

Quality in qualitative research

Criteria for authors and assessors in the submission and assessment of qualitative research articles for the *Medical Journal of Australia*

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Research in health care, especially clinical medicine, is an increasingly complex field that ranges from small-scale, cutting-edge benchtop science to large-scale population studies. Recently, there has been an increasing recognition by evidence-based clinical researchers that it is important to look towards qualitative research. In addition, an expanding interest in examining the attitudes, beliefs and experiences of those involved or affected by the delivery of health care have brought qualitative research into the spotlight.¹ The increased interest in this form of research has led to concerns by readers and reviewers about the assessment of quality.²⁻¹⁰ In this article, we provide definitions and standards for qualitative research that can be used for assessment. We expect that authors who submit work for publication that adheres to the suggestions in this article will increase the likelihood of acceptance for publication and, more importantly, will enhance the transferability of findings into policy and practice in the future.

Qualitative research

Most commonly, qualitative research is concerned with the systematic collection, ordering, description and interpretation of textual data generated from talk, observation or documentation. Qualitative research methods include the techniques of interviewing, observation, and document analysis. Its goal is to explore the behaviour, processes of interaction, and the meanings, values and experiences of purposefully sampled individuals and groups in their “natural” context.¹¹⁻¹⁴ The capacity to make conceptual generalisations from the local context of a qualitative study to other settings is the desired outcome.

In contrast, most quantitative research is concerned with measuring the magnitude, size or extent of a phenomenon. Data collection is by formal rules of procedure and verification, analysis is through the use of standardised statistical formats, and prediction and empirical generalisation are the desired outcomes.^{15,16} The conventional methodological criteria of quantitative research

ABSTRACT

- Qualitative research most commonly involves the systematic collection, ordering, description and interpretation of textual data generated from talk, observation or documentation.
- A report of qualitative research should address the following criteria:
 - Clarification and justification;
 - Procedural rigour;
 - Representativeness;
 - Interpretative rigour;
 - Reflexivity and evaluative rigour; and
 - Transferability.
- Because of the limitations on article length for the *Medical Journal of Australia*, authors should focus on only a couple of aspects of the research, rather than trying to present a simplified description of multiple aspects.

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— validity, reliability and empirical generalisability — are generally not directly applied to qualitative research because of the different frameworks, sampling approaches, size of sample and goals of qualitative research. Instead, terms such as *rigour* (thoroughness and appropriateness of the use of research methods), *credibility* (meaningful, well presented findings) and *relevance* (utility of findings) are used to judge the quality or “trustworthiness” of a study (see Box 1 for definitions of some common terms in qualitative research).¹⁷

MJA guidelines for assessing qualitative research

There has been a strong move towards standardising research reporting in quantitative research, as can be seen through the development of standard reporting mechanisms like the CONSORT (Consolidated Standards of Reporting Trials) statement.¹⁸ However, some question the appropriateness of using checklists to assess qualitative research because of the diversity of approaches in collecting, analysing and interpreting qualitative data.^{4,19} Furthermore, the sheer number of checklists can prove overwhelming and confusing for new researchers. A recent review of criteria for assessing interview and focus group studies revealed more than 22 checklists actively being used, and subsequently resulted in the formulation of a new 32-item guideline.²⁰

Nevertheless, it is possible to develop clear and useful generic guidelines for assessing and presenting qualitative research.^{2,7,17,21} Box 2 outlines some criteria that have been constructed with the MJA readership in mind that can be used to assess and enhance the rigour of qualitative studies. In themselves, these criteria do not ensure rigour. However, they can strengthen rigour if they are used in concordance with a broader understanding of qualitative research design, data collection and analysis.¹⁹

1 Glossary of terms

Credibility: refers to whether the findings are well presented and meaningful

Evaluative rigour: the transparent description of ethical and political aspects of the conduct of research

Procedural rigour: the transparent description of the conduct of research

Reflexivity: open acknowledgement of the complex influences among the researchers, the research topic and subjects on the research results

Transferability or relevance: refers to how useful the findings are to the context and phenomenon under study

Triangulation: a comprehensive approach to the conduct of research using multiple theories, data and methods ♦

2 Criteria for assessing qualitative research

Clarification

- What are the aims of the research?
- What is the research question?

Justification

- Why is a qualitative approach the best option to answer this question?
- Why was the particular qualitative research design chosen?

Procedural rigour

- Have the techniques of data collection been clearly documented?
- Are the forms of data analysis completely transparent?

Representativeness

- What sampling techniques have been used to answer the research question?
- Do the sampling techniques support conceptual generalisability?

Interpretation

- Has a more conceptual discussion of the results and linkage to existing theory or new theory been developed to explain the relevance of findings to a targeted audience or discipline?
- Have any negative cases been included and discussed?

Reflexivity and evaluative rigour

- Has a clear statement of the effect on the data of the researcher's views and the methods chosen been included?
- Has an explicit evaluation of the relationship between the researcher and those under research, addressing any ethical issues, been discussed?
- Has ethics approval been obtained from an appropriate institution?

