

Qualitative Research Is a Valid Alternative Too

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Objective. To describe the main qualitative research techniques through systematic review of Spanish studies published during the previous 5 years.

Design. Systematic review.

Data sources. The Índice Médico Español (bibliographic database of items published in Spanish health sciences journals) was searched, and systematic searches of the journals *Atención Primaria*, *Gaceta Sanitaria*, and *Revista de Calidad Asistencial* were done. Study selection. We included studies carried out with any type of qualitative research technique. Also included were studies that reviewed qualitative research techniques. We excluded studies that used a qualitative technique but were based mainly on quantitative research techniques. The review was done during the period from April 1997 to April 2002.

Results. Most of the studies we reviewed used only one technique (80.5%). When more than one technique was used in combination (19.5% of the articles we reviewed), focus groups and interviews were usually used. The techniques identified were focus group (used in 34% of the articles reviewed), interview (24%), the Delphi technique (10%), content analysis (8%), nominal group (8%), metaplan (2%), and Philips 6/6 (2%).

Conclusions. Qualitative research is a valid alternative, and if used with appropriate methodological rigor it can be of considerable use to health care professionals.

Key words: Review. Qualitative research. Methodology.

LA INVESTIGACIÓN CUALITATIVA:
UNA ALTERNATIVA TAMBIÉN
VÁLIDA

Objetivo. Describir las principales técnicas de investigación cualitativa mediante la revisión sistemática de los trabajos españoles publicados en los últimos 5 años.

Diseño. Revisión sistemática.

Fuentes de datos. Búsqueda en el Índice Médico Español y búsqueda sistemática en las revistas *ATENCIÓN PRIMARIA*, *Gaceta Sanitaria* y *Revista de Calidad Asistencial*.

Selección de estudios. Se incluyeron los trabajos realizados mediante técnicas de investigación cualitativa en cualquiera de sus modalidades. Se incluyeron también los trabajos que hacían una revisión de las técnicas de investigación cualitativa. Se excluyeron las investigaciones que, aunque aplican alguna técnica cualitativa, están basadas fundamentalmente en técnicas de investigación cuantitativa.

La revisión se realizó entre abril de 1997 y abril de 2002.

Resultados. La mayor parte de los trabajos revisados emplearon una única técnica (80,5%). En los casos en que se combinaron varias (19,5% de los artículos revisados), habitualmente se empleaban los grupos focales y la entrevista. Las técnicas empleadas fueron: grupo focal (utilizadas en el 34% de los trabajos revisados), entrevista (24%), Delphi (10%), análisis de contenido (8%), grupo nominal (8%), Metaplan (2%) y Philips 6/6 (2%).

Conclusiones. La investigación cualitativa es una alternativa también válida y, utilizada con el rigor metodológico apropiado, puede resultar de gran interés para los profesionales del ámbito de la salud.

Palabras clave: Revisión. Investigación cualitativa. Metodología.

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Introduction

In recent years qualitative research (QR) in health sciences has attracted the attention of both those who perform research concerning health care systems and those who work in clinical settings. Topics that are especially suitable for qualitative methods include quality analysis as well as aspects that are hard to study with quantitative approaches, such as determining the social impact of political decisions, identifying changes needed in professional roles, consensus-building for reaching decisions on policies to be put into practice, analyzing the patient-physician relationship, or identifying issues that matter most to different interest groups.

Quantitative research, on the other hand, is more concerned with determining causal relationships, and with measuring or predicting phenomena as accurately as possible.

