Qualitative research

"..... Many scientifically trained researchers are unaware of qualitative methods and some even take pride in their ignorance." [1]

Qualitative research encompasses a family of methods, which have their origin in ethnography, grounded theory, narrative analysis, phenomenology, etc. These methods originated from the so-called 'donor' disciplines of anthropology, sociology, philosophy and linguistics, and were later embraced by 'recipient' disciplines such as psychology, education, health and nursing [2].

Qualitative research methods have the ability to reach areas of inquiry inaccessible to other methods [3]. Qualitative methods attempt to understand complexities of human behaviour from the participants' own frame of reference in a naturalistic setting (rather than in an experimental setting), the aim being to study a range of phenomena such as feelings, thoughts, human interactions and similar processes [4]; for example, why certain interventions found to be efficacious during randomised controlled trial (RCT) are often difficult to apply in real life and become ineffective. Qualitative methods are the most appropriate to study such phenomena.

What makes qualitative methods fundamentally different from quantitative research methods? Qualitative research seeks to answer "what", "why", and "how" rather than "how often" or "how many". The prime goal is not to enumerate, as is usually done in quantitative research [5]. The RCT, with its focus on hypothesis testing through experiment controlled by means of randomisation, can be regarded as the epitome of the quantitative method [3]. Quantitative research begins with an idea (usually articulated as a hypothesis), which through measurement, generates data and by deduction, allows a conclusion to be drawn. Qualitative research, in contrast, begins with an intention to explore a particular area, collects "data" and generates ideas and hypotheses from these data largely through what is known as inductive reasoning [6]

Different types of qualitative research methods

The different types of qualitative methods are given in the box:

Different types of qualitative methods

- Interviews–structured, semi-structured or in-depth interviews
- Focus groups
- Consensus methods–Delphi technique and expert panels, nominal groups
- Observation methods–passive observation and participant observation
- Action research
- Case study evaluations
- Structured vignettes

Interviews

Most researchers use qualitative methods without realising it. This is mainly in the form of structured interview. Collecting socio-demographic data in any study falls into this category. Administering the Mini Mental State examination in the clinical assessment of a confused patient or in dementia research is another. Highly structured interviews such as CIDI (composite international diagnostic interview schedule) and CIS-R (clinical interview schedule – revised) in psychiatric research are other examples. In structured interviews the interviewers are trained to ask questions in a standardised manner and can be used for research in any discipline. Semi-structured interviews consist of open-ended questions that probe the area to be explored initially, and from then on, the interviewer or interviewee may diverge to pursue an idea. In-depth interviews are less structured than this, and may cover only one or two issues, but in detail [7]. Many examples of qualitative studies using interviews are available covering problems ranging from sudden infant death syndrome [8], studies on patients' perceptions of acute infective conjunctivitis [9], accounts of uncomfortable prescribing decisions [10], and hospital consultants' views of their patients [11].

Focus groups

Focus groups are a form of a group interview, which is a useful way to collect data from several people simultaneously. The group process can help people explore and clarify their views in ways that would not be conceivable in a one-to-one interview. During group sessions, rather than the researcher asking each person to respond, participants are encouraged to talk to one another. This is useful for exploring people's knowledge and experiences and can be used to examine not only what people think but also how they think and why [12]. Focus groups are useful in generating ideas, for example, finding out why people are not using a particular health service. Focus groups done away from home, among anonymous participants in a supportive setting, have been found to be useful for investigating topics of a sensitive nature such as abortion and sexual behaviour [13]. They are also sensitive to cultural variables and therefore preferred in cross-cultural research.

Consensus methods

The aim of the consensus methods is to determine the extent to which experts or lay people agree about a given issue. It is a method of dealing with conflicting scientific evidence, similar to meta-analysis in quantitative research to resolve inconsistencies in published RCTs [14]. The Delphi process and nominal group technique (expert panel) are the commonly used consensus methods.

Both involve measuring consensus and the second is also concerned with developing consensus.

Since the 1960s consensus methods have been used to develop consumer and professional definitions of the roles and qualities of primary health care organisations [15], to measure task delegation between differing nursing skill levels [16], to elicit team judgement in the selection of quality assurance topics [17], for appropriate indications for prostatectomy [18], to examine the appropriateness of other clinical interventions [19], to evaluate education and training [20], for practice development [21], to identify measures for clinical trials [22,23], and in many other studies.

The first author (AS) used consensus methods for the first time for translating and adapting research instruments from English to Sinhala and has established its advantages over the conventional practice of translation and back translation [24, 25]. He used a nominal group to translate and to asses the extent of agreement (consensus measurement) on the appropriateness of the translation and to resolve disagreements (consensus development). Qualitative methods were combined innovatively with quantitative methods to quantify the consensus.

Observation methods

Qualitative observational studies are different from the category of observational non-experimental research used in epidemiology. Observational methods used in social science involve systematic, detailed observation of behaviour and talk. In other words, watching and recording what people do and say. Another feature of qualitative observation is that it takes place in a natural and not an experimental setting, hence the term "naturalistic research." [26]. There are two main ways of doing qualitative observational research. One is passive observation and the other is participant observation where the researcher also becomes a part of the social setting [27]. Anthropological analysis accepts that there are three levels of cultural behaviour: what people say they do (for example, during an interview), what they are actually observed to do, and the underlying belief system which drives that behaviour [28]. Therefore, observational studies and other qualitative methods are extremely helpful in understanding diverse human behaviours.

