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Qualitative Health Research: Outlining Basics

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Abstract Measures to mitigate disease related burden are ever more focused on modifying behavior, attitudes and practices since childhood. Qualitative health research creates a window of opportunity to obtain highly valid information, enabling experts to customize care-seekers and patient centered approaches. Understanding basics of Qualitative health research is thus essential for all clinicians and public health specialists to plan and implement effective intervention.

Keywords: *qualitative health research, researcher*

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1. Introduction

Exploring and explaining behaviors, attitudes and perceptions which determine the health outcomes in light of social, economic and ethnic background are essential. This enables understanding of how and why public health program intervention is not getting materialized or people are not making use of available health services - one of the key role of public health specialists and clinical researchers. Qualitative health research has long being realized as a cost effective tool in unravelling this tapestry determined by multiple factors. Determinants of health and wellness and addressing issues as diverse yet important as health promotion, child survival, compliance, substance abuse, adolescent sexuality, domestic violence, and gender relations require designing multi-disciplinary based approaches taking into consideration aspects as sociology, anthropology, psychology, economics, demography, medicine etc. [1] to facilitate decision making among policy makers, practitioners and the participants themselves.

In the healthcare arena the great majority of the studies conducted by the researchers are quantitative in nature. So, we wish to apprise clinical, social science and public health researchers about **EIGHT** essentials of Qualitative health research, necessary to efficiently contribute in areas of previously unexplored domains of biomedical research.

2. Outlining basics

2.1. Plan Involving both Deductive and Inductive Reasoning

Qualitative health research helps to explore into explanations (how's and why's) of unexplained behavior, attitude and practices determining health outcomes or building onto partially or previously known quantitative data set (who, where, when, how many or how much) and/or assumptions. Field of interest of researcher or research group or passion to solve any perennial problem or otherwise stakeholder's request is generally the driving force. Inductive reasoning grow in the intuitive mind-set reinforced by literature review to understand the extent of problem described by quantitative research or the area left unexplained by other qualitative research to afford ground for conducting new qualitative research. This need to be taken into account along with demands of both funding agencies and stakeholder's potential utilization of research findings derived through deductive reasoning.

2.2. Sampling to be Purposive and not Based on Statistical Generalizability

Study participants are selected based on pre-determined criteria according to need of study. All efforts are made to describe sampling strategy to capture data from information rich resourceful individuals and are open to modification during the course of study. Commonly used methods are

a. Quota sampling – subgroups are specifically chosen to reflect their corresponding proportions in population. Characteristics as gender, class, place of residence, occupation, literacy status are commonly used for selecting subgroups [2].

b. Respondent driven or Snowball sampling – Considered as best strategy to recruit participants from "hidden population" – the groups that cannot be easily accessed by investigator because of prevailing stigma in society. Popularly known as 'chain referral sampling' – initial participants or informants are approached for their social networks to recruit other potential participants [3].

The study participants are not chosen based on the defined strategy (c.f. quantitative research), but investigator/s intentionally track down themselves (purposive sampling) among the groups to obtain enriched data. The data collected are continuously analyzed and reviewed to develop and understand theories (theoretical sampling) to direct further data collection [4].

2.3. Qualitative Research is Emergent, Flexible and Iterative

Here study design uses non- obtrusive, non-controlling and non-manipulative environment to ensure active involvement of the research participants are with trustworthy freedom to direct the data flow. Research design is kept flexible and modified based on emerging new topics, research questions, and population subgroups or in case previously planned strategies fail to recruit desired number of participants or elicit necessary information. To ascertain emergent and iterative nature of Qualitative health research, the naturalistic methods as observation, in depth interviews and group discussions are employed as essential tools for data collection process.[1] Box 1 describes the broad categories of data collection methods utilized in Qualitative health research [5].

Box 1. Broad Categories of Qualitative Research Methods

S. No.	Method	Approach
1.	Observational method	Participant observation
		Non-participant observation
2.	Interview techniques	Unstructured
		semi structured
		Structured
3.	Focus Group Discussions (FGDs)	
4.	Projective Techniques	sentence completion
		picture interpretation
		cartoon/blurb completion
		story completion
5.	Personal documents and accounts :	Diaries
		Critical incidents
		Stories
6.	Sorting and Ranking Methods	
7.	Case studies	

2.4. Reflexivity of Researcher

Researcher in QHR, is an important research tool as he acts both as a co- interpreter during the process of data collection and guides the process in eliciting essential information from participants. The methods of eliciting data employed and level of trust and understanding between investigator and study subjects heavily influence the expression of information. The art of interpreting body language, facial expression and other non – verbal clues is essential in gathering building blocks of information. This demands intuitive and creative ways on part of researcher in thinking, asking, reasoning and analyzing data with continuous efforts to increase collaboration of participants with the researcher. Progressing with the discussion by asking non-judgmental, informal, open questions without any clue or suggestion is useful [1]. Adopting a flexible framework comprising of main questions; follow – up questions and probes [6] and emphasis on protecting confidentiality of people involved and discussed is required from investigator during the whole conversational process.