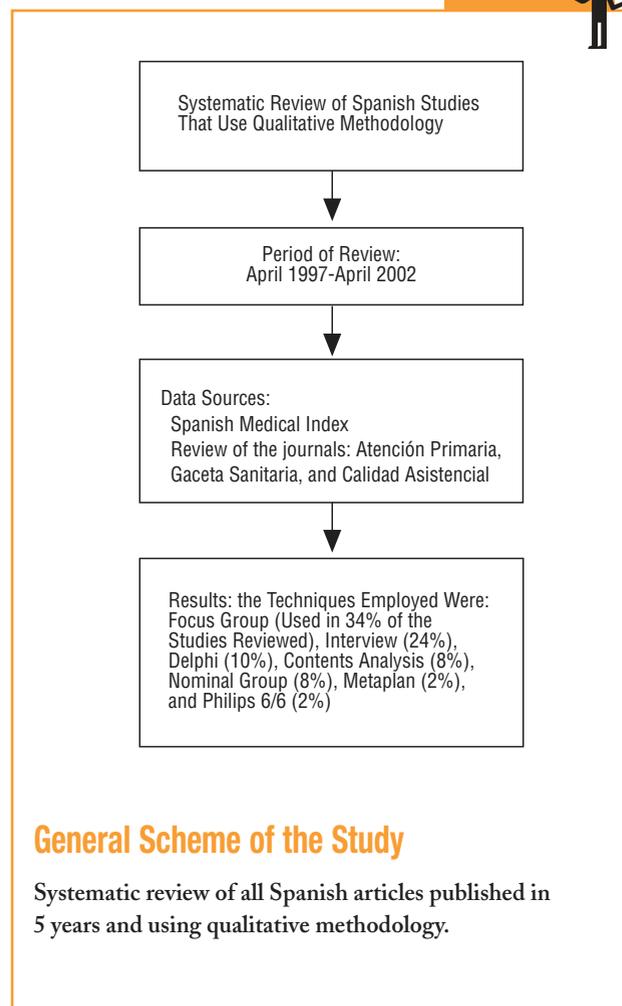
Qualitative research approaches reality from a wholistic perspective that tries to comprehend or describe it without resorting to hypothesis-formulating or hypothesis-testing, establishing objective measures, controlling carefully for all variables or randomly selecting participants. It should be noted that the QR focus cannot be considered useful for answering the same questions that quantitative research is intended to answer. The aims of qualitative studies such as those summarized in Table 1 are completely different from those of quantitative studies, although in many cases the two approaches complement each other.

Thus QR techniques are applied in a number of settings where they are particularly useful, and where they are the most appropriate way to gather information, analyze trends and examine our knowledge of a changing reality.¹ Examples of tasks for which QR methods are potentially well suited are analyzing the opinions or experiences of patients in a given segment of the health care system,^{2,3} identifying health care priorities,⁴ and gathering ideas about ways to improve the quality of care.^{5,6} Like all research techniques, QR methods are based on assumptions and must be applied with rigor to ensure that the results are valid. In particular, two essential features of these techniques deserve emphasis. First, experts are chosen to reflect the different sensibilities, perspectives and points of view of different reference groups. Second, triangulation, i.e., consulting similar peer groups independently in order to obtain contrasting viewpoints, is used whenever possible to ensure the validity of the results.^{7,8}

The main differences between QR and quantitative research can be summarized as follows:⁹⁻¹³

- Qualitative research attempts to describe reality by assuming a degree of subjectivity and trying not to fragment reality so as not to dilute its complexity and

Material and methods



dynamism. Quantitative research is more reductionist in nature and seeks to describe reality in the most objective terms possible, when necessary breaking reality down in order to analyze a part of it in detail.

- Qualitative research arises sometimes from theories, models or assumptions, and other times from observations or questions that researchers formulate about issues, whereas quantitative research divides reality into parcels to test a hypothesis. Qualitative research accepts the possibility that the conclusions may at times be biased. Quantitative research draws on designs that seek by all means possible to avoid any bias or other source of error.

- Subjects invited to participate in QR are chosen in a nonrandom manner in most cases because of their knowledge, experience, professional or personal characteristics. In other words, the subjects who are chosen are assumed *a priori* to have “something to say.” Quantitative research, although it also involves different interest groups or reference groups connected with any

TABLE 1 Comparison of Quantitative Versus Qualitative Research Methods

Methods	Qualitative	Quantitative
	Observational	Experimental
Aim	Classification	Causal relation
Reasoning	Inductive	Deductive
Sampling	Forced	Statistical
Validity	Triangulation	Experimental contro

given issue, uses selection criteria based mainly on chance to ensure that participants are independent.

