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REVIEW

Qualitative research in obstetrics and gynaecology

Introduction

Qualitative research is no longer the sole preserve of social scientists. In-depth interviews, focus groups and observation are being used increasingly to answer research questions about health and health services. The greater acceptance of these methods in health care settings and the wider publication of qualitative health research in medical journals have meant that clinicians and health care practitioners, from a wide range of specialties, are now expected to accept this mode of research. Their involvement may simply be because they or their patients are invited to participate in a qualitative study, or perhaps because of a role in ethical or research funding review processes. In addition, many clinicians and health care practitioners are looking to qualitative research because they need answers to research questions which qualitative methods can provide.

This paper is intended to clarify what qualitative research is and, drawing on examples of research about aspects of obstetrics and gynaecology, to explain the main methods used. The ways that qualitative research can inform practice, contribute to evaluations of care and complement quantitative research are illustrated and discussed. References to helpful textbooks have been included throughout for those who wish to acquire a more detailed knowledge of qualitative research methods. Key criteria for assessing the quality of qualitative research are also considered.

So, what is qualitative research? The answer varies, depending on whom you ask (rather like the divergent views of statistics offered by Bayesians[1] and frequentists). For us, qualitative research entails the use of qualitative methods of data collection and analysis. Qualitative data are almost always text-based and are analysed using some form of content analysis. Sometimes a qualitative method, such as the interview, is used to collect data which are then coded and analysed to produce counts or numerical frequencies. This is not qualitative research. Equally, survey methods used in social sciences and epidemiology are not qualitative: the analysis of a structured questionnaire about women's satisfaction with antenatal care which included some open-ended questions, or space for women to write their comments, does not constitute qualitative research.

Qualitative research, like quantitative research, embodies a number of different theoretically-based approaches, for example, ethnography[2], phenomenology[3] and grounded theory[4,5]. These have evolved separately within various social science and humanities disciplines and as a result tend to have different emphases and favour use of particular qualitative techniques and methods. Across these different approaches, however, a number of common characteristics can be discerned.

Qualitative research is distinguished by an emphasis on trying to look at things from the point of view of those being studied. The role of the researcher is to try to understand and interpret what is going on: this is a difficult task because researchers are human, not machines, and it is not possible for anyone to detach themselves completely from their own history, beliefs and personality. Qualitative researchers actively acknowledge this and constantly try to reflect on how their own convictions and experiences may be influencing the ways in which they observe and interpret phenomena. These reflections form part of the data that qualitative researchers collect in what is technically referred to as a reflexive account. Qualitative research tends to focus on the process by which things happen. To do this the researcher has to either go to the settings in which the action takes place and observe, or persuade participants to describe in detail what happened by interviewing them. Attempts are made to try to get a holistic view of what is happening and to look at it from different angles, typically by observing or interviewing as many of those involved as possible. Quantitative research is often governed by a formal hypothesis to be tested according to a fixed protocol during the course of the research. Such a null hypothesis might be for example, "There is no difference in the quality of maternity care whether it is provided by midwives working in teams or holding their own case load". In contrast, the question in a qualitative piece of might be more exploratory, for example, "What constitutes quality of care and how is it understood by those who deliver and receive care?". Because qualitative research is not governed by the same kinds of formal rules which frame quantitative research, it is sometimes assumed that it lacks scientific rigour. This is not the case. The choice of method and technique in qualitative work has to be considered carefully, justified and applied faithfully. The wrong choice will result in failure just as it would in quantitative work.

While qualitative research is relatively new in medical research it is the dominant method in many of the social sciences and humanities. On the face of it, the approach may seem peripheral to gynaecology and obstetrics—a

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specialty based in biomedical science, concerned with clinical measurement of chemical and physiological changes associated with fertility, reproduction, childbirth, and the anatomical understanding of the female body. Yet, qualitative research can be, and has been, used to tackle questions of considerable importance to obstetricians and gynaecologists such as women's experience of pregnancy and childbirth[6] and of maternity services[7,8], their experience of urinary incontinence[9], and women's understanding of abnormal cervical smear test results[10].