Process of decontextualizing and Re-contextualizing [7] In QHR, data collection occurs in conjunction with data review and analysis. During the process of data collection, decontextualizing of data is done by removing textual segments from the source of information. Tesch [8], defined textual segment as a "segment of text that is comprehensible by itself and contains one idea, episode or piece of information." Such textual segments are tagged together and coded and codes are further collected into categories. Miler and Huberman [9] have detailed two methods of code creation depending on the kind of research undertaken. First form is called as in-vivo coding and involves coding and labelling of data without a prior knowledge. Alternatively in research domain where already a lot is known, a preconceived list of categories is prepared and raw data is fitted accordingly. Re-contextualizing is deriving meaning out of these categories through constant examining, interpreting and comparison of these categories and their relationships which hint researcher both regarding emerging ideas to guide further data collection and theoretical saturation (when no new idea is emerging) to mark the end of data collection process.

2.5. Systematic Recording of Observations to Create an Audit Trail

QHR data analysis is considered to be a demanding, arduous and repetitive task [10]. It entails sequence of gathering data, sorting, coding together to create categories followed by reclassification and comparison to turn raw data into meaningful and useful information. All these processes require careful and systematic documentation of all the data collected on regular basis. Audit trail is one of the recommended approaches as it ensures documentation of observations and conclusions in a manner that ensures other researchers in reconstructing the process and confirms to reliability of results [11]. Box 2 describes the six categories of information to be included in a good audit trail.

Box 2. Categories of information included in an audit trail [11]

Raw data – uncoded transcripts, tape recordings, field observation notes
Data reduction and analysis products- list of codes, theoretical notes about working hypothesis, matrices
Data reconstruction and synthesis products – diagrams and notes showing how different themes relate, a final report
Process notes – methodological notes, notes about trustworthiness, audit notes
Materials relating to intentions and dispositions – study protocol, personal notes about motives and expectations of the study
Instrument development information – interview guides, data collection protocols

2.6. Team for Carrying out the Task

QHR data analysis is based on subjective interpretation of investigator and thus runs a huge risk of being biased.[1] Maximizing the rigor of analysis can be ensured by having more than one analyst to improve inter rater reliability during coding, creating of categories and comparative analysis and provides better explanation of discrepant finding. Different perspectives can prevent potential mis-interpretation and erroneous conclusions to the questions our research wants to answer that why a particular problem is occurring, how it is perceived in society and the play of power or authority in form of gender or hierarchy in group that influence the decision making. As investigator is required to be an intricate part of the study group and may get involved and influenced over time, careful guidance by other researchers help in defining the limit of participation.

2.7. Careful Use of Software Packages for Analysis [12]

Computer assisted qualitative data analysis software (CAQDAS) are nowadays commonly employed for various steps of qualitative data analysis as transcription analysis, coding of data, recursive abstraction, content analysis, discourse analysis and grounded theory methodology. At present many software are available such as QDA Miner & Hyper RESEARCH (mixed methods and qualitative data analysis by enabling analysis of text, graphics, audio and video sources for coding, theory building, etc.); ATLAS.ti (consolidates large volume of documents) ; MAXODA (help in teamwork by creating detailed protocol of all operations); NVivo and XSight (assist in compiling unstructured or non- numerical data); Annotations (helps in adding and managing notes to text). These softwares prove useful by shortening of analysis timeframes, enabling thorough coding and interpretation and help researcher in efficient data management but are criticized because of digitalization of data, software manipulation of texts with huge risk of converting rich qualitative texts into semi- quantitative arrays of facts.

3. Conclusion

Understanding basics of Qualitative health research helps in building high validity theoretical and methodological framework to understand background of complex decision making influencing health outcomes. Ensuring meaningful partnership of informant and researcher is essential to contextualize interpretation and action of different people in different situations. Qualitative health research helps clinicians, public health researchers and policy makers in untying the fabrics of personal and social choices made by people in ordinary life situations.

Declaration of Conflicting Interests

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