Transferability

- Has a critical evaluation of the application of findings to other similar contexts been made?
- Has the relevance of these findings to current knowledge, policy, and practice or to current research been discussed? ♦

often? For how long? What interview questions were asked? What was the purpose of any observation? Which policy documents/case notes were accessed? How were they assessed? How was collected data managed?

Representativeness

There are a number of commonly available, non-probability sampling approaches. *Maximum variation sampling* seeks representativeness of all aspects of the topic in terms of participants. *Homogenous sampling* consists of the selection of a group fitting specified criteria. *Snowball sampling* involves networking from one difficult-to-access type of participant to a wider range of participants. Finally, *convenience sampling* involves studying easily accessed individuals or groups. This last technique obviously presents its own ethical dilemmas of the “insider” type and is possibly the weakest form of sampling in terms of allowing conceptual generalisability.^{4,15,16,22,23} Maximum variation is the ideal when a holistic overview of the phenomenon is sought; for instance, the question of how a particular hospital department operates may involve sampling in the wider organisation as well as within the individual department and among recipients of services.

Simply mentioning the sampling strategy in the methods section of a qualitative research paper is not sufficient. The key findings of the research need to be evaluated in reference to the diverse characteristics of the research subjects. Through constantly comparing the experiences and responses of the participants against each other, subtle but significant differences can be uncovered that can generate profound insights into the phenomena under study.¹⁹

Interpretative rigour

Interpretative rigour relates to as full as possible a demonstration of the data/evidence. In qualitative research, a commonly used concept is *inter-rater reliability*. This refers to using a type of researcher triangulation by which multiple researchers are involved in the analytical process. This is an attempt to increase the validity and reliability of the study¹⁹ through the provision of a more complex and nuanced understanding of the possible interpretations of the objects of the research.¹¹ In contrast to the quantitative research paradigm, what is important in this process is not the level of consensus, but the opportunity for discussion among analysts to provide opportunities for developing further coding.¹⁹

A related technique is that of *respondent validation*, or member checking. This entails offering subjects interviewed the opportunity to view and amend their transcripts as a type of validity.¹² However, this approach does have limitations due to the evolution over time of the positions and purposes of the researchers and participants, thereby potentially affecting interpretations and accounts. Respondent validation should be thought of as part of a process of reducing error, which involves the generation of further original data, which then requires interpretation.⁸

Other techniques that enhance interpretative rigour are the differing forms of triangulation: data (multiple evidentiary sources; ie, documents, interviews, survey data, observation), methods (multiple methods), and theory (multiple theoretical and conceptual frames applied to the research to enhance insights into phenomena). Using these forms of triangulation allows the development of a comprehensive understanding of the

Clarification and justification

As in all forms of research, clarity of research question reflected in the aims of the study is essential for evaluating results and their interpretation. The demonstration of *theoretical rigour* (referring to the soundness of fit of the research question, aims and the choice of methods appropriate to the research problem¹¹) is extremely important.

There is a wide variety of named qualitative approaches that are underpinned by particular theoretical perspectives. In addition, the researcher may use basic field research (question, investigation, interpretation). Regardless of the theoretical approach used, the choice requires justification in reference to the research question of the study.

Procedural rigour

Procedural, or methodological, rigour concerns the transparency or “explicitness” of the description of the way the research was conducted. It involves detailing issues of accessing subjects; development of rapport and trust; how data are collected, recorded, coded and analysed; and accounts of the manner in which errors or subject refusals are dealt with.^{4,11,22} In this regard, readers and reviewers may ask the following questions while examining descriptions of qualitative methods: How were participants/settings accessed? Who was interviewed/observed? How

phenomena and can ameliorate the potential bias of simply using one method.^{4,5,8,11,16,22}

In the interpretive process, accounts of “negative” or “deviant” cases are especially important. These are explanations pertaining to data or evidence that contradicts the researchers overall explanatory account of the phenomena.⁵

In sum, a clear description of what forms of analysis were used, the process and what were the major outcomes of the analytical process in terms of findings is needed to ensure quality for the author, and to enable an assessment to be made in terms of the analytical quality of the research by the reader.

Reflexivity and evaluative rigour

Reflexivity is where researchers openly acknowledge and address the influence that the relationship among the researchers, the research topic and subjects may have on the results.^{4,11,13} Fundamentally, reflexivity requires a demonstration by the researchers that they are aware of the sociocultural position they inhabit and how their value systems might affect the selection of the research problem, research design, collection and analysis of data.¹⁵ It also refers to an awareness by the researchers of the social setting of the research and of the wider social context in which it is placed.⁴

Evaluative rigour refers to ensuring that the ethical and political aspects of research are addressed. Typically, this refers to proper ethics approval from appropriate committees covering confidentiality, informed consent and steps to avoid possible adverse effects on the subjects. Importantly, where appropriate, relevant community leaders should be consulted in the design and conduct of the research.¹¹ Researchers should revisit their actions and interactions within the research process to ensure as “accurate” as possible portrayal of the production of their findings.

Transferability

Conceptual generalisability and transferability refer to how well the study's findings inform health care contexts that differ from that in which the original study was undertaken.⁴ For example, a review of data from qualitative studies was conducted on a wide variety of doctor–patient interactions about medication compliance.²⁴ The authors examined barriers to patients taking prescribed medication as directed by their doctors and found that patients were often inclined to resist taking medicines, not because of problems with the patients, doctors or systems, but because patients were concerned about the medicines. This type of study allows for the construction and transfer of general policy on medicine-taking (through, for example, less emphasis on patient behaviour modification and more emphasis on production of safer medicines) and practice (suggesting, for instance, that doctors should assist lay evaluations through provision of more information, support, feedback and safe prescribing practices).

The parameters for presenting qualitative research in the MJA

The formats of biomedical journals such as the *Medical Journal of Australia* and *BMJ* provide particular challenges for comprehensive analysis and reporting of qualitative studies.^{4,11,22} The house style of biomedical journals involves tight restrictions on word length and particular forms of presentation. For instance, lengthy ethnographic studies of health issues can require 6000–8000 words to successfully elucidate the phenomena.²⁵ Obviously, this is not

3 Format of qualitative research articles

Section	Word count
Abstract	200–250
Aims, Methods, Results, Conclusion	
Introduction and review of literature	250–300
Methods	
Approach	100–150
Setting and sampling strategy	75–100
Data collection techniques	75–100
Analysis	100–150
Results	750–900
Discussion	400–450
Implications and limitations	50–100
Total	2500

tenable within most biomedical journals, where article lengths of 2000–3000 words are more common. These raise significant limitations to an exhaustive analysis of the volume of data that is commonly produced within qualitative studies.⁵

When writing for the *MJA*, we suggest that qualitative authors focus on only a couple of aspects of their research findings and use visual displays strategically (ie, charts, quotes and tables).²² We suggest that authors avoid an overabundance of simplified descriptions of multiple aspects of the phenomena under study. This detracts from a focused, transparent and considered analysis of the core issues relevant to the objectives of the research.

Conclusion

We have set out some useful general rules that, if followed, will allow for concise and informative assessment of qualitative findings. These assessment criteria will be particularly relevant to articles that use the most common qualitative data collection techniques: interviews, focus groups, document analysis, or observation techniques (alone or in combination). We suggest that potential *MJA* authors also consider using the article format and distribution of word count presented in Box 3 to maximise the rigour and clarity of their research articles. Using this outline should allow the authors to provide the reviewers and readers with enough information on each aspect of the research to engender a sense of research rigour and the trustworthiness of research findings.

Competing interests

None identified.

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Qualitative research is a market research method that focuses on obtaining data through open-ended and conversational communication. This method focuses on the "why" rather than the "what" people think about you. Let's say you have an online shop that addresses a general audience. Another way marketers can use quality research is to understand buyers' trends. To do this, marketers need to look at historical data for both their company and their industry and identify where buyers are purchasing items in higher volumes. For example, electronics distributors know that the holiday season is a peak market for sales while life insurance agents find that spring and summer wedding months are good seasons for targeting new clients. Qualitative and Quantitative research are established and effective ways of collecting data. Learn when to use them, when not to - and how they can help you to reach your research goals. Firstly, it's important to distinguish that qualitative research is different from quantitative research. Both serve particular purposes, but are often used in combination when appropriate. What is qualitative research? Qualitative research is the act of collecting data that is non-numerical in nature. Typically, it goes beyond the information that quantitative research provides (which we will cover below) bec Abstract : Quality concerns play a central role throughout all steps of the research process in qualitative methods, from the inception of a research question and data collection, to the analysis and interpretation of research findings. For instance, the type of instrument or procedure to collect data may be evaluated in relation to quality criteria, and these may be different from those which are used to judge the data obtained from such instruments or procedures. All these may yet again be different from quality criteria that may apply to the qualitative analyses of data. A national resource Emerging criteria for quality in qualitative and interpretive research. *Qualitative Inquiry*, 1(3), 275-289. Maxwell, J. A. (2013). *Qualitative research design: An interactive approach* (3rd ed.). Thousand Oaks, CA: Sage Publications. Morse, J. M., Barrett, M., Mayan, M., Olson, K., & Spiers, J. (2002). Verification strategies for establishing reliability and validity in qualitative research. *International Journal of Qualitative Methods*, 1(2), 13-22. Quality assurance of qualitative research: A review of the discourse. *Health Research Policy and Systems*, 9(1), 43. Rolfe, G. (2006). Validity, trustworthiness and rigour: Quality and the idea of qualitative research. *Journal of Advanced Nursing*, 53(3), 304-310. Schwandt, T. A., Lincoln, Y. S., & Guba, E. G. (2007). Qualitative research is defined as a market research method that focuses on obtaining data through open-ended and conversational communication. This method is not only about "what" people think but also "why" they think so. For example, consider a convenience store looking to improve its patronage. Qualitative observation is primarily used to equate quality differences. Qualitative observation deals with the 5 major sensory organs and their functioning "sight, smell, touch, taste, and hearing. This doesn't involve measurements or numbers but instead characteristics.