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**QUALITATIVE RESEARCH IN HEALTH CARE: AN OVERVIEW ON SCOPE FOR
APPLICATION OF DIFFERENT QUALITATIVE RESEARCH METHODS**

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ABSTRACT

Research discovers answers to questions through the application of scientific procedures. Qualitative research is a broad word that encompasses a variety of approaches and ideologies, making it difficult to define. In general, qualitative research is a means of examining people's experiences in depth utilizing a variety of research methodologies such as in-depth interviews, focus group discussions, observation, content analysis, visual approaches, and life histories or biographies. Qualitative research, however, is much more than just the application of qualitative methods. One of the most distinguishing characteristics is that it helps us to identify difficulties from the perspective of our study participants and comprehend their meanings and interpretations of behaviour, events, and objects. It can be used in a variety of settings. Qualitative approaches are commonly adopted to gain a deeper understanding of research topics by including the study population's viewpoints and the context in which they live. It is beneficial for learning about new themes and situations, explaining people's views and behaviours, and establishing a group's or society's social or cultural norms. As a result, qualitative research is most suited to answering 'why' questions to explain and comprehend difficulties, as well as 'how' inquiries to describe processes or behaviour. Qualitative research can be approached in a variety of ways (or paradigms). The positivist and interpretative paradigms are two main paradigms that underpin social science research. However, the application of qualitative research methods in dentistry is still emerging. This paper provides an overview of qualitative research which supplements the quantitative research in generating evidence base for sound practice of health and oral health care.

Keywords: Qualitative Research Methods, Discussions, Observation, Content Analysis, Visual Approaches

INTRODUCTION

Qualitative research is a broad word that encompasses a variety of approaches and ideologies, making it difficult to define. In general, qualitative research is a means of examining people's experiences in depth utilizing a variety of research methodologies such as in-depth interviews, focus group discussions, observation, content analysis, visual approaches, and life histories or biographies [1]. However, qualitative research entails far more than simply employing qualitative methods. Simply applying the methods does not automatically make us qualitative researchers. One of the most distinguishing characteristics of qualitative research is that it helps us to identify difficulties from the perspective of our study participants and comprehend their meanings and interpretations of behaviour, events, and objects [2].

Qualitative research interprets the information that people bring to research, allowing us to better understand social

phenomena in natural settings such as their own territory, in their own language, and on their own terms, while emphasising the meaning, experience, and point of view of all participants, preserving the complexities of human behaviour. This is referred to as a naturalistic approach.

Denzin and Lincoln (2005) offer a generic definition – *“Qualitative research is a situated activity that locates the observer in the world. It consists of a set of interpretive, material practices that makes the world visible. These practices transform the world. They turn the world into a series of representation, including field notes, interviews, conversations, photographs, recordings, and memos to the self. Qualitative researchers use a naturalistic approach to research by studying things in their natural settings and attempt to make sense of interpret phenomena in terms of meaning people bring to them”* [4].

Table 1: Definitions of common qualitative research terminology [5]

Terminology	Definition
Epistemology	Theories of knowledge that underpin how research proceeds.
Methodology	Theories of ‘finding out’, which determine the procedures undertaken in research.
Thematic content analysis	Organising qualitative data into emerging themes and concepts.
Ethnography	The systematic description of a cultural group’s values, beliefs, descriptions and perspectives, using various qualitative data collection methods.
Grounded theory	Using a systematic set of procedures to arrive at theory about social processes from real world observations.
Phenomenology	Exploring the lived experiences of participants.
Rigour (concepts)	Strategies used in qualitative research to maintain methodological rigour, reduce the potential for bias and enhance the validity of research findings.

When to use qualitative research

- Qualitative research may be employed in a variety of settings.

Qualitative approaches are commonly employed to gain a deeper understanding of research

topics by including the study population's viewpoints and the context in which they live.