Methods of data collection and analysis

Techniques for gathering qualitative data include semi-structured and non-standardised in-depth interviews with individuals or groups, direct observation of events and behaviour, and the analysis of documents. These methods are used, separately or in combination, because they allow researchers to tap into the meanings people attach to their experiences and to see how they interpret or make sense of the social world.

Interviews

Semi-structured interviews are based on a loose outline of open-ended questions centred around a single topic. Such an interview might be structured around different aspects of a patient's experience of gynaecological surgery, with questions about her experience of hospitalisation, symptoms before and after surgery, satisfaction with care and so on. This format allows the interviewer and interviewee some flexibility to diverge from the outline and add to or develop questions. An in-depth interview is even more flexible and allows the researcher to focus in considerable detail on one or two issues. An in-depth interview exploring the experiences of pregnant women might start with a general question, such as "Can you tell me about your experiences of this pregnancy?" and further questions or topics are then generated by the interviewees' responses during the interview. Both types of interview require sensitivity and flexibility from the interviewer, and the careful use of follow up questions or 'probes' to draw out the topic and gather really detailed information. Another of the strengths of this approach is its ability to uncover unanticipated ideas or aspects of the research question not previously considered.

Group interviews or focus groups are similar to face-to-face interviews inasmuch as they can be guided by question outlines or topic lists, but they also use the interaction of group members to generate information. This is achieved by encouraging group members to talk to one another, ask questions, clarify ideas and discuss priorities. The focus group is thus both a source of data and a way of using group relationships and dynamics to develop the research. This method is especially valuable for finding out about shared experiences and common viewpoints, and has been successfully used to examine the health care experiences of new mothers[11] and women from ethnic minority groups[12,13]. Contrary to expectation, focus groups can also be a good way of exploring sensitive and difficult issues. This method has been used with women who were sexually abused as children to provide insights about their experiences of obstetric and gynaecological care[14].

The numbers of individual interviewees in qualitative studies is always much smaller than in quantitative survey research. The minimum is generally regarded as 12 and between 20 to 50 would be the norm[15,16]. Focus groups usually contain six to eight participants and the total number of groups rarely exceeds ten. These small numbers come as a shock to the uninitiated who often question the ability of such small numbers to represent anything. The essence of qualitative research is, however, to provide explanations and understandings of what is happening through in-depth examination of particular cases, rather than provide a statistically representative picture. Thus, large numbers are not required. For the same reason, methods of sampling in qualitative research tend to be purposive rather than random. There are a variety of qualitative sampling methods, such as those discussed by Patton[17].

Unobtrusive methods

Qualitative researchers often make use of less obtrusive research methods including direct observation of events or activity and the analysis of documents. The systematic observation of everyday behaviour, interactions and talk is especially useful in studying health issues because it allows researchers to examine what people actually do, rather than relying on reported behaviour. These observational methods have been employed in a variety of health care settings, such as clinics and operating theatres, to look at the work of clinical, managerial and administrative staff. One such study used observational methods to examine what really happens on the labour ward[18]. Documentary data sources are perhaps less widely used in health research, but these too can be a valuable source of qualitative information. The range of documents used by qualitative researchers includes public and organisational records or accounts, media reports and, sometimes, private papers such as diaries or correspondence. Two examples of how this method can be applied to the study of obstetric and gynaecological care are a study of the way in which women are presented in gynaecological text books entitled 'A funny thing happened on the way to the orifice'[19] and secondly an analysis of 30 years of British obstetric textbooks[20].

