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Chapter on qualitative research

As discussed in the previous chapter, research attempts to explain the world around us through structured examination. In this section, we will explore the qualitative research process. We will cover:

- What is meant by qualitative research
- The significance of qualitative methodology in research
- How qualitative data can be processed.
- How one makes sense of this data.

What is meant by qualitative research?

Qualitative research is a methodological enquiry into social phenomena and its context. Detailed data is gathered from a series of collection methods usually comprising interview techniques, face-to-face interviews or focus groups. The conduct of the qualitative inquiry limits disruption of the natural environment of the phenomena of interest. The main feature of qualitative research is that its conveyance of an understanding of phenomena (findings) is reported in a literary style with participant commentaries. Unlike quantitative analysis which measures outcomes and has strict controls, qualitative analysis is flexible and inductive with its own logical processes that have to be accessible to the critical reader. This process is listed below:

- 1) to **describe** a phenomenon

- 2) to **explore** the scope and context of a phenomenon
- 3) to **explain** why things happen the way they do
- 4) to **generate** an outcome
- 5) to **holistically** report an outcome

(Adapted from Polit and Hungler, 1993)

Some qualitative studies adopt one or more of the above reasons, but all have at least one as their justification to carry out a study. Some examples below are given of research that principally fulfils these reasons:

The description of a phenomenon

This is a pretty straightforward goal of qualitative analysis in the traditional sense: it is to gain understanding of and answers to questions that have been posed from issues in the world around us. Traditional fields of qualitative methodology such as ethnography, phenomenology (Husserl ; Heidegger) and grounded theory (Glaser & Strauss 1967; Corbin & Strauss 1990) all have at their core a descriptive content that forms the building blocks of data collection, analysis and interpretation. Collectively, these terms can be described as three qualitative strategies concerned with real-world interpretation.

The exploration of a phenomenon:

Sometimes, there exist issues that defy description in the literal, scientific sense and can only be described when placed into a context. Qualitative research is committed to a real world approach that includes multiple viewpoints and contextual veracity. In 1984, a nurse researcher called Patricia Benner published her book, "From Novice to Expert". In this qualitative work, Benner explores the notions of competence, experience and expertise. As isolated attributes, competence, experience and expertise mean very little.

It is only when they are placed into a certain context and qualitatively analysed from a nursing perspective that they begin to have collective meaning.

Benner's work tries to capture the importance of experience, which is core to the qualitative pursuit, and defines certain steps of a nurses' development along a continuum, from 'novice' to 'expert' in the context of nursing practice. For the first time, experience is seen as a valuable component of the nurses' experience and credentials for authoritative practice. This means that qualitative research begins to play a valuable role in the nursing profession. Benner explores how experience affects nursing work and the phenomenon of intuition emerges as a vital part of the journey towards expertise. This work has influenced nurse training in almost every sphere since. *From Novice to Expert* remains one of the best selling books in nursing to date. Over 20 years later, it is still on many reading lists.

The explanation of a phenomenon:

Qualitative research is a vital tool for questioning current thought on a particular area in time and describes how phenomena occur. A good example of this process is the work of a doctor called John Snow, who turned his critical eye to the phenomenon of cholera. In the mid-nineteenth century, the spread of disease was attributed to 'miasma', or foul air. In particular, the cholera was seen as being spread by this method. The science of microbiology had not developed at this time, and 'miasmatic theory' conveniently explained the spread of the disease.

Snow was a sceptic of the miasma theory, and published an essay in 1849 "On the Mode of Communication of Cholera." In 1854, he conducted a famous investigation commonly known as the "Broad Street Outbreak", where he discovered that the source

of cholera was, in fact, a water pump at this location. The story goes that he removed the handle from the pump, and the outbreak ceased. Snow was not one for conjecture, and used detailed maps to plot the outbreak, and statistical techniques to process his data. However, he also used qualitative analysis to contextualise the problem and justify the results and, most importantly, disseminate findings to the largely uneducated public. In so doing, he proved that water companies supplying water contaminated with sewage had an increased incidence of the disease. However, it was qualitative analysis, coupled with quantitative analysis that made the findings relevant and useful in terms of addressing the general public and water company. This study was a ground breaking event in the field of public health, saved thousands of lives and is a founding study for the discipline of qualitative epidemiology, the social study of illness and disease among populations.

The prediction of a phenomenon:

Perhaps the most apt example of groundbreaking research in the area of is area can be attributed to Florence Nightingale. During her tenure as a nurse in the Crimea, Nightingale was appalled at the unsanitary conditions of the care facilities for wounded soldiers. She discovered that more troops were dying of disease than actual wounds inflicted in battle, and set about proving this.

