Community Dent Oral Epidemiol 2007; 35: 161–169

Community Dentistry and Oral Epidemiology

Commissioned Review

The contributions of qualitative research towards dental public health practice

Elizabeth Bower and Sasha Scambler

Department of Oral Health Services Research and Dental Public Health, King's College London Dental Institute, London UK

Bower E, Scambler S. The contributions of qualitative research towards dental public health practice. Community Dent Oral Epidemiol 2007; 35: 161–169.

Abstract – Dental public health (DPH) researchers have traditionally relied on quantitative methods for scientific enquiry. This paper argues that qualitative methodology can make a significant contribution to DPH knowledge and practice because it allows researchers to answer important questions of relevance to procedure and policy that are difficult to answer satisfactorily using quantitative methods alone. Qualitative research can also challenge the norms and assumptions of DPH practice. There are tensions in the relationship between qualitative research and the prevailing paradigm of evidence-based practice (EBP) which potentially influence the utility of DPH-related qualitative research. However, the relevance of qualitative research is increasing as the scope of EBP enquiry extends beyond questions of effectiveness, and methods are developed for incorporating qualitative research into systematic reviews.

Key words: dental public health; evidence-based practice; qualitative research; qualitative synthesis; systematic review

Elizabeth Bower, Department of Oral Services Research and Dental Public Health, Kings' College London, Dental Institute, Caldecot Road, London SE5 9RW, UK
e-mail: elizabeth.bower@kcl.ac.uk

Submitted 22 May 2006;
accepted 7 September 2006

Qualitative methods are now commonplace in research into the socio-cultural aspects of health and health care (1), and in the development and evaluation of health policy (2). This paper outlines the potential role of qualitative research in informing dental public health (DPH) practice. Factors relating to this contribution are then discussed, including the appraisal of research quality and the 'fit' between qualitative research and the paradigm of evidence-based practice.

What is qualitative research?

The term 'qualitative research' refers to a range of methodological approaches which aim to generate 'an in-depth and interpreted understanding of the social world, by learning about people's social and material circumstances, their experiences, perspectives and histories' (3). Qualitative research aims to explore, interpret or obtain a deeper understanding of social phenomena.

It is often assumed that qualitative research is simply the opposite of quantitative research (4). However, it is probably more helpful to consider the two methodologies as complementary. Qualitative methodology allows researchers to ask *different* research questions and explore and understand phenomena from a *contrasting* perspective. The 'what', 'why' and 'how' questions about a phenomenon are addressed rather than questions such as 'what is the prevalence of', 'is there a significant difference between' or 'what are the strongest predictors of' (5). For example, when researching oral health behaviours, quantitative investigation could include the distribution of such behaviours according to ethnicity, age, sex, social class, etc. In contrast, qualitative investigation might include an exploration of *why* there is variation in oral health behaviours within and between communities, *what* are the social roles of such behaviours, and *how* people perceive advertizements for oral health-related products.

Qualitative research has a number of distinctive characteristics (2, 3, 5, 6). Perhaps the most obvious is the analysis and generation of narrative or non-numeric information. Phenomena are usually explored from the participant's perspective and

doi: 10.1111/j.1600-0528.2006.00368.x

there is a focus on meaning and understanding. There is an emphasis on social context and studying phenomena in their natural environment rather than in experimental settings. Data collection and analysis are usually sufficiently flexible to allow for the exploration of emergent issues. Qualitative research generates a distinctive output in the form of detailed descriptions, classifications, typologies, patterns of association and/or explanations. The key features of qualitative research are contrasted with quantitative research in Table 1.

A variety of methods are employed in qualitative research including in-depth interviews, focus groups, observation and documentary analysis. The choice of method depends on a number of issues such as the research question, practical issues such as ease of access, the relative importance of social context, the depth of individual perspective required and the sensitivity of the subject matter (3). Two or more methods may be used in conjunction with theory to look at the same issue from different perspectives, an approach called *triangulation*. Qualitative research methods are compared in Table 2.

The role of qualitative methodology

The greatest value of qualitative research is its ability to address questions of relevance to DPH knowledge and practice which are difficult to answer satisfactorily using quantitative methods alone (5). Questions requiring the description of social processes or phenomena, those seeking explanations for social phenomena, and those exploring peoples' perspectives, motivations and frames of reference fall into this category. Moreover, qualitative research can enable issues to be perceived and understood in a new way (1). These roles are elaborated below.