Qualitative analysis

All these methods of data collection generate textual data, in the form of transcripts of interviews, field notes of observations, or primary documentary sources. The analysis of such data uses strategies for dealing with texts to generate analytic categories, taxonomies and build theoretical explanations. In all cases the analysis rests on some form of content analysis, and while there are computer software packages that can assist with this process it remains a time-consuming and labour intensive aspect of qualitative research. The analytic process involves searching the text for themes which are marked up (referred to as indexing or coding), examined and collected together to form categories. In much qualitative research the analysis is inductive, that is, it derives or builds up gradually from the data, but it can be deductive and hypothesis driven. Grounded theory[4,5] is perhaps the best known, but oft misrepresented, methodological approach for developing theory from qualitative data. One aspect of this approach is the use of the constant comparative method of data analysis in which the data are coded, and categories are compared across and within each text. The emerging categories are re-analysed and refined in a series of iterative cycles to test and build theoretical propositions. A similar process of identifying themes and categories is also used in more deductive approaches to analysis, such as the framework approach, but the analysis here is driven by research questions and objectives defined at the outset of the research. These *a priori* questions provide a theoretical framework within which themes can be grouped and synthesised to create typologies and provide explanations. Whichever analytical approach is adopted this lengthy process of interrogating the data, revisiting the themes and refining the emerging categories is essential: it is a task that requires considerable patience and skill on the part of the researcher[21].

Qualitative research as a complement to quantitative research

Qualitative research can both inform and complement quantitative research. For example, interviews are frequently used in questionnaire development to check the meaning of words or terms to be used or to validate individual questions. This preliminary work is often a vital stage in survey research, as the research team investigating British sexual attitudes and lifestyles discovered when interviews with the public revealed considerable confusion about such terms as 'vaginal sex' and 'penetrative sex'[22]. One benefit of this type of preliminary work is that it is also useful in making clinicians aware of terms likely to be misinterpreted or misunderstood by their patients. Qualitative research can also be helpful in explaining or validating quantitative research. As a follow up to fertility surveys in Nepal a group of anthropologists used in-depth interviews to uncover the considerable under-reporting of contraceptive knowledge and use of abortion[23]. Qualitative research has also been valuable in helping to explain the findings of quantitative analyses: observational research exploring clinical decision making has helped to identify the reasons for widespread variation in common surgical procedures[24]. This research showed how individualised work practices and informal surgical rules shaped decisions about surgical management, producing the characteristic variation in surgical rates. Although this particular analysis focused on ear, nose and throat surgeons, these findings suggest that similar *modus operandi* lie behind the variation in hysterectomy, caesarean section and other common surgical interventions.

More recently qualitative methods have been used to augment clinical trials. Qualitative research within and around randomised controlled trials can be used to improve the quality of trials. For example, qualitative methods are being used within an ongoing randomised trial of smoking cessation strategies to assess the acceptability of the intervention by pregnant women and also to see how the intervention is delivered in practice. Initial qualitative research looking at this second issue has suggested that in everyday practice adherence to the trial protocol is variable and the impact of this will need to be assessed. As well as providing these kinds of quality checks within trials, qualitative research can have a role in preliminary stages of trial design in formative evaluation and developing relevant outcome measures. Beyond this, qualitative research is increasingly being used to find out about participant and non-participant's views of clinical trials[25] and this information will hopefully feed into future trial design and planning.

Understanding obstetric practice

For us, a strength of qualitative research lies in its potential to inform doctors and nurses. The best qualitative work – research that is systematic and rigorous – moves beyond common sense, is more than 'just anecdote' and has the power to transform clinical practices in positive ways. One example of this type of work is Oakley's pioneering study[6] analysing first time mothers' experiences of childbirth. Twenty years later, the description of antenatal care and obstetric practice and the wider meaning of motherhood in industrialised societies is still relevant. In this research women were interviewed over the course of their first pregnancy and delivery. The subsequent analysis revealed a sometimes depressing picture, highlighting women's lack of knowledge of the process, their un-preparedness for the birth and, at that time, the failure of much obstetric practice to meet these needs or move beyond a very narrow, medicalised view

of childbirth. Further research, both qualitative and quantitative, has supported many of the issues raised in this study, reminding obstetricians of the need the take women's views into account.