– The internal and external validity of QR is based mainly on the appropriate selection of subjects based on their professional or social representativeness, and on comparison of the results obtained with different methods or with different groups (triangulation). The internal validity of quantitative research is dependent mainly on the rigorous control of biases and sources of error, and its external validity depends on the degree of similarity between the subjects and the target population. Qualitative research is being used increasingly as a source of information¹⁴ or background knowledge for research projects, and is thus used in association with quantitative research techniques.

When QR techniques are described, a distinction is often made between eminently descriptive techniques used for information analysis, and the so-called consensus techniques.¹⁵

Information analysis techniques are mainly descriptive and aim to comprehend or understand reality from different perspectives. Consensus techniques aim to reach agreement on subjects of interest for which conclusive information is unavailable, or when information is hard to obtain and decisions need to be taken or probable courses of action need to be decided. In practice, it is not unusual to find both types of techniques being used together in the same research project.

The aim of this study was to describe the use of qualitative methods in articles published in Spanish health science journals. We quantified the use of qualitative techniques and determined which were used most often.

Material and Methods

We reviewed research articles based on qualitative research methods and published during the period from April 1997 to April 2002. Items published in Spanish journals were located by searching the Índice Médico Español (IME) bibliographic database with the search terms *métodos cualitativos* and *investigación cualitativa*.

In addition we performed a systematic search for relevant items published in the journals ATENCIÓN PRIMARIA, *Gaceta Sanitaria*

and *Revista de Calidad Asistencial*, as studies based on qualitative methods usually appear in these serial publications.

The inclusion criteria were therefore intended to locate articles published in health science journals indexed in the IME (with special emphasis on the serial publications listed above) that had been performed entirely with qualitative research methods of any type. We also included articles that reviewed qualitative research techniques and described the advantages and drawbacks of this type of method in comparison to quantitative methods.

The main exclusion criterion was the use of predominantly quantitative research methods even if a qualitative technique had been used for part of the study.

The literature review was carried out during the period from September 2002 to February 2003.

Results

In Spain the number of studies done with QR methods has increased steadily as these methods have gained in importance (Table 2).¹⁶⁻²⁶ Qualitative methods have been, in the opinion of many authors, underused because the advantages of applying these techniques are not well understood.

The Spanish journal that published the largest number of qualitative studies is ATENCIÓN PRIMARIA (49% of all articles reviewed). Of the health science journals we analyzed, those that have published the fewest such studies were *Medicina Clínica*, *Revista de Medicina Familiar y Comunitaria*, and *Archivos Españoles de Urología* (2% of all published articles, in each case).

In accordance with trends throughout Europe, the largest numbers of qualitative studies (34%) were published in 2000, and the number of such studies was lowest (7%) in 1997. The most widely used techniques were focus groups (34%) and interviews (24%). Observation, Philips 6/6 and metaplan were used least often, each accounting for 2% of all qualitative studies. (Annex 1, a summary of the studies we analyzed, is available on line.)

The most frequent aims of the qualitative studies we analyzed were information gathering (18%), recording the opinions, and experiences of patients who used health care services (15%), recording the opinions and experiences of health care professionals (21%), identifying elements that needed improvement in instruments currently in use (e.g., protocols and medical records), recording ideas for new elements (12%), recording ideas for improving the quality of care (21%), and evaluating training programs, procedures or working methods (12%).

Authors who published the largest numbers of qualitative studies during the period we analyzed were March (17% of all studies) and Prieto (14%) from the Escuela Andaluza de Salud Pública.