Describing a process or phenomenon or mapping the features of a phenomenon

Qualitative research is useful for providing detailed descriptions of phenomena, and generating insight into social issues. A situation or issue such as implementing an oral health promotion programme, attending the dentist, or receiving a diagnosis is examined in depth. Researchers might be interested in understanding the dimensions of a problem, how the phenomenon manifests itself and how it is perceived and understood by those involved (3).

An example of this type of research is a study exploring how patients evaluate dentists (7). Previous research has suggested that patient satisfaction is an *outcome*, based on factors such as technical competence, interpersonal factors, convenience, cost and facilities. The authors challenge this view, providing evidence to suggest that patient satisfaction is a complex *process* in which antecedent factors such as patient expectations and beliefs play a central role. The authors base the study on two theories in the field of social psychology. The first is the theory of 'disconfirmation of expectations' (8) which states that satisfaction is the difference between expectation and experience. The second is 'attribution theory' (9) which describes the ways in which people explain the causes of their own and other people's behaviour.

Four focus groups, composed of 25 adults of different ages who had attended the dentist within the previous year, were conducted. The authors show how disconfirmation of expectations occurred during the evaluation process. For example, a participant who had third molar extractions experienced more pain than she expected and felt the dentist should have warned her about the degree of pain. Dissatisfaction was partly the result of expectations not being matched by experience. Moreover, pre-existing notions of the duty of the dental team, and the locus of blame when things go wrong determined the overall satisfaction with care. Patients were satisfied with dental care in spite of bad experiences when they felt that members of the dental team had done their best.

The study provides insight into the process by which patients evaluate dental care. The findings suggest that dentists need to spend time finding out about their patients' expectations and beliefs about dental care at the start of a course of treatment in order to ensure that their expectations are met.

Explaining social phenomena

Another important function of qualitative research is to generate explanations for social phenomena. Explanations can be provided directly by the research participants or generated through the data analysis. A study seeking to explain the relationship between smoking and neighbourhood deprivation illustrates this role (10). Eight focus groups were conducted with a purposive sample of 53 smokers and non-smokers living in three deprived communities in Glasgow, Scotland. The

Table 1. Comparing quantitative and qualitative research (2–4)

	Quantitative research	Qualitative research
The nature of reality and knowledge	Reality exists independently of human belief and interpretation, and can be measured directly (positivism)	There is an independent reality but it can only be accessed through human interpretation, leading to multiple perspectives (interpretivism) Some qualitative researchers argue that there is no independent reality, only individual or shared human constructions (social constructionism)
The relationship between researcher and participant	Data from the participant are unaffected by the researcher Objective, value-free research is possible	Although the researcher aims to be as neutral as possible, the researcher and participant inevitably influence each other, and data analysis will be shaped by the researcher's values Objective, value-free research is not possible
Acquisition of knowledge	Mainly through deduction	Induction and deduction are involved at different stages of the research process
Research questions	How much? How many? Is there a statistical difference between? What is the correlation between? What are the strongest predictors of?	What? Why? How?
Approach	Reductionist Design pre-determined Understanding phenomena from perspective of researcher Focus on objective measurement	Holistic Flexible design to allow emerging ideas to be explored Understanding phenomena from perspective of participant Focus on subjective meaning, understanding, process
Context	Importance of context variable: contextual factors are often eliminated in controlled experimental studies but there is a new emphasis on the study of area factors in oral epidemiology	Context is important in shaping meanings and explanations Research takes place in natural settings
Research instrument	Validated instrument, measure or questionnaire	Researcher is the primary instrument
Sampling	Random or probability sampling Representative of population Pre-determined by power calculation	Purposive, theoretical sampling Reflects diversity of population Sufficiently flexible to be driven by emerging theory Numbers of participants determined by theoretical saturation (ideally)
Data	Numbers	Words and images
Analysis	Statistical Analytic units are variables Outliers re-coded Analysis after data collection	Non-statistical Analytic units are themes Attention to deviant cases Analysis concurrent with data collection
Output	Descriptive statistics Statistical evidence of correlation or difference between groups Prediction of effect of independent variables on an outcome variable	Detailed 'thick' description Classifications Typologies Explanations
Generalization	Probabilistic Inferential	Representational Inferential Theoretical