- Qualitative research is beneficial for learning about new themes and situations, explaining people's views and behaviours, and establishing a group's or society's social or cultural norms. As a result, qualitative research is most suited to answering 'why' questions to explain and comprehend difficulties, as well as 'how' inquiries to describe processes or behaviour.
- Qualitative approaches are also well-suited to investigate difficult themes, since the rapport-building process creates a welcoming environment for participant disclosure.
- Qualitative research is used to better understand behaviour, beliefs, attitudes, and emotions from the point of view of study participants (a process known as *Verstehen*); comprehend and explain people's perspectives and actions; comprehend how people make decisions, how to negotiate a job, and how to run a firm; elucidate the meaning that individuals attribute to their experiences; interpret the results of quantitative research comprehend people's social

interactions as well as the rules and values they share; determine the social, cultural, economic, or physical environment in which actions occur; offer a voice to a certain research population's concerns; address study concerns with depth, complexity, subtlety, and context; study delicate topics like as sexuality, violence, and personal relationships in depth; Investigate complicated situations like human trafficking or drug use, which may be too complex or hidden to be easily disentangled by quantitative research [1].

Methods employed in qualitative research

The 'methods' are techniques of data collection and analysis for the given research question and paradigm. These methods are classified in different ways. We have broadly classified these techniques under four major headings - these categories are not mutually exclusive and may be used in combination with each other within a research project to answer the research or evaluation questions.

1. Participatory Rural Appraisal (PRA)
2. In-depth interview
3. Focus Group Discussion
3. Systematic techniques
4. Observations. [1, 2, 6]

In-depth interview

According to Benney and Hughes, the interview is the "preferred digging instrument" of social researchers. To understand about social life, social scientists rely heavily on verbal testimony. Most people associate interviewing with formal research instruments like attitude surveys, opinion polls, and questionnaires. These interviews are usually given to a big number of people. People may be asked to score their sentiments on a scale, choose the best answer from a series of forced-choice options, or react to a set of open-ended questions in their own words. Although these research methods differ in many ways, they all follow the same format: the researcher asks the questions, and the research subject provides the answers [7].

Types of Interview

- Highly structured/standardized
- Semi-structured
- Unstructured/Informal [5].

The Interview Guide

Most researchers utilise an interview guide in multiple-informant studies to ensure that relevant themes are discussed with a variety of informants. The interview guide does not follow a set timeline or process. Rather, it is a list of broad topics to be discussed with each informant. The researcher decides how to phrase questions and when to ask them during an interview. The interview guide's

main purpose is to remind the interviewer to ask certain questions.

The use of an interview guide assumes a certain level of information about the persons being studied. Thus, an interview guide is appropriate when the researcher already knows something about the informants via fieldwork, preparatory interviews, or other direct experience. As the researcher performs further interviews, the interview guide might be expanded or altered. As the researcher identifies trends in the interview data, questions are added to the interview guide to cover these topics with additional informants. An interview guide is extremely helpful in team research and assessment, as well as other types of financed study. The guide in team research ensures that all interviewers are exploring the same broad areas with informants. The interview guide can be used in financed research and qualitative assessment to provide sponsors an idea of what the researcher will really cover with informants [8].

Structure of the interview guide

- Introduction
- Opening question
- Key questions
- Closing questions
- Probe questions [2].

Focus group Discussions

A focus group discussion is an interactive discussion involving six to eight pre-selected participants, moderated by a trained professional, and centred on a certain set of problems. The goal is to get a diverse variety of perspectives on the study issue in 60-90 minutes, and to establish an environment in which participants feel comfortable expressing their opinions. The method's name encapsulates its main characteristics: a focus on specific concerns, with a set group of individuals engaging an interactive debate. Focus group discussions are becoming a common qualitative research strategy. Because of the group atmosphere in which data is collected, a well-conducted focus group discussion might provide unique viewpoints on the research problems. Because data is collected in a group setting, we may detect a wide variety of difficulties, and group interaction creates different types of data than an in-depth interview. For example, numerous focus group participants may raise a problem, to which other participants may respond by justifying the issue or providing examples to explain their position, and then additional group debate on the topic may uncover minor subtleties or specifics linked to the concerns. The group context also allows for the validation of concerns by others and the tempering of extreme ideas, making it a useful technique of identifying community norms, beliefs, and behaviours [1].

Discussion guide

A discussion guide is a list of topics or, more typically, a sequence of actual questions that the moderator uses to steer the discussion and keep it on track. The guide is simply a memory help for the moderator, ensuring that relevant subjects are addressed throughout the discussion session. Even if the topics or questions on the discussion guide are structured in a logical sequence, issues will frequently be raised in the discussion in a much more haphazard manner, so the moderator must be flexible enough to follow topics as they are spontaneously raised by participants in order to conduct a fluid discussion. As a result, rather than a prescriptive framework of questions, the discussion guide frequently serves as a checklist to ensure that all concerns are covered during the conversation.