On a smaller scale, an interview-based study undertaken to review the care given to pregnant women in a health centre serving nearly 16,000 people resulted in a number of changes being made to the care provided[26]. For example, most parents valued antenatal classes but some found the number and content of the classes deficient. Young women in particular were less enthusiastic and could not see the point of these sessions. The response of the general practitioners and practice nurses to these findings was to integrate parenting classes into antenatal care by shifting the emphasis from routine clinical measurement to parenting. Antenatal visits were reorganised into group visits of women at the same stage of pregnancy thus enabling greater social contact and permitting time for education.

Qualitative research can also be used to investigate the organisation of care. One disturbing example of this is Bowler's analysis[27] of maternity care in 1993, based on an ethnography of a British hospital. Bowler discovered that midwives made assumptions about women on the basis of their physical appearance which led to differences in the care provided. Midwives typified women on racial lines so that, for example, they felt "if an Asian woman makes a noise in labour this is not because she is in pain but because Asian women in general have low pain thresholds and make a fuss about nothing". One of the common criticisms of this type of research is that the focus on small groups or single sites makes the findings irrelevant outside the single setting studied. While these findings are not generalisable or predictive in the statistical sense, the rigour of this piece of research and the evidence presented indicate that it is unlikely that these findings are unique to this group of midwives. This conclusion is supported by previous qualitative research that has identified other assumptions, such as 'good' and 'rubbish' patients, that influence clinical practice[28,29].

Evaluating change in the organisation of care

Qualitative research methods can also be used to evaluate changes in the organisation of care. Observational methods have been used to evaluate a new system of antenatal care[30]. Green *et al.*[31,32] used an ethnographic approach to assess the impact of removing the registrar grade from the medical staffing structure of a number of hospital obstetric units. The presence of a registrar did affect the content of the work of other staff and the relationships between staff. Relationships between midwives and consultants tended to be closer and more respectful in units without a registrar where both had to take on additional clinical work. Senior house officers were, however, more dissatisfied because they felt the improvement in the status of the midwives was detrimental to their position. What emerged unexpectedly from the data, however, was the different ethos operating in each unit, which could only have been discovered by qualitative research. This proved important in interpreting the results of a survey of women giving birth at each of these units, which showed that women were more satisfied with their care if they had given birth in a unit with a more women-centred ethos. Although these were also the units without a registrar, the researchers concluded that the ethos was independent of the medical staffing structure.

Judging quality

Qualitative research will only be accepted and understood by obstetricians and gynaecologists if it is of good quality. The quality of qualitative research has not been consistent. One response to the need to improve quality has been the development of guidelines for qualitative research[33–35] which have been useful to journal editors and have encouraged more thoughtful reporting of qualitative research. We hope that these criteria will improve the planning and conduct of qualitative research, in much the same way as we hope that the CONSORT guidelines[36] has influenced the planning and conduct of randomised trials.

There is, however, a growing awareness that the quality issue is more complex than simple checklists. The definition of quality and its measurement are not clear cut. Our position is allied to that of Hammersley[37] and Murphy *et al.*[38], that two issues are central to any assessment of applied qualitative research. These are validity (the accuracy of the representation) and relevance (the capacity to solve important problems or answer important questions). There are strategies for ensuring that these criteria are met in a qualitative study[39,40]: these include the combination of methods; the incorporation of validation by the respondent; and the use of multiple raters in the indexing and analysis of data. In reporting qualitative work it is often helpful to consider how negative cases are dealt with, and how divergent views are incorporated as well as the overall honesty of the account.

None of these are easy ways of ensuring quality, and all require skill and judgment. So much of the quality of qualitative research depends on the researcher, on integrity, reflexivity and insight. Qualitative research, if performed well, can stimulate debate, inspire further research, and transform practice. Therein lies its worth for obstetricians and gynaecologists, general practitioners, nurses and midwives who care for women and their children.

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