Table 2. Qualitative research methods (3, 5, 34, 35)

	In-depth interviews	Focus groups	Observation	Documentary analysis
Key features	Individual interview in which the participant is encouraged to talk in depth about their perspectives on a research topic	Group discussion facilitated by researcher Group composed of approx. 6–10 people Groups can be naturally occurring or composed of recruited individuals Interaction between participants generates the data	Researcher observes behaviours, events and interactions. Includes: *Participant observation* (researcher joins study population and experiences phenomena for himself) *Direct observation* (researcher watches participants but remains independent)	Study of documents to explore content and meaning
Type of data	Generated	Generated	Naturally occurring	Naturally occurring
Form of data	Transcript of detailed personal account	Transcript of group discussion	Video recordings Tape recordings Field notes	Documents such as official reports, minutes of meetings, editorials, diaries, letters, magazines, posters etc.
When to use	When the participant's perceptions are important Researching complex processes/ experiences Investigating beliefs, understandings and interpretations of phenomena Researching motivations, decision-making processes Researching confidential issues Useful if participants are geographically disparate	When the participants' perceptions are important Exploring how attitudes, knowledge and beliefs are produced and contested Accessing social norms When creative thinking is required. When participants feel they have nothing to say. When participants might feel empowered to talk about a sensitive topic if they are in the company of people who have experienced a similar problem	When natural context is very important Comparing actual and reported behaviour Exploring social order, communication, behaviour and interaction Investigating implicit, taken-for granted aspects of behaviour	Useful for exploring dominant discourses, prevailing norms, explanations of phenomena Comparing public and private accounts Historical research
Issues in choice of method	Observation methods may be better where aspects of the research topic are subconscious, taken for granted, or the participants are unwilling to discuss a topic frankly	Caution required if power/ status imbalance between participants Caution required with sensitive issues In-depth interviews may be better for investigating very complex processes or experiences	Interview methods may be better when participants' perspectives on a phenomenon are required, or for researching motivations, beliefs, decision-making processes	Interviews methods may be preferable in contemporary research where the population's perspective on a phenomenon is required

focus groups were used to explore cultural norms and elucidate individual and neighbourhood characteristics that contributed to smoking behaviour.

There were strong pro-smoking community norms. These were reinforced by ready access to tobacco, stresses caused by material circumstances, an unrewarding and unsafe environment and chronic unemployment. The communities were isolated from wider social norms including negative smoking attitudes. Participants were resentful of bans on smoking in public places and felt that smokers were discriminated against within health services and the job market. Social participation and feelings of belonging were inextricably bound up with smoking. Smoking was a means of giving and receiving support and helped bind people together. The communities were not only rich in factors which encouraged smoking, they were also poor in factors which foster giving up. Such factors include a sense of optimism, a sense of control over life circumstances, and alternative options for respite and recreation. The authors conclude that providing prevention advice and one-to-one smoking cessation support would be ineffective in such communities unless disadvantage at an environmental level is tackled through re-investment in the physical and social infrastructure.

The use of a qualitative methodology allowed the researchers to suggest explanations which reflected the underlying complexity of smoking behaviour in these communities. The fact that feelings of a strong local identity, resilience and support which are normally associated with health actually promoted smoking, is an example of this complexity. The study suggests that smoking cessation interventions in deprived areas need to tackle the negative environmental and cultural factors which promote smoking whilst preserving and harnessing the positive features of life in such communities.

Understanding perspectives, motivations and frames of reference

A central function of qualitative research is to explore how people perceive and comprehend social phenomena. This type of research is often associated with ethnography which is the art and science of describing a group or culture (11). However, attempting to understand social phenomena from a participant's perspective is integral to all qualitative research.

An ethnographic study exploring Brazilian dentists' and patients' explanatory models of oral health (12) is a good example of this type of research. The study was based in two poor rural communities with a high caries prevalence. A mixed-methods approach was used. In-depth interviews were conducted with 50 dentists, community health agents, traditional healers, patients, mothers and school teachers. The researchers also carried out a documentary analysis of dental training course curricula and a variety of other dental reports. Pictures of healthy and sick teeth drawn by both adults and children were discussed with the participants. Official and 'quack' dental clinics, traditional curing rituals for tooth problems, and school brushing and fluoride sessions were observed.