During the study's design stage, the outline of subjects to include in the discussion guide is identified. As a result, the initial discussion guide questions frequently reflect underlying theory, concepts, or concerns from the scientific literature. Although the original discussion guide is constructed using deductive reasoning, it is often modified inductively throughout data collection; hence, the discussion guide may be moderately refined during the data gathering process [2].

Structure of discussion guide

- Introduction
- Broad opening question

- Specific question
- Closing question
- Post-discussion question [2].
- Space related PRA tools
- Time related PRA tools
- Relational PRA tools [6].

Participatory Rural Appraisal (PRA)

It has been called "an approach and methods for learning about rural life and conditions from, with and by rural people". Recently the scope of the PRA has extended to analyze, plan, and action. To accommodate new scope, it is now defined as, "a family of approaches and methods to enable rural people to share, enhance, and analyze their knowledge of life and conditions, to plan and to act" [9].

These methods are based on advocacy and the participatory paradigm of knowledge building. In this approach, people are seen as active members of development projects and not as passive recipients of the services. Chambers criticized that formal questionnaire surveys are difficult to design and run-in resource-poor settings of developing countries due to their time-consuming nature, high cost, and poor cross-checking, and expert-driven in nature. In addition, surveys often fail to explore and build an understanding of complex problems. PRA approach was developed to address these limitations of the conventional approach and help people bring in program planning, monitoring, and evaluation [9].

According to Institute for Participatory Practices, PRA tools are classified as,

Methods of PRA

- Social mapping
- Seasonal diagram
- Cobweb diagram (spider web diagram)
- Force Field Analysis (FFA) [6]

Observation

Observation is a research method that allows researchers to observe and document people's behaviour, activities, and interactions in a methodical manner. Researchers can also use this strategy to gain a full account of social situations or occurrences in order to locate people's behaviour within their own socio-cultural environment. As a result, 'in social science, observational methods require the systematic, comprehensive observation of behaviour and talk: monitoring and documenting what people do and say.' Observation is also "*used to comprehend and analyse cultural behaviour.*" The act of observing may appear easy, yet it includes numerous jobs. During an observation, we watch, listen, question, and document people's behaviours, expressions, and interactions while also noting the social environment, location, or context in which they are located. We must select what, when, and who to observe, as well as how to

document our findings. Our research questions or the goal of the observation guide the emphasis and location of our observations [1, 2].

The method of observation is part of the interpretative paradigm and is frequently employed in ethnographic research. Anthropologists that employ observation extensively in ethnographies say that it is not just a tool but also an innate approach to critically reflect on our theoretical beliefs and presumptions about the studied population [1, 2].

Types of observation

- Complete participant observation
- Non-participant observation
- Observation with visual aids

- Walk through the spaces approach [2].

Systematic techniques

Systematic techniques are methods that are qualitative in nature to begin with but use quantification or statistics to get the results. Thus, the results of these techniques are easy to interpret and communicate.

These techniques are

- Free list
- Pile sort
- Nominal Group Technique (NGI)
- Delphi technique [6].

Free list and pile sort are useful in understanding the cultural and cognitive domain, while NGT and Delphi methods are useful for consensus-building on an issue among stakeholders [6].

Table 2: Advantages and Disadvantages of various methods [1, 2, 3, 6]

Method	Advantage	Disadvantage
In-depth interview	Elicits detailed information about a person's experiences, opinions, feelings, or beliefs. Can be used to investigate sensitive, contradictory, or intimate issues, as well as when confidentiality is required. Frequently used to describe the connections and relationships that a person sees between specific events, or how a series of attitudes or behaviours relate to one another. Useful for sensitive topics	One-to-one interview, no feedback from others Need skills to establish rapport, motivate, listen and react to interviewees Flexibility is required to change topic order in interview guide to follow interviewee's story Transcription of interviews is time consuming
Focus group discussion	Replicates social interaction Useful for exploratory, explanatory and evaluation research Suitable for mixed methods research	Requires skilled moderator Less controlled environment Need comfortable environment
Observation	Provides familiarity with cultural milieu Provides context to behaviour Documents unspoken rules of social conduct Less intrusive than interview methods	Time consuming (continued and repeated immersion in setting) Recording field notes is cumbersome Simultaneous observing and recording can be difficult
Participatory Rural Appraisal (PRA)	Being a flexible approach, it was used in a wide variety of settings mostly among developmental agencies, non-government organizations, and community-based organizations.	There is a risk of mutual exploitations if the roles and scope of PRA are not defined at the outset. PRA process relies heavily on the integrity and honesty of the facilitators.
Systematic techniques	Focused and Rapid technique. Helps to understand the structure of a cultural domain or a cognitive domain by exploring the inter-relationship among its items	Cannot stand alone as a research method to address a research question. Findings of the free list and pile sort need to be triangulated with other sources such as interviews and focus groups.