Action research

Although not synonymous with qualitative research, action research typically draws on qualitative methods such as interviews and observations [29]. It was first used in 1946, to study inter-group relations and minority problems in the USA. This term is now identified with research in which the researchers work explicitly with and for people rather than undertake research on them [29]. In action research, the researcher involves the participants in the planning, interpretation and application of the research. Its strength lies in its focus on generating solutions to practical problems and its ability to empower practitioners [2]. It is particularly suited to identifying problems in clinical practice and in developing potential solutions to improve practice [29]. Action research is also becoming increasingly popular in disciplines other than medical science.

Case study evaluations

Case studies in qualitative research should be distinguished from clinical case studies. Clinical case studies are used to instruct and advance clinical practice, the primary purpose being pedagogic. In qualitative research, a case study is a method of inquiry and not an educational or therapeutic tool [2]. Case study is defined by interest in individual cases and draws attention to what can be learnt from a single case. The case may be a child or a group of children from an urban slum or a number of professionals getting together to study a childhood condition [30]. A case study draws on multiple perspectives and triangulated data sources to produce contextually rich information [31]. Psychological autopsy, a method evolved from case studies has been developed to understand the risk factors for suicide and the processes leading to completed suicides [32]. It is a reliable and an established method of eliciting clinical and socio-demographic information about the deceased from informants close to them [33, 34].

Structured vignettes

This is relatively a new technique developed by Lloyd and others [35], to elicit health beliefs about common mental disorders (CMD) using case vignettes. The vignettes describe patients with different clinical presentations. They are followed by open-ended questions to elicit the respondent's attitudes to the clinical problem, in particular whether the respondent considers the presentation as a problem or an illness; the respondent's views on causation, course of action and the role of a doctor or healer. Since then the method has been used by others to elicit explanatory models of patients with different illnesses [36–38]. Greenhalgh and others [28] have recently used case vignette method to study health belief models of Bangladeshi diabetes patients living in Britain.

Data management and analysis

The grounded theory approach is probably the most widely used strategy for analysing qualitative data [39]. In this approach, concepts and theory emerge from the data, and are grounded in the data collected. It is up to the researcher to extract these, thereby uncovering the participants' own understanding and explanations [40]. A qualitative researcher is skilled in data management and analysis. Many qualitative researchers begin with line-by-line coding where bits and pieces of information (units) are identified and linked to concepts and themes around which the final report is organised. Qualitative data

analysis requires a system for coding and retrieval of chunks of text and for organising codes and themes into files.

One way of doing this is by content analysis: drawing up a list of coded categories and "cutting and pasting" each segment of transcribed data into one of these categories. This can be done either manually or, if large amounts of data are to be analysed, via tailor made computer packages [27]. Computer software programs available are of two types, data programs that code and retrieve, and those designed to build theory. Code and retrieve programs including the ETHNOGRAPGH, NUDIST divide the text into coded chunks, list frequencies of the codes, etc. Theory building programs in addition have the capacity to organise codes hierarchically to develop conceptual frameworks for hypothesis testing [2].

Rigour and trustworthiness in qualitative research

Qualitative research has often been criticised for lacking scientific rigour. Rigour refers to the credibility or authenticity of a study. While the scientific credibility of a quantitative study is determined by indices of validity and reliability, the authenticity of a qualitative study rests on its trustworthiness. A trustworthy study is one that is carried out fairly and ethically to represent as closely as possible the experiences of the respondents. The pursuit of rigour is necessary to legitimise qualitative research and to produce knowledge that is useful for policy making [2].

The threats to trustworthiness are reactivity, and respondent and researcher biases. Strategies that are used to counteract these biases are, member checking, triangulation and leaving an audit trail. An audit trail means documenting details of data collection, analysis and strategies to ensure trustworthiness, so that another researcher can verify the findings. Negative case analysis is another way of ensuring trustworthiness and is a sort of self-imposed "devil's advocate" position assumed by the researcher during case analysis [2]. The researcher challenges the findings deliberately to look for evidence that contradicts the apparent observation [4]. If nothing is found, research conclusions are more convincing. If negative cases emerge it is not necessary to entirely discard the theory but it should be mentioned and not suppressed. Since qualitative researchers do not pretend to generalise their findings, this approach is not a problem [2]. Statistical representation is not a prime requirement when the objective is to understand the social process [41]. However, studying random samples is not prohibited in qualitative research.

Using examples from qualitative research studies in medicine, authors have discussed the principal approaches and summarised them into a methodological checklist that could be used to assess the quality of qualitative research findings [41].

Qualitative or quantitative research?

In medical research, the use of qualitative methods become useful to study problems where psychosocial issues are more important than the biomedical aspects. However, qualitative methods of inquiry could be used in combination with quantitative methods to enrich the depth, scope and breadth of research into any aspect of medicine, as it is a discipline that deals with people, whose behaviour is of paramount importance in overcoming disease or illness.

Qualitative methods are now being widely used and increasingly accepted in health research and currently enjoying much popularity [42]. It is time that we recognise this reality.

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