The authors document in detail two very different cultural constructions of reality. The university-trained dentists had a disease-orientated, microbiological, technology-rational model of dental health. This was at odds with the lay model in which tooth worms burrow from tooth to tooth and cannot be eradicated by placement of a filling, a model in which faith in God is as important for soothing pain as visiting the dentist.

The authors suggest that the lay explanatory model shaped the experience of dental pain, the timing and sequencing of help-seeking behaviours, and contributed to the lack of acceptance of caries prevention advice. The dentists had little or no knowledge of the lay explanatory model, ridiculing traditional healers and failing to understand their patients' apparently illogical behaviour. This lead to tension, frustration and the stigmatization of patients who failed to comply with preventive regimens. Moreover, public health interventions based on the dentists' biomedical model failed to address the wider social determinants of dental disease in rural Brazil.

The study underlines the importance of designing public health interventions which are sympathetic to traditional belief systems. It also casts doubt on the efficacy of public health interventions based on a biomedical model for tackling the wider social determinants of oral health in such a population.

The utility of a mixed-methods approach is also illustrated. In particular, the use of both interview and observation methods allowed the researchers to explore the reasons for contradictions between what the participants said and how they behaved. Observing dental consultations gave the researchers a much better understanding of the

consequences of disparities between the explanatory models than relying on interviews alone.

Generating new ways of perceiving or understanding a social phenomenon

Qualitative research is most valuable when it allows a problem or issue to be perceived in a new way, facilitating policy development or the advancement of social theory (3). There are relatively few good examples of this type of research in the oral health field. However, one such study is a mixed quantitative and qualitative study examining the policy issues involved in the removal of sugar from paediatric medicines (13).

It is often taken for granted that children requiring medication are prescribed a liquid form which should be sugar-free to prevent dental caries. The study challenges this view. In-depth interviews and questionnaires were used to explore the views and experiences of parents of disabled children on long-term medication. The perspectives of key dental professionals and representatives of the pharmaceutical profession and pharmaceutical companies were also investigated through in-depth interview.

The majority of parents preferred tablets rather than liquid medicines and expressed a preference for the development of smaller tablets rather than reformulating medicines to a sugar-free version. The pharmaceutical companies had responded to pressure from the dental profession to remove sugar from children's medicines to remain competitive in the market. However, all said that it would have been much easier and cheaper to produce a smaller tablet than removing the sugar from the liquid medication. The authors suggest that dental professionals acted with altruism but failed to look at the administration of medication from the parents' perspectives. If it is the case that children can easily swallow tablets, then it might have been just as effective in terms of caries prevention for the dental profession to lobby for the widespread use of tablets in children and the development of smaller tablets, rather than the costly removal of sugar from liquid medication.

The study's main value is in prompting the reader to look at the issue of medication-related caries in a new way by casting doubt on the received wisdom that children should automatically be prescribed liquid medication. The study also illustrates the need to take into account the perspectives of patients when planning treatment options.

Appraising qualitative research

The assessment of research quality is a core element of scientific enquiry. Whilst there is agreement within the qualitative research community that the standards and criteria for assessing quantitative research are inappropriate for appraising qualitative research, there is a lack of consensus on the characteristics of good qualitative research (14–16). The debate reflects that fact that there is no single, accepted way of conducting qualitative research. Researchers using qualitative methods come from a wide variety of philosophical traditions, and differ in their beliefs about the nature of reality, the relationship between researcher and participant, the relationship between facts and values, and the nature of knowledge (2–3). Moreover, the purposes and goals of research, the research audience, the funding bodies and the context of the researchers influence the way qualitative research is conducted and received (2).

Because of these differences, appraisal frameworks have proliferated. An example of such a framework is found in Table 3. Some researchers argue that appraisal frameworks can lead to an uncritical adoption of a range of technical 'fixes' such as grounded theory or purposive sampling which do not in themselves improve the quality of the research (17). Other researchers suggest that as long as an appraisal framework is viewed as a series of guiding principles to be applied flexibly with judgement and discretion rather than rigidly or prescriptively, there is much to be gained by its use (2, 18).