A noted statistician, Nightingale had already examined the data from Napoleon's disastrous Russian campaign, and had refuted the commonly accepted conclusion that the French troops had frozen to death. More likely, she argued, was that they had succumbed to disease due to unsanitary conditions. She thus used her mathematic understanding to support and develop theories to understand the social world in which she nursed.

In the Crimea, she famously compiled data on mortality, with seasonal variations. These findings were presented in a form of her own design, now called a 'polar area diagram'. This allowed people in influential positions to interpret her findings visually with little or no statistical training. It was the linking of quantitative and qualitative analysis that gave her such rich results. Like fellow epidemiologist John Snow before her, the use of qualitative social theory along with statistics justified her conclusions that sanitary conditions were a prerequisite to effective patient care. Consequently, there was a predictable link between the reduction of mortality and the quality of the care environment.

In her 'Notes on Nursing', Florence Nightingale was among the first recorded practitioners in Western healthcare who considered environmental elements and the means to manipulate them qualitatively when contemplating patient care. In her text, Nightingale (1859, p.142) proposes that the environment plays a vital role in the nurse - patient relationship by stating,

'And what nursing has to do ... is put the patient in the best condition for nature to act upon him.'

From this observation, Nightingale argues that the patient's condition can be optimised by careful consideration to ventilation, noise, light and cleanliness, among other things. More importantly, she could prove this through social and statistical analysis. This work, along with the studies of hand washing by Ignaz Semmelweis and the promotion of aseptic technique by Joseph Lister are the cornerstones of modern nursing practice today. Together, they prove the prediction that cleanliness reduces infection and

mortality and also confirm that if cleanliness is neglected, then increased infection is a predictable outcome.

Key parts of any qualitative research study

Qualitative research studies are packaged differently, depending on who the audience is; what the subject matter is; what methods were used, and the social context. Each qualitative data method can be given a different look and feel because of this. For the moment, though, let's not concentrate on the things that make individual projects different, but what makes them the same. It may surprise the research novice to know that, in spite of different approaches, all research projects share some common features shown in the table below:

Key Elements of Research: An Investigator's Agenda	Research term used to describe this:
A Problem or Issue, Research Question or Hypothesis	Same terms
The background of the issues to be investigated	Literature Review
Identification of elements to examine	Variables
A population of subjects	Sample
Apply a method of investigation where the elements interact with the subjects	Methodology
Gather the information using the method	Collection
Look at the results	Analysis
Talk about the findings	Discussion

Table 1: Key elements common to all research studies

Exercise:

Choose three research papers from any nursing journal. Look at them and see if you can identify all of the elements in the table above in each paper.

The following section looks at each of these elements in greater detail:

Problems, questions and hypotheses in research

With all qualitative research there is a starting point. Generally, this may be in the form of a statement to be tested (a hypothesis); a problem or real-world issue that needs investigation, or an appraise-driven research question that requires sufficient investigation and evidence to answer satisfactorily. A research study may identify one or all of these starting points before setting out on the investigative journey.

Finding the problem:

What, then, should we be looking for when we read a piece of qualitative research? We need to look for a strategy that is well thought out and shows that the researcher has used the most appropriate resources to answer the problem. In addition, we need to know what methodology has been employed.

Methodology: a technique of inquiry that, when applied to a sample of subjects in a certain context, yields useful data.

In a nursing context, a methodology is very much like a plan of care for a client. The qualitative researcher, having worked out **what** to ask, and worked out **who** to ask then needs to utilise a qualitative method of **how** to ask these questions. Traditionally, the qualitative researcher will choose a method of inductive or reflexive analysis. Sometimes, researchers can combine measuring and social engagement as we noted above, but usually one is more dominant than the other. Some key differences in each of these methods are listed below:

Quantitative	Qualitative
Tests ideas and/or develops theories through measurement.	Develops ideas and concepts through questioning.
By using measurement, can establish causation and interplay of phenomena.	Develops meaning and significance by cognitive engagement with subjects.
The researcher uses instruments to collect data, relying on impartiality and objectivity to elicit data.	The researcher is the instrument of data collection, relying on communication and facilitation to elicit data.

This list is by no means exhaustive, and each area will be covered in more detail in subsequent chapters of this book. Suffice it to say that, for the moment, the research method is a crucial part of any study which should be theoretically sound, and fit for the intended purpose.

