Practice

Qualitative Research

An introduction to reading and appraising qualitative research

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This article explores the difference between qualitative and quantitative research and the need for doctors to be able to interpret and appraise qualitative research

The number of qualitative research articles published in medical journals has increased substantially over the past few years.1 Qualitative studies have contributed to our understanding of important clinical issues, such as patients’ reasons for following or abandoning medical recommendations2 3 and patients’ and carers’ needs and wishes at the end of life.4 5 None the less, healthcare professionals still have strong concerns about a widespread lack of understanding of the nature and uses of such research.1 6 7

This knowledge gap can be particularly problematic for a physician who is asked to review, for a journal or a grant agency, one of the increasing numbers of papers that makes use of qualitative or "mixed" (combined quantitative and qualitative) methods. Several articles in various medical subfields8 9 10 have highlighted this problem in the review process. It can lead to refusals by journals to publish well conducted research because of a lack of understanding of the methods involved.10 However, this same knowledge deficit among reviewers can also result in the acceptance and publication of qualitative articles that are methodologically poor.9

Arguments from the proponents of evidence based medicine about the need for clinicians to evaluate evidence and incorporate it into their own practice are now well accepted. Busy clinicians often depend on journals’ peer review processes to evaluate the evidence for them, but this strategy is less reliable for qualitative papers than it is for their quantitative counterparts. However, although physicians who routinely read medical journals are increasingly able to critically appraise methodologically straightforward quantitative studies (and have access to excellent published resources11 12 for evaluating more complex studies), they have less access to the resources and training needed to appraise qualitative work.

Several attempts have been made to fill this gap in the clinical medical literature.13 14 15 16 These articles, however, simplify qualitative methodology for the medical reader and treat it as a homogeneous entity, giving little attention to its historical traditions and theoretical bases. In fact, "qualitative methods" is an umbrella term for a heterogeneous group of methodologies with different theoretical underpinnings and different ways of thinking about knowledge. Different qualitative methodologies are useful for asking different sorts of questions. Thus, just as randomised controlled trials, meta-analyses, and case-control studies are designed for answering different types of research questions, different kinds of qualitative research are useful in studying a variety of problems. Further, these different qualitative research methods need to be appraised in different ways.
This article is the first in a series that will introduce several major qualitative research approaches to readers. These approaches may differ at four different levels: in the tools that qualitative researchers use, in the methodologies they use to analyse those tools, in the theories that inform those methodologies, and in their beliefs about knowledge itself. Although we will examine methodologies and theories separately for the sake of clarity, it is important to realise that qualitative researchers pay attention to the theoretical bases of their methodological approaches, and so their choices of which theory and which methodologies to use are related. This series will also inform readers about appropriate ways to determine the quality and usefulness of qualitative clinical research. Additionally, we have compiled a table with a list of definitions of key terms used in the articles (table 1).

View this table: Table 1 Definitions of key terms used in the articles in this series
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What's so different about qualitative research?
The differences between what are commonly called quantitative and qualitative research run deeper than the presence and absence of numbers. In general, quantitative research focuses on answering the questions "what?" "how much?" and "why?" whereas qualitative research focuses on answering the questions "why?" and "how?" Qualitative research also allows for the generation of rich data and the exploration of "real life" behaviour, enabling research participants to speak for themselves. Box 1 contains recent examples of questions examined in studies using qualitative research methods.

**Box 1 Recent research questions examined in studies using qualitative methods**

- How do women who are being abused by their partners want their health care providers to react to the disclosure of this abuse? (Feder GS, Hutson M, Ramsay J, Taket AR. Women exposed to intimate partner violence: expectations and experiences when they encounter health care professionals: a meta-analysis of qualitative studies. Arch Intern Med 2006;166(1):22-37)
- How do patients and physicians think that medical errors should be discussed? (Gallagher TH, Waterman AD, Ebers AG, Fraser VJ, Levinson W. Patients' and physicians’ attitudes regarding the disclosure of medical errors. JAMA 2003;289:1001-7)
- What medical and non-medical factors affect the priorities for admission to a hospital’s critical care unit? (Mielke J, Martin DK, Singer PA. Priority setting in a hospital critical care unit: qualitative case study. Crit Care Med 2003;31:2764-8)
- How do the school aged children of women in whom breast cancer has been newly diagnosed perceive their mothers’ illness and its treatment? (Forrest G, Plumb C, Ziebland S, Stein A. Breast
Many quantitative researchers in the health sciences work from the assumption that there is an absolute truth, a "reality," which they are trying to discover. For these researchers, knowledge is objective and neutral. This belief about knowledge has been called "objectivism" and the theoretical framework it implies is called "positivism" (see table 2). However, the relevance of this objectivist belief about knowledge has been the subject of challenges since the end of the 19th century. Many of these challenges have come from studies of social phenomena, such as individual and group behaviour. Most qualitative researchers today share a different belief about knowledge, called "constructivism," which holds that the reality we perceive is constructed by our social, historical, and individual contexts.

Most of the qualitative research theories and methodologies that will be discussed in this series assume this constructivist approach to the nature of knowledge. As table 2 shows, constructivism encompasses many theories, which differ on such matters as how much of someone’s perception of reality results from aspects of that individual and how much from aspects of the society that surrounds him or her. Some theories (such as interactionism) also assume that there is one shared reality for a group of people, while others (such as postmodernism) assume that multiple realities exist in parallel because of the differences between individuals. However, in all of these theoretical frameworks, individuals create, negotiate, and interpret meanings for their actions and for the social situations in which they exist. This does not usually imply the lack of the real physical world around us, just that our interpretations of that world can differ depending on our social contexts.

Importantly, researchers can also use qualitative methods (such as statistics) and believe that reality is constructed. For example, the items contained in a survey of patient satisfaction are constructed by researchers and will reflect their understanding of the range of possible things about which a patient might be satisfied (or not). Table 2 summarises a comparison between objectivist and constructivist approaches.

How does qualitative research work?

Qualitative research aims to generate in-depth accounts from individuals and groups by talking with them, watching their behaviour, and analysing their artefacts (such as diaries, meeting minutes, photographs) and taking into account the different contexts in which they are based. Qualitative researchers primarily gather data from interviews (semistructured or unstructured), focus groups, observations, or documents and other written artefacts. Their data analysis is largely inductive, allowing meaning to emerge from the data, rather than the more deductive, hypothesis centred approach favoured by quantitative researchers. Analysis in qualitative research is also theory based and often iterative, moving between empirical findings and conceptual frameworks.

Understanding the context in which people live is a central concern for qualitative researchers. Qualitative researchers need to identify their own contexts so that they understand how their own views and beliefs may influence the interactions they have with their participants (a process often referred to as "situating" themselves). Research questions and findings are therefore invariably and directly influenced by the researchers’ perspectives and by the unique perspectives of their research participants. This influence should be made explicit in qualitative research papers. It is distinctly different from what the quantitative world would call "bias," because the term bias implies that there is a true reality that the researchers’ perspectives are hindering them from seeing.

Qualitative researchers, in contrast, generally believe that such "reality" is a construction. In the qualitative paradigm, the goal is precisely to understand, not erase, differing perspectives. These perspectives are accepted as inescapably affecting all research (both qualitative and quantitative), whether through choice of research questions and methods, through the process of data interpretation, or through the choice of which results to publish. The process of situating the researcher’s viewpoint allows readers to decide for themselves the effect such perspectives might have had on the research. The findings of a qualitative study are also not intended to be generalisable in the same way as the results of a quantitative study. They may, however, be transferable to other contexts, and readers can assess their applicability to their own settings. Study results can also be used to extend or modify existing theories; as theories are often used across multiple domains, changes in such theories can in turn affect thinking in other
research areas (the use of theories in qualitative research is the topic of a later paper in this series).

Conclusions

Qualitative methods are becoming increasingly prevalent in medical and related research. They provide additional ways for health researchers to explore and explain the contexts in which they and their patients function, enabling a more comprehensive understanding of many aspects of the healthcare system. The biggest challenge facing a new reader in this field is the plethora of unfamiliar terms and concepts in the qualitative approach. This series is intended to help readers to understand the qualitative research that may be relevant to their clinical practice.

Summary points box

- The presence of qualitative research articles in clinical journals has increased substantially in recent years
- Clinicians need to be able to interpret and appraise qualitative research to apply its results to their practice
- Qualitative researchers make different assumptions from quantitative researchers and therefore use different data collection and analysis tools
- Quantitative research focuses on answering the questions "what?" "how much?" and "why?" whereas qualitative research focuses on answering the questions "why?" and "how?"

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This is the first 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.

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