There are also those who argue that underpinning qualitative research in social theory is as important for improving the quality of health-related qualitative research as a focus on methods or techniques. Grounding research in a theoretical framework enables researchers to reframe a problem and question 'common sense' assumptions, enabling phenomena to be perceived and understood in a new way (1, 19). For example, in the Brazilian study discussed above (12), the use of anthropological theory allows the researchers to take a contrasting perspective to the biomedical approach in which the focus is usually on lay beliefs and practices. From an anthropological perspective, the attitudes and practices of the dental professionals, and the power relations that influence dental health are just as relevant to the investigation as the lay beliefs. In this instance, the

Table 3. Criteria for appraising qualitative research

Worth or relevance – Was this piece of work worth doing at all? Has it contributed usefully to knowledge?
Clarity of research question – If not at the outset of the study, by the end of the research process was the research question clear? Was the researcher able to set aside his or her research preconceptions?
Appropriateness of the design to the question – Would a different method have been more appropriate? For example, if a causal hypothesis was being tested, was a qualitative approach really appropriate?
Context – Is the context or setting adequately described so that the reader could relate the findings to other settings?
Sampling – Did the sample include the full range of possible cases or settings so that conceptual rather than statistical generalizations could be made (that is, more than convenience sampling)? If appropriate, were efforts made to obtain data that might contradict or modify the analysis by extending the sample (for example, to a different type of area)?
Data collection and analysis – Were the data collection and analysis procedures systematic? Was an 'audit trail' provided such that someone else could repeat each stage, including the analysis? How well did the analysis succeed in incorporating all the observations? To what extent did the analysis develop concepts and categories capable of explaining key processes or respondents' accounts or observations? Was it possible to follow the iteration between data and the explanations for the data (theory)? Did the researcher search for disconfirming cases?
Reflexivity of the account – Did the researcher self consciously assess the likely impact of the methods used on the data obtained? Were sufficient data included in the reports of the study to provide sufficient evidence for readers to assess whether analytical criteria had been met?

Reproduced from Mays & Pope (15) with kind permission from BMJ Publishing Group.

quality of the research is mainly consequent on the research problem being re-framed, rather than the use of specific techniques such as the type of sampling or the data collection methods, although the latter are heavily influenced by the theoretical approach (1).

Qualitative research and evidence-based practice

Scientists operate within paradigms, or ways of seeing the world, which dictate what type of scientific work should be undertaken and what kinds of theory are acceptable (20). It is now considered that medicine and health-related policy and practice should be based on the best evidence available (21). The ideal of evidence-based practice (EBP) also pervades DPH in spite of a lack of evidence for much DPH practice.

Considerable efforts have been made within the wider health community to make qualitative research 'fit' into the paradigm of EBP in order to improve the relevance and utility of qualitative research in the health field (22, 23). The debate about the position of qualitative research in the hierarchy of evidence (4) and efforts to include qualitative research in systematic reviews (24) are examples of this quest and are elaborated below. As a consequence, tensions in the relationship between qualitative research and EBP are resolving. This is particularly in respect to the place of qualitative research in the hierarchy of evidence. The contribution of qualitative research to evidence-based DPH practice extends beyond questions which obviously relate to policy and practice. Research which appears to sit outside the scope of EBP enquiry can be instrumental in changing the way an issue is perceived and understood and thus move a debate forward.

Qualitative research and the 'hierarchy of evidence'

Qualitative research is seemingly at odds with the traditional rules of evidence and the hierarchy of research designs espoused within EBP. Yet this is not necessarily the case. The traditional 'hierarchy of evidence' with the randomized controlled trial as the gold standard (25) is based on evaluating questions of effectiveness. However, the scope of enquiry within EBP is moving beyond questions of effectiveness to encompass matters such as the appropriateness and feasibility of interventions, the reasons people engage in particular health behaviours, and the way health issues are perceived. Such issues are considered to play an important role in healthcare decision making and are therefore increasingly embraced as legitimate research questions within the paradigm of EBP (4). Because other methods are needed to answer these questions, the traditional hierarchy becomes inappropriate (26, 27). One of the central tenets of EBP is the need to choose the most appropriate research method to provide the best form of evidence (21). Depending on the research question, qualitative research may be the only appropriate method to address the question and becomes the 'gold standard' in that instance (4).

Incorporating qualitative findings into systematic reviews

One of the more controversial developments in EBP is the synthesis of qualitative research and its inclusion in systematic reviews (23, 28). The insistence on controlled trials as the sole source of evidence on effectiveness is relaxing and some researchers argue that other types of evidence, including qualitative research, are crucial to questions of policy and practice (29, 30). Other researchers argue that qualitative research should not be synthesized because its very nature and purpose is threatened by attempting synthesis (23).