TABLE 2
Summary of Studies on Qualitative Methods

Author/s	Year	Journal	Summary
Baum ¹⁶	1997	<i>Revisiones en Salud Pública</i>	In response to the quantitative versus qualitative research debate in public health circles, the author proposes that because problems in the discipline arise from multiple social, economic, political, and other causes, different methods are needed to investigate these causes. The author concludes that researchers would be more effective if they were eclectic in their choice of methods
Prieto ¹⁷	1997	<i>Revisiones en Salud Pública</i>	According to this author, methodological debates should center on the need to improve procedures and outcomes based on the scientific method, and not on the distinction between quantitative and qualitative
Fernández de Sanmamed ¹⁸	1999	ATENCIÓN PRIMARIA	The author defends the idea that qualitative and quantitative research methods can be complementary, given that the setting of health and illness comprises as many quantifiable elements (evaluated mainly with quantitative research) as elements related with the understanding of meanings and contexts (studied with qualitative methods)
Iñiguez ¹⁹	1999	ATENCIÓN PRIMARIA	The author provides an overview of qualitative research that defends its usefulness for health research and interventions. The qualitative methods research-participant action, ethnography, grounded theory, and discourse analysis are described. The qualitative approaches termed participant observation, interview, group techniques, and documentary and contextual techniques are described
Sánchez-Candamio ²⁰	1999	ATENCIÓN PRIMARIA	This author describes the main points of interest that characterize evaluation from a qualitative perspective, and analyzes specific methodological problems and challenges that arise in the application of qualitative methods in primary health care practice
Pla ²¹	1999	ATENCIÓN PRIMARIA	The author provides an overview of the most important aspects in the use of qualitative methods: qualitative research design, formulation of the problem and objectives, information gathering, sampling, systematization and analysis of the information and its quality
March et al ²²	1999	<i>Gaceta Sanitaria</i>	These authors analyze the usefulness of qualitative methods, describe the techniques and procedures used most often to ensure validity and reliability of the results, and suggest there is a need to use qualitative and quantitative approaches in a complementary manner
De Andrés ²³	2000	ATENCIÓN PRIMARIA	The author explains the analytical phase of the research process from an qualitative viewpoint. Steps: selecting and organizing information (stages: segmentation, establishing categories and coding), and obtaining results and conclusions.
Martín Zurro ²⁴	2000	Atención Primaria	According to this author, qualitative methods of evaluation provide valuable information that shed light on the actual functioning of equipment, infrastructure and staff. They make it possible to detect problems that have significant repercussions on users (such as the functioning of appointment scheduling and referring systems), and to perform evaluations focused on improving the quality of care.
García et al ²⁵	2000	ATENCIÓN PRIMARIA	This study provides a detailed explanation of the focus group technique as part of the group interview category: definition, differences as compared to other techniques, advantages and limitations, uses and applications in the health care setting, research design and planning, group training, development of an interview script, and information analysis
Pérez Andrés ¹⁵	2000	<i>Revista Española de Salud Pública</i>	This author argues against the inclusion of consensus techniques such as the Delphi technique, nominal group or expert panel and brainstorming in the category of qualitative research techniques. The author reasons that problems lie in the type of language involved in each technique, and the type of data and tools used

Discussion

The contribution of qualitative research to health sciences has been increasing in terms of the numbers of articles

published and the interest shown in the subjects these studies have investigated. In Spain and elsewhere, QR techniques have undergone a process of rediscovery,^{27,28} which has led many health care professionals to express in-

TABLE 3 Summary of Qualitative Techniques

Technique	Percent Use
Focus group	34%
Interview	24%
Content analysis	11%
Discussion group	9%
Delphi	9%
Nominal group	7%
Observation	2%
Philips 6/6	2%
Metaplan	2%

terest in learning about these techniques, their characteristics, and naturally how and when to use them. On 1995 the *British Medical Journal (BMJ)*²⁹⁻³³ published a series of articles which described the logical basis, focus and usefulness of qualitative techniques, and presented the most frequently used techniques. Five years later, in 2000, the *BMJ* published another set of articles about these techniques.³⁴⁻³⁶

As found in the present review, this tendency has also appeared in Spain, with the result that the largest number of qualitative studies was published in 2000. Some journals

such as ATENCIÓN PRIMARIA devote space specifically to this type of study. Further evidence that QR does not seem to be a passing fad is the publication in 2002³⁷ of a theme issue of *Revista Española de Salud Pública* that contained studies describing the importance of qualitative techniques, and original articles based mainly on qualitative methods.

We found that qualitative techniques provided added value to research, and that the number of qualitative studies has been increasing. The popularity of these techniques has increased as a result of interest in evaluating and improving the quality of care, the need to obtain more information on patients' opinions and points of view, and undoubtedly new strategies for making health management more participatory.