Analysis of qualitative data

Qualitative research generates a large amount of data that must be analysed. The researcher's role is to make sense of data by interpreting it and explaining the results it produces. In contrast to quantitative research, qualitative data analysis begins with data collection. This is known as segmental analysis or interim analysis. The main advantage of this method is that the collected data can be analysed simultaneously, which can help to improve or change future data collection. During the analysis, the researcher may discover a new theme that will aid in the development of the hypothesis for further investigation and allow for the refinement of the research questions [3].

There are three stages to the analysis:

- Data Management,
- Description, and
- Explanation.

Throughout the analysis process, the researcher switches back and forth between original data and emerging explanations.

There are three broad approaches to qualitative data analysis:

- Thematic Analysis,
- Grounded Theory, and
- The Framework Approach.

All three approaches aim to define the fundamental analytical categories that describe and explain social phenomena.

Categories can be derived from data inductively or deductively. This is the first stage of data management for all three data analysis methods. Inductive analysis relies on reading and rereading data to develop themes; however, in deductive analysis, themes are defined first from the topic guide and research questions, and then searched for in the data [3].

Ethical issues in qualitative research

In qualitative research the three most important ethical issues are:

- Anonymity;
- Confidentiality; and
- Informed consent [1, 3].

Giving participants assurances about anonymity and confidentiality is simple, but maintaining these issues in research practise is difficult, especially when the sample size is small, as in qualitative studies. Before committing to anonymity, the researcher should determine the level of anonymity that is practicable.

In order to maintain confidentiality, no information will be disclosed under any circumstances. It serves as a safeguard against invasions of privacy. The definition of confidentiality should be clearly defined in research; simply using anonymity or pseudo-anonymity does not guarantee that the information provided by participants remains private. It is common for researchers to find it difficult to draw a

boundary of confidentiality in qualitative research, but it is necessary for the researcher to draw this boundary of confidentiality and keep secrets within the boundaries [1].

Assuring and assessing the validity of qualitative research

The validity of any research is critical to its quality. The most common methods for determining validity in qualitative research methods include

- Triangulation,
- Respondent validity,
- Reflexivity, and
- A clear explanation of data collection and analysis methods [3].

Frameworks for assessing qualitative research

The same framework that was used to evaluate quantitative research was used to evaluate qualitative research. Using the same criteria for both types of studies incorrectly evaluate the quality of qualitative research, resulting in qualitative research failure on quality grounds. Many criteria and frameworks for assessing the quality of qualitative research have been published, but the majority of them are not straightforward. Spencer *et al.* mentioned the following quality aspects that a framework should assess:

- Validity
- Reliability

- Generalizability
- Methodological rigour and justifications
- Specific quality
- Logic of enquiry
- Credibility
- Quality of theoretical perspectives

For the UK cabinet office, Spencer and her colleagues developed a framework to assess the quality of qualitative research in healthcare systems. After a thorough review of the research literature, they discovered 29 frameworks published in English. They also interviewed qualitative researchers and users in order to create a framework for evaluating policies and programmes. Spencer's framework includes four guideline principles:

- Contribution to advancing wider knowledge or understanding
- Defensible design
- Rigorous in conduct; and
- Credible in claim [3].

For reporting and publishing Qualitative Research

Consolidated criteria for reporting qualitative research (COREQ). It is a 32-item checklist for interviews and focus groups [10].

CONCLUSION

In dental research, qualitative research methods are just as valuable as quantitative research methods. The philosophical and

practical differences between these two methodologies can be advantageous for dental research when used in tandem. In the same way that qualitative methods can provide explanatory or generative results, quantitative methods can be used to validate and testify these explanations or generate theories of interest to dentistry.³ Although qualitative research offers numerous opportunities to add to the knowledge base in dental science, dental professionals who wish to conduct qualitative research should ensure that any study is constructive and methodologically rigorous. As a result, anyone considering a research project should seek methodological guidance and advice from experienced qualitative researchers.

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