Most of the potential roles for qualitative research in systematic reviews are logical extensions to the existing uses of qualitative methods in primary research. In addition to the obvious role of providing data for synthesis, other functions include identifying the question(s) of the review and the relevant outcomes, explaining quantitative findings and suggesting ways of turning evidence into practice (24). Including qualitative research could enhance the relevance of the review and ensure that it is more sensitive to users' views and priorities (31). Methods for synthesizing qualitative research and including qualitative evidence in systematic reviews are reviewed by Dixon-Woods et al. (28) and Mays et al. (32).

The epistemological assumptions of qualitative research, the diversity of qualitative methodologies, and the narrative form of the findings create considerable challenges for including qualitative research in systematic reviews (22, 33). For example, undertaking a synthesis of qualitative research is by definition an interpretive process and thus alternative accounts of the same evidence may be generated by different research teams, even if the teams have used the same method of synthesis. The notion of the bias-free systematic review is therefore undermined by the inclusion of qualitative research (33). Furthermore, qualitative research which does not fit into mainstream thinking on an issue may be marginalized in a systematic review.

The synthesis and inclusion of qualitative research in systematic reviews is a developing field. As yet there has been no synthesis of DPH-related qualitative research, mainly because of the small number of available studies, and qualitative studies have not been included in DPH-related systematic reviews. However, systematic reviews of the barriers to, and facilitators of, mental health, physical activity and healthy eating among young people (30) suggest that there is potential for improving the utility and relevance of DPH-related systematic reviews by including qualitative research.

The value of qualitative research which does not fit into EBP

Whilst qualitative research seems to have secured a place in EBP, only certain types of qualitative research appear to make a meaningful contribution. Research which directly relates to healthcare interventions and policy seems to be more relevant than research which challenges the status quo. For example, the study on smoking and neighbourhood deprivation outlined above provides helpful evidence to inform smoking cessation policy. However, a study investigating what the term 'quality of life' means to health professionals and policy makers, and why quality of life measurement is so valued in current health services research (1) would not fit so neatly into the scope of EBP enquiry. Nonetheless, such a study could challenge some of the assumptions surrounding the term 'quality of life' and change the way that quality of life measures are developed and used.

There is a danger that in the process of attempting to integrate qualitative research into EBP, only research which is directly relevant to healthcare interventions and policy will be perceived as legitimate. Yet research which enables an issue to be perceived in a new way or challenges the status quo is more likely to move a debate forward than research which conforms to existing frameworks of understanding.

Conclusion

Qualitative research can broaden the evidence base for DPH policy and practice because it allows researchers to answer important research questions that are difficult to address satisfactorily using quantitative methods alone. A more rounded understanding of a phenomenon can be achieved by using both qualitative and quantitative methods. One of the most valuable contributions of qualitative research to DPH practice is that is enables phenomena to be understood in a new way. Thus, qualitative research which challenges the assumptions surrounding a DPH-related issue or enables an issue to be perceived differently is just as important as qualitative research which

appears to relate more directly to policy and practice. Tensions in the relationship between qualitative research and EBP are resolving as the scope of EBP enquiry widens and methods are developed for incorporating qualitative research into systematic reviews.