As in any type of study, qualitative research requires compliance with basic requirements to ensure the validity of its results. When used with rigor, qualitative methods can be especially useful in health care settings.

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Discussion Key points



What Is Known About the Subject

- In recent years qualitative research has gained importance in the field of health sciences.
- Qualitative research views reality from a wholistic perspective and tries to comprehend or describe reality without resorting to hypothesis-formulating.
- Qualitative research techniques are useful for gathering information, analyzing trends and obtaining knowledge about a changing reality.

What This Study Contributes

- We describe studies that used qualitative methods and that were published during the previous 5 years in Spanish journals.
- The techniques used most frequently to date are focus groups and interviews.
- The use of these techniques in research done in Spain is increasing.

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COMMENTARY

Systematic Reviews and the Challenge of Evaluating the Quality of Qualitative Research in Health Care

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The interesting review by Mira and colleagues of qualitative research (QR) studies published in Spain between 1997 and 2002 gives us (among its other contributions) an opportunity to raise a number of concerns and offer some reflections regarding the status of QR methods in health science research. The results of their review provide information about the types of QR methods used most frequently, the journals that publish the greatest numbers of

studies of this type, the subjects investigated most often, and the authors who have produced the most such studies. Their findings apparently confirm the trend toward increasing numbers of QR publications, especially in primary care and public health, although these studies still represent a small fraction of the total number of published articles. However, we should recall that because the authors limited their search to medical journals, this exclu-

Key Points

- The increase in the number of qualitative studies and in the topics they examine corroborates the suitability of these methods for generating knowledge about health.
- A critical approach should be incorporated into systematic reviews of qualitative research in health care.
- Qualitative research should be viewed in both its theoretical and methodological dimensions to avoid reducing quality requirements to technical or procedural considerations.
- The criteria, issues, and critical evaluation of qualitative research should be appropriate for the methodological characteristics involved.

ded articles published in the field of nursing, where QR productivity is similar to that in medicine.

As Mira and colleagues suggest, this increase has appeared somewhat later than in the English-speaking world, where QR has appeared regularly in well-known health care publications. Qualitative research in this setting has appeared in the form of monographs and special reports intended to provide public agencies with the criteria they need to use QR appropriately in developing and assessing policies in specific areas.¹ Meanwhile, recent compilations published in Latin America have also revealed the existence (in Mexico and Brazil, for instance) of interesting research that has paradoxically been overlooked despite the cultural and linguistic similarities between these countries and Spain.²

Reasons that have been offered to explain why QR remains a minority approach in health sciences include the predominant trend in medical research to identify scientific knowledge with things that can be measured and expressed numerically, and fragmentation of knowledge as a result of the booming appearance of new specialties and subspecialties. An additional factor is probably the excessive emphasis on clinical practice that most health care professionals are immersed in, and which barely leaves time in their training and everyday activities for theoretical reflection and research.³

Under these circumstances the increase reported by Mira and colleagues in the number of QR publications and the subjects they are concerned with should be met with optimism, as it corroborates the opportunities for QR to generate knowledge in health care. However, this does not mean we should ignore the challenges remaining to be met at the present time, e.g., the comparatively low production

of QR studies, and above all the enormous variability in their quality.⁴

In this sense Mira and colleagues are right to mention the importance of rigor and validity when QR methods are used in health science, although their analysis shows signs of a lack of critical evaluation of the studies chosen for inclusion. Although the authors did not expressly include evaluation of the quality of research among the aims of their review, this critical approach should be present in future systematic reviews of QR.

Of all topics related with qualitative methods, few have generated such a broad and varied range of studies as quality evaluation. The exhaustive review recently published by Spencer, Ritchie, and colleagues⁵ as the basis for their proposals to the Cabinet Office of the British Government Chief Social Researcher's Office, and the intriguing reflections by Eakin and Mykhalovskiy⁶ regarding the need for a "substantive" approach to evaluating QR in health sciences, are two particularly interesting contributions. For now the debate continues, and my only intention here is to offer a few comments on some aspects considered of relevance to the current status of QR in the health sciences.