In order to involve you in the qualitative research process an exercise has been devised for you to involve yourself in. It is a qualitative research experience using a narrative research method:

- You can do this in groups of two or three or on your own. This exercise also enables you to be personally involved in a two-way process – to be involved in the content of the research and also play the role of the researcher
 - *Confidentiality and moral obligation towards your sample is a given in any research. Please respect the confidentiality of the discussions and do not repeat anything you hear outside your group*
 - Aim to make your research narrative reflective rather than descriptive
 - The purpose of the exercise is to understand the event as it is interpreted
 - The values attached to the narrative should be understood and taken into account when recounting the research
 - Remember that you are the primary collection instrument; ask what are your values, biases, judgements on the research narrative
 - The results are focused on gaining real, rich and deep data
- To begin:**
1. Look at the research questions below
 - “Recount an experience where you felt close to a patient or family member”
 - “Recount an experience where you felt most supported by your nursing colleagues”
 - “Recount an experience where you felt most led-down by nursing or your team”

“Recount an experience where you felt you had made your finest contribution, so far, to patients or the nursing team”

2. One of you act as time-keeper – take one turn each, timing each speaker for 2 minutes as they recount their experience (be strict)
3. The person in the next seat-but-one write up the story as it is being spoken
4. As researcher, your aim is to bring about dialogue and reciprocal exchange, do not judge or challenge your subject
5. Each take a turn in the three roles

Narrative interpretation:

1. Try and understand the ways in which the sample's values and meanings influence how they construct, reflect upon and reiterate their story
2. Feel free to draw upon the other shared stories and how a common narrative might be taking shape (is there an emerging group narrative)
3. Is there a particular discourse emerging from the narratives (i.e. a caring discourse perhaps?)
4. Narrative research is a constructive and reconstructive process, one which enables you to take a step back and see the cultural and contextual setting in which you exist
5. Are there any main themes emerging?
6. Do not look for a consensus view, let differences emerge
- 7.

A particularly useful aspect of this research method is that it is a participatory process that has the potential to enrich the lives of those involved, while simultaneously enhancing the development of nursing practice

1. Analysis of the Data

Analysis is the detailed examination of gathered information. The whole aim of doing research is to yield information that can help the investigator answer the questions they began with. All this information needs to be processed, organised and examined rigorously. Any departure from this intention may introduce errors, which could ultimately lead the researcher to the wrong answer. Indeed, when one examines research that has been published, it is a major part of the critical process to question how the researcher has dealt with the data. Typically, researchers use a variety of methods that can employ both numbers (statistics) and words to describe the findings. Exactly how this data is processed is dealt with in later chapters of this book. Almost always, researchers offer a brief literature review near the beginning of a study. This helps them to tell the reader the key information to date about the topic in question, and places their issue under investigation into some sort of context.

Asking the right question:

Supplementary to the hypothesis is the notion of the research question. This differs from the hypothesis in that a question is something that needs to be answered; a hypothesis is a conjecture that can be either proven or refuted. Research questions also share common features. Typical questions that a qualitative study might seek to answer are:

“What is it like to have a certain condition”?

“What does it mean for the patient?”

“What has the experience been like”?

“What do you think helped you through this experience?”

“Has anything particular made the experience better or worse?”

Either by going to a library or accessing the internet, find a nursing paper that examines any of the above questions and use the check list below to test the meaning of the paper

The Research Consumer’s Checklist of Critical Questions:

Key Elements in a Qualitative Research Paper	Questions to ask:
Hypothesis, Question or Problem	Is the problem clearly stated?
Literature Review	Is this relevant and up to date?
Goal characteristics	Is the data emergent, flexible and descriptive?
Sample	Is the sample small, non-random, theoretical? How many people were asked? How many people completed the study?
Methodology	Is the researcher also a primary instrument? Are there interviews and observations? Is it practical? Is it ethical?

Collection	What types of data did the method give? How was this data collected? What was done with the unprocessed data? How long did collection take? Who was involved?
Analysis/Reporting	Is the study inductive (by researcher)? Is any data missing? Does this reporting make sense to the reader?
Discussion	Does the data answer or address the issues identified at the start? Is the paper comprehensive and holistic? Finally: What does this have to do with me?

2. Discussion: does the data answer the original question posed?

After analysing the data, the researcher must come full circle and revisit the original questions asked. If the previous steps have been completed correctly, the researcher will not only be in a position to answer these questions, but also say to what degree they are proven or refuted.

Whether or not the initial question or hypothesis is proven or not is surprisingly not the main priority. Principally, it is how these answers have been derived which is the most critical aspect of research. How rigorously the process has been followed. On this rests the possibility of applying credible findings to a wider population with confidence and certainty, or of the study being repeated in the future by another researcher.

