of the checklist can be a barrier, especially for non-native English speakers.
Sixth, some peer reviewers could expect a final score after using such a critical appraisal list. However the judgement of qualitative research is not quantifiable and if quantified the cut-off for the final score would remain unclear.
Finally, one could observe that the application of the checklist might have differed if other articles had been used or if a sample of unpublished articles had been added as well. This is the main reason why an expert panel was set up to focus on which issues really needed to be incorporated in a checklist. In a way, it can be said that the expert panel triangulated the findings of the literature search.

Conclusion
The checklist does not replace training and experience in the research method for those undertaking focus group research. The main goal of the critical appraisal checklist is to be a tool for authors, peer reviewers and commissioners of research. Although this research is a small-scale study, it is probably profound enough to achieve a thrusting back of the frontiers of knowledge. Our checklist is an answer to a real need and by using it, qualitative research articles and focus group research articles, in particular, could become more transparent, of better quality and hence could be more easily published in international journals.
The checklist may be difficult to use but it can act as a reminder that the issues on the list are important, and may stimulate a growing interest in understanding the role and the limitations of focus group research for primary care. ■

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