References

1. Lambert H, McKevitt C. Anthropology in health research: from qualitative methods to multidisciplinarity. BMJ 2002;325:210–3.
2. Spencer L, Ritchie J, Lewis J, Dillon L. Quality in qualitative evaluation: a framework for assessing research evidence. London: Government Chief Social Researcher's Office; 2003.
3. Ritchie J, Lewis J. Qualitative research practice. London: Sage Publications Ltd; 2003.
4. Popay J, Williams G. Qualitative research and evidence-based healthcare. J R Soc Med 1998;91(Suppl. 35):32–7.
5. Green J, Thorogood N. Qualitative methods for health research. London: Sage Publications Ltd; 2004.
6. Bowling A, Ebrahim S. Handbook of health research methods: investigation, measurement and analysis. Maidenhead: Open University Press; 2005.
7. Newsome P, Wright G. Qualitative techniques to investigate how patients evaluate dentists: a pilot study. Community Dent Oral Epidemiol 2000;28:257–66.
8. Oliver R. A cognitive model of the antecedents and consequences of satisfaction decisions. J Marketing Res 1980;17:460–9.
9. Heider F. The psychology of interpersonal relations. New York: Wiley; 1958.
10. Stead M, MacAskill S, MacKintosh A, Reece J, Eadie D. 'It's as if you're locked in': qualitative explanations for area effects on smoking in disadvantaged communities. Health Place 2001;7:333–43.
11. Fetterman D. Ethnography step by step. Beverly Hills, CA: Sage Publications Ltd; 1986.
12. Nations M, Nuto Sde A. 'Tooth worms', poverty tattoos and dental care conflicts in Northeast Brazil. Soc Sci Med 2002;54:229–44.
13. Manley M, Calnan M, Sheiham A. A spoonful of sugar helps the medicine go down? Perspectives on the use of sugar in children's medicines. Soc Sci Med 1994;39:833–40.
14. Thorne S. Reflections on 'Helping practitioners understand the contribution of qualitative research to evidence-based practice'. Evid Based Nurs 2006;9:7–8.
15. Mays N, Pope C. Qualitative research in health care: assessing quality in qualitative research. BMJ 2000;320:50–2.
16. Campbell R, Pound P, Pope C, Britten N, Pill R, Morgan M et al. Evaluating meta-ethnography: a synthesis of qualitative research on lay experiences of diabetes and diabetes care. Soc Sci Med 2003;56:671–84.
17. Barbour R. Checklists for improving rigour in qualitative research. BMJ 2001;322:1115–7.
18. Dixon-Woods M, Shaw R, Agarwal S, Smith J. The problem of appraising qualitative research. Qual Saf Health Care 2004;13:223–5.
19. Harding G, Gantley M. Qualitative methods: beyond the cookbook. Family Prac 1998;15:76–80.
20. Kuhn T. The structure of scientific revolutions. Chicago, IL: Chicago University Press; 1970.
21. Sackett D, Rosenberg W, Muir Gray J, Haynes R, Richardson W. Evidence based medicine: what it is and what it isn't. BMJ 1996;312:71–2.
22. Barbour R. The role of qualitative research in broadening the 'evidence base' for clinical practice. J Eval Clin Prac 2000;6:155–63.
23. Sandelowski M, Docherty S, Emden C. Focus on qualitative methods. Qualitative meta-synthesis: issues and techniques. Res Nurs Health 1997;20:365–71.
24. Dixon-Woods M, Fitzpatrick R, Roberts K. Including qualitative research in systematic reviews: opportunities and problems. J Eval Clin Prac 2001;7:125–33.
25. Muir Gray J. Evidence-based healthcare. New York: Churchill Livingstone; 1997.
26. Evans D. Hierarchy of evidence: a framework for ranking evidence evaluation healthcare interventions. J Clin Nurs 2003;12:77–84.
27. Calnan M, Ferlie E. Analysing process in healthcare: the methodological and theoretical challenges. Policy & Politics 2003;31:185–93.
28. Dixon-Woods M, Agarwal S, Jones D, Young B, Sutton A. Synthesising qualitative and quantitative evidence: a review of possible methods. J Health Serv Res Policy 2005;10:45–53.
29. Dixon-Woods M, Fitzpatrick R. Qualitative research in systematic reviews. BMJ 2001;323:765–6.
30. Harden A, Garcia J, Oliver S, Rees R, Shepherd J, Brunton G et al. Applying systematic review methods to studies of people's views: an example from public health research. J Epidemiol Community Health 2004;58:794–800.
31. Thomas J, Harden A, Oakley A, Oliver S, Sutcliffe K, Rees R et al. Integrating qualitative research with trials in systematic reviews. BMJ 2004;328:1010–2.
32. Mays N, Pope C, Popay J. Systematically reviewing qualitative and quantitative evidence to inform management and policy-making in the health field. J Health Serv Res Policy 2005;10(Suppl. 1):6–20.
33. Dixon-Woods M, Bonas S, Booth A, Jones D, Miller T, Shaw R et al. Methods briefing 6. How can systematic reviews incorporate qualitative research? Available at: http://www.ccsr.ac.uk/methods/publications/documents/dixonwoods.pdf (accessed 18 April 2006).
34. Punch K. Introduction to social research. Quantitative and qualitative approaches. London: Sage Publications Ltd; 2005.
35. Willig C. Introducing qualitative research in psychology. Buckingham: Open University Press; 2001.