Researchers will also refer back to the important literature surrounding their area of study. They would traditionally use this to form a background to the research at the start of the paper. This helps to place the issues in question in some frame of context, but

also gives the writer the opportunity to say what is unique about their contribution to the field. Furthermore, the discussion area allows the researcher to 'come clean' about any weaknesses of their study, and what, in retrospect, could have been done to fix these inconsistencies.

You can see in the example below how the four elements of hypothesis, sample, process and outcome are all present:

- **Hypothesis:** This could be put as, "surgical nurses on ward A1 react badly to a shift-pattern change initiative."
- **Sample:** The staff on A1 surgical ward.
- **Process:** A 'focus group' asking them to describe their experiences during the change process
- **Outcome:** A set of results is generated that can prove or disprove the hypothesis (and hopefully bring about a solution to the identified gap or problem).

You might also find other research elements in a paper. Although quality and description lies at the heart of all qualitative research, not all studies are performed in the same way. Each method has certain characteristics that lend it to answering a particular question or issue. How these are employed depends largely on whether the mode of investigation is:

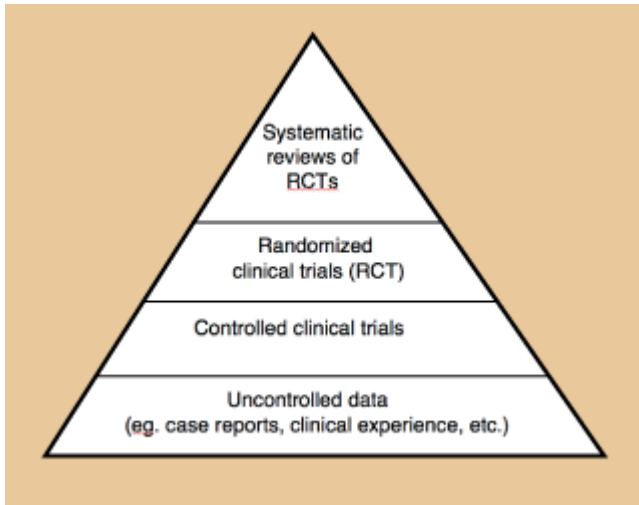
- **Ethical**
- **Practical**
- **Workable**
- **Timely**
- **Cost-effective**
- **emergent** (phenomena in a natural setting)

Example of a qualitative research method

This section looks at an example of a qualitative research method and why it is particularly suited to its application. That said, all qualitative studies set out to either observe or describe something, or describe the effect of one or more factors on another. The most obvious example of a qualitative study is one that immerses itself in a natural, ethnographic setting utilising participant observer research. Detailed data is gathered through open ended questions that provide direct quotations (for example the case report). The interviewer is an integral part of the investigation and is often involved in the reflexive process.

Case Series

A case-control study is useful in examining questions about the experience or value-driven outcomes of a particular health issue/health problem/disease (Greenhalgh, 2001). It is also useful in assessing changes in health service management or organisation; particularly when the researcher is involved in the fieldwork (Craig & Smyth, 2002). A case report describes the medical history of a single patient and a number of case reports can be run together to form a case series. Its disadvantage is that it provides weak scientific evidence, but positively it provides a unique insight into the perceptions and experiences of patients; findings of which can be utilised in patient-led initiatives featuring a unique personal narrative. The case series also has a number of other creditable points to recommend it: information can be conveyed that is subsumed in a trial or observational study; information can be quickly written up; the narratives can be understood by non-academics and lay readers. Although the case series plays an important role in gaining patient perceptions, it is classified as low evidence and placed at the lower end of the hierarchy of evidence.



The hierarchy of evidence is a pyramid shaped model employed to analyse critically & rank methodologies in order of scientific rigour and critical exactitude. Quantitative data in the form of systematic reviews and randomised control trials are placed at the top of the pyramid, while more qualitative studies are ranked below. As you can see the case report comes at the bottom end. In terms of making evidence fact and influencing change, the case series has a specialist role based on verissimilitude rather than the scientific veracity that quantitative analysis generates. What this means is that quantitative analysis has more scientific authority than its qualitative counterpart, however in terms of what we want to know as nurses, qualitative analysis supports many of the questions we pose as nurses so that rather than shoe-horning our ideas into the quantitative precision of statistical analysis we are able to ask the right questions and be confident that the hopes, expectations, fears and experiences of patients and nurses are answered methodically employing the logical processes of qualitative methods.

Conclusion

Qualitative analysis is more than an agent in the mechanics of knowledge transfer, it is a method that if used correctly conveys answers to some of the most fundamental questions in health delivery today posed by nurses and others. It enables those who

employ it as a means of quality enhancement to embed changes locally within their own real-world environment but also generate an evidence-base that can support new knowledge, learning and most importantly improvement of patient care.

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