First, QR is not always conceived as a particular view of theoretical and methodological knowledge of the real world, including health-related phenomena, but instead is often understood as a set of techniques (originating in areas such as sociology, psychology or linguistics) which are also potentially useful in the health care setting.

This makes it appropriate for Mira and colleagues to emphasize that their analysis focuses on a differential methodological approach, in view of the difficulties involved in attempting to identify a common denominator that embraces the diversity of sources and developments in QR as a particular perspective on knowledge. Comparisons with quantitative methods are helpful in this sense, especially if they allow us to argue the pros and cons of both perspectives from a "complementarity by deficiency" viewpoint noted by Ortí, rather than from opposing positions or abstract assumptions that one is superior to the other.³

Moreover, accepting QR as a theoretical and methodological perspective is necessary to avoid the common trap of confusing the concepts of methodology, method and technique, and to avoid the tendency to reduce quality criteria to a more proficient or less proficient application of the latter.

Naturally, the rigor of the procedures used in QR is important. Indeed, there are not a few cases in which the process of selection of informants or the contexts to be observed, the degree of saturation achieved, the analytical model used, or the steps taken to ensure the validity of the study were not appropriate—with the consequent negative repercussions on the results of the research.

However, limiting a quality evaluation to procedural considerations such as the triangulations possible or the types

TABLE 1 Various Proposals for Critical Reading Tools

Quality Dimension/Criteria	What We Are Asking About	Where We Should Look
Appropriateness of the methods Relevance Reflexivity	1. Basis issues Define the question/aims of the research Justification for using qualitative methods Antecedents and initial considerations Pertinence and importance of the project Ethical issues	Overall impression of the article Introduction
	2. Design and methodological strategy Appropriateness of the theoretical focus/ methods/techniques Research context Audiences Flexibility Iterativity/Circularity	Overall impression of the article Participants and methods
	3. Obtaining information Selection/Recruitment of informants Researcher/participant interaction Saturation Validation techniques	Participants and methods Results
Validity Reflexivity Appropriateness of the methods	4. Analyzing information Methods of analysis Iterativity/Circularity Consistency/Discovery Description/Theoretical construct Plausibility Interpretative complicity Validation techniques	Results Discussion and conclusions
	5. Concluding the research Novelty and importance of the contributions Pertinence for the question, methods and design/ Internal coherence Connection with previous theories/External coherence Applicability/Generalization Comprehension and clarity Suggested new avenues Limitations	Discussion and conclusions Overall impression of the article

of participants chosen may lead us to forget that the use of these procedures should always be based on specific, previously determined criteria that are defined and developed in accordance with the theoretical and methodological features inherent in the qualitative approach. For this reason, consideration of the so-called consensus techniques (such as nominal groups, the Delphi technique and the Philips 6/6 approach) as qualitative methods is questionable.

Many proposals have been made, and we cannot deny the difficulties encountered or the tentative nature of any attempt to arrive at common criteria in the face of multiple currents within QR. Nonetheless, a number of possible summary referents can aid in the design and use of qualitative evaluation instruments. These referents include the degree of methodological appropriateness and pertinence with regard to the question to be answered, the design, and

the research process; relevance of the instrument for discovering new theoretical precepts or improving hypotheses; validity of the process of interpretation; and reflexivity with regard to the researcher's assumptions, ethical procedures and self-critical attitude.⁴

A number of critical reading instruments have been suggested by authors in Spain and elsewhere^{5,7} in the form of checklists or question guides. These aids are undoubtedly useful for reviewing qualitative studies. In general, these points are consistent with the items listed in the middle column of Table, arranged by phases in the research process. However, their interrelationships with specific levels of quality criteria are not univocal, nor is their applicability to different sections of the published article as a formalized manifestation of the research process.

The evaluation of QR is thus a systematic and dynamic process which should reflect the characteristics of qualitative methods such as flexibility, relevance for the context

and the audience, circularity, and iterativity in both directions between the global and the particular. From this perspective, studies such as the one by Mira and colleagues should serve to help us develop increasingly appropriate criteria and questions for use in systematic reviews aimed at helping professionals to choose the qualitative information that best suits their needs. This, in turn, should improve the quality of qualitative research in the primary care setting.

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