



Qualitative and Quantitative Research

Dr. Karim Abawi

World Health Organization/Geneva Foundation for Medical Education and Research

Geneva, Switzerland

E-mail: abawik@who.int

karim.abawi@gfmer.org

Reproductive health research methodology training
at the Ministry of Public Health
Kabul, Afghanistan, 3-12 January 2008

Quantitative and Qualitative Research

At the end of this section the participants will be able to:

- Understand the differences between quantitative and qualitative research. Including:**
- the differing assumptions underlying the two approaches;**
- The methods typical of each approach;**

Quantitative Research

A process of inquiry based on testing a theory composed of variables, measured with numbers, and analyzed using statistical techniques.

The goal of quantitative methods is to determine whether the predictive generalization of a theory hold true

Assumptions underlying quantitative methods

- Reality is objective, "out there" and independent of the researcher, therefore reality is something that can be studied objectively;
- The researcher should remain distant and independent of what is being researched;
- Research is based primarily on deductive forms of logic, and theories and hypotheses are tested in a cause-effect order;
- The goal is to develop generalization that contribute to theory that enable the researcher to predict, explain, and understand a phenomenon.

Qualitative Research

- A process of building a complex and holistic picture of the phenomenon of interest, conducted in a natural setting
- Researcher who use qualitative methods seek a deeper truth. They aim to “study things in their natural setting”, attempting to make sense of, or interpret, phenomena in terms of meanings people bring to them
- The goal of qualitative research is to develop an understanding of a social or human problem from multiple perspectives

Assumptions underlying Qualitative methods

- Multiple realities exist in any given situation
- Researcher interacts with those he/she studies and actively works to minimize the distance between the researcher and those being researched.
- Researcher explicitly recognizes and acