Practice Qualitative Research

Critically appraising qualitative research

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Six key questions will help readers to assess qualitative research

Summary points

Appraising qualitative research is different from appraising quantitative research

Qualitative research papers should show appropriate sampling, data collection, and data analysis

Transferability of qualitative research depends on context and may be enhanced by using theory

Ethics in qualitative research goes beyond review boards' requirements to involve complex issues of confidentiality, reflexivity, and power

Over the past decade, readers of medical journals have gained skills in critically appraising studies to determine whether the results can be trusted and applied to their own practice settings. Criteria have been designed to assess studies that use quantitative methods, and these are now in common use.

In this article we offer guidance for readers on how to assess a study that uses qualitative research methods by providing six key questions to ask when reading qualitative research (box 1). However, the thorough assessment of qualitative research is an interpretive act and requires informed reflective thought rather than the simple application of a scoring system.

Box 1 Key questions to ask when reading qualitative research studies

- Was the sample used in the study appropriate to its research question?
- Were the data collected appropriately?
- Were the data analysed appropriately?
- Can I transfer the results of this study to my own setting?
- Does the study adequately address potential ethical issues, including reflexivity?
- Overall: is what the researchers did clear?

Was the sample used in the study appropriate to its research question?

One of the critical decisions in a qualitative study is whom or what to include in the sample—whom to interview, whom to observe, what texts to analyse. An understanding that qualitative research is based in experience and in the construction of meaning, combined with the specific research question, should guide the sampling process. For example, a study of the experience of survivors of domestic violence that examined their reasons for not seeking help from healthcare providers might focus on interviewing a sample of such survivors (rather than, for example, healthcare providers, social services workers, or academics in the field). The sample should be broad enough to capture the many facets of a phenomenon, and limitations to the sample should be clearly justified. Since the answers to questions of experience and meaning also relate to people's social affiliations (culture, religion, socioeconomic group, profession, etc), it is also important that the researcher acknowledges these contexts in the selection of a study sample.

In contrast with quantitative approaches, qualitative studies do not usually have predetermined sample sizes. Sampling stops when a thorough understanding of the phenomenon under study has been reached, an end point that is often called saturation. Researchers consider samples to be saturated when encounters (interviews, observations, etc) with new participants no longer elicit trends or themes not already raised by previous participants. Thus, to sample to saturation, data analysis has to happen while new data are still being collected. Multiple sampling methods may be used to broaden the understanding achieved in a study (box 2). These sampling issues should be clearly articulated in the methods section.

Box 2 Qualitative sampling methods for interviews and focus groups[9]

Examples are for a hypothetical study of financial concerns among adult patients with chronic renal failure receiving ongoing haemodialysis in a single hospital outpatient unit.

Typical case sampling—sampling the most ordinary, usual cases of a phenomenon

The sample would include patients likely to have had typical experiences for that haemodialysis unit and patients who fit the profile of patients in the unit for factors found on literature review. Other typical cases could be found via snowball sampling (see below)

Deviant case sampling—sampling the most extreme cases of a phenomenon

The sample would include patients likely to have had different experiences of relevant aspects of haemodialysis. For example, if most patients in the unit are 60-70 years old and recently began haemodialysis for diabetic nephropathy, researchers might sample the unmarried university student in his 20s on haemodialysis since childhood, the 32 year old woman with lupus who is now trying to get pregnant, and the 90 year old who newly started haemodialysis due to an adverse reaction to radio-opaque contrast dye. Other deviant cases could be found via theoretical and/or snowball sampling (see below)

Critical case sampling—sampling cases that are predicted (based on theoretical models or previous research) to be especially information-rich and thus particularly illuminating

The nature of this sample depends on previous research. For example, if research showed that marital status was a major determinant of financial concerns for haemodialysis patients, then critical cases might include patients whose marital status changed while on haemodialysis

Maximum-variation sampling—sampling as wide a range of perspectives as possible to capture the broadest set of information and experiences)

The sample would include typical, deviant, and critical cases (as above), plus any other perspectives identified

Confirming-disconfirming sampling—Sampling both individuals or texts whose perspectives are likely to confirm the researcher's developing understanding of the phenomenon under study and those whose perspectives are likely to challenge that understanding

The sample would include patients whose experiences would likely either confirm or disconfirm what the researchers had already learnt (from other patients) about financial concerns among patients in the haemodialysis unit. This could be accomplished via theoretical and/or snowball sampling (see below)

Snowball sampling—sampling participants found by asking current participants in a study to recommend others whose experiences would be relevant to the study

Current participants could be asked to provide the names of others in the unit who they thought, when asked about financial concerns, would either share their views (confirming), disagree with their views (disconfirming), have views typical of patients on their unit (typical cases), or have views different from most other patients on their unit (deviant cases)

Theoretical sampling—sampling individuals or texts whom the researchers predict (based on theoretical models or previous research) would add new perspectives to those already represented in the sample

Researchers could use their understanding of known issues for haemodialysis patients that would, in theory, relate to financial concerns to ensure that the relevant perspectives were represented in the study. For example, if, as the research progressed, it turned out that none of the patients in the sample had had to change or leave a job in order to accommodate haemodialysis scheduling, the researchers might (based on previous research) choose to intentionally sample patients who had left their jobs because of the time

commitment of haemodialysis (but who could not do peritoneal dialysis) and others who had switched to jobs with more flexible scheduling because of their need for haemodialysis

Were the data collected appropriately?

It is important that a qualitative study carefully describes the methods used in collecting data. The appropriateness of the method(s) selected to use for the specific research question should be justified, ideally with reference to the research literature. It should be clear that methods were used systematically and in an organised manner. Attention should be paid to specific methodological challenges such as the Hawthorne effect,[1] whereby the presence of an observer may influence participants' behaviours. By using a technique called thick description, qualitative studies often aim to include enough contextual information to provide readers with a sense of what it was like to have been in the research setting.

Another technique that is often used is triangulation, with which a researcher uses multiple methods or perspectives to help produce a more comprehensive set of findings. A study can triangulate data, using different sources of data to examine a phenomenon in different contexts (for example, interviewing palliative patients who are at home, those who are in acute care hospitals, and those who are in specialist palliative care units); it can also triangulate methods, collecting different types of data (for example, interviews, focus groups, observations) to increase insight into a phenomenon.

Another common technique is the use of an iterative process, whereby concurrent data analysis is used to inform data collection. For example, concurrent analysis of an interview study about lack of adherence to medications among a particular social group might show that early participants seem to be dismissive of the efforts of their local pharmacists; the interview script might then be changed to include an exploration of this phenomenon. The iterative process constitutes a distinctive qualitative tradition, in contrast to the tradition of stable processes and measures in quantitative studies. Iterations should be explicit and justified with reference to the research question and sampling techniques so that the reader understands how data collection shaped the resulting insights.

Were the data analysed appropriately?

Qualitative studies should include a clear description of a systematic form of data analysis. Many legitimate analytical approaches exist; regardless of which is used, the study should report what was done, how, and by whom. If an iterative process was used, it should be clearly delineated. If more than one researcher analysed the data (which depends on the methodology used) it should be clear how differences between analyses were negotiated. Many studies make reference to a technique called member checking, wherein the researcher shows all or part of the study's findings to participants to determine if they are in accord with their experiences.[2] Studies may also describe an audit trail, which might include researchers' analysis notes, minutes of researchers' meetings, and other materials that could be used to follow the research process.

Can I transfer the results of this study to my own setting?

The contextual nature of qualitative research means that careful thought must be given to the potential transferability of its results to other sociocultural settings. Though the study should discuss the extent of the findings' resonance with the published literature,[3] much of the onus of assessing transferability is left to

readers, who must decide if the setting of the study is sufficiently similar for its results to be transferable to their own context. In doing so, the reader looks for resonance—the extent that research findings have meaning for the reader.

Transferability may be helped by the study's discussion of how its results advance theoretical understandings that are relevant to multiple situations. For example, a study of patients' preferences in palliative care may contribute to theories of ethics and humanity in medicine, thus suggesting relevance to other clinical situations such as the informed consent exchange before treatment. We have explained elsewhere in this series the importance of theory in qualitative research, and there are many who believe that a key indicator of quality in qualitative research is its contribution to advancing theoretical understanding as well as useful knowledge. This debate continues in the literature,[4] but from a pragmatic perspective most qualitative studies in health professions journals emphasise results that relate to practice; theoretical discussions tend to be published elsewhere.

Does the study adequately address potential ethical issues, including reflexivity?

Reflexivity is particularly important within the qualitative paradigm. Reflexivity refers to recognition of the influence a researcher brings to the research process. It highlights potential power relationships between the researcher and research participants that might shape the data being collected, particularly when the researcher is a healthcare professional or educator and the participant is a patient, client, or student.[5] It also acknowledges how a researcher's gender, ethnic background, profession, and social status influence the choices made within the study, such as the research question itself and the methods of data collection.[6] [7]

Research articles written in the qualitative paradigm should show evidence both of reflexive practice and of consideration of other relevant ethical issues. Ethics in qualitative research should extend beyond prescriptive guidelines and research ethics boards into a thorough exploration of the ethical consequences of collecting personal experiences and opening those experiences to public scrutiny (a detailed discussion of this problem within a research report may, however, be limited by the practicalities of word count limitations).[8] Issues of confidentiality and anonymity can become quite complex when data constitute personal reports of experience or perception; the need to minimise harm may involve not only protection from external scrutiny but also mechanisms to mitigate potential distress to participants from sharing their personal stories.

In conclusion: is what the researchers did clear?

The qualitative paradigm includes a wide range of theoretical and methodological options, and qualitative studies must include clear descriptions of how they were conducted, including the selection of the study sample, the data collection methods, and the analysis process. The list of key questions for beginning readers to ask when reading qualitative research articles (see box 1) is intended not as a finite checklist, but rather as a beginner's guide to a complex topic. Critical appraisal of particular qualitative articles may differ according to the theories and methodologies used, and achieving a nuanced understanding in this area is fairly complex.

Further reading

Books

Crabtree F, Miller WL, eds. *Doing qualitative research*. 2nd ed. Thousand Oaks, CA: Sage, 1999.

Denzin NK, Lincoln YS, eds. *Handbook of qualitative research*. 2nd ed. Thousand Oaks, CA: Sage, 2000.

Finlay L, Ballinger C, eds. *Qualitative research for allied health professionals: challenging choices*. Chichester: Wiley, 2006.

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Green J, Thorogood N. *Qualitative methods for health research*. London: Sage, 2004.

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Silverman D. *Doing qualitative research*. Thousand Oaks, CA: Sage, 2000.

Journal articles

Greenhalgh T. How to read a paper: papers that go beyond numbers. *BMJ* 1997;315:740-3.

Mays N, Pope C. Qualitative research: Rigour and qualitative research. *BMJ* 1995;311:109-12.

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Popay J, Rogers A, Williams G. Rationale and standards for the systematic review of qualitative literature in health services research. *Qual Health Res* 1998;8:341-51.

Internet resources

National Health Service Public Health Resource Unit. *Critical appraisal skills programme: qualitative research appraisal tool*. 2006. www.phru.nhs.uk/Doc_Links/Qualitative%20Appraisal%20Tool.pdf

Notes

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Footnotes

- Related to doi: , 10.1136/bmj.a288

- doi: , 10.1136/bmj.39602.690162.47
- doi: , 10.1136/bmj.a1020
- doi: , 10.1136/bmj.a879
- doi: 10.1136/bmj.a949

- This is the last in a series of six articles that aim to help readers to critically appraise the increasing number of qualitative research articles in clinical journals. The series editors are Ayelet Kuper and Scott Reeves.
- For a definition of general terms relating to qualitative research, see the first article in this series.
- Contributors: AK wrote the first draft of the article and collated comments for subsequent iterations. LL and WL made substantial contributions to the structure and content, provided examples, and gave feedback on successive drafts. AK is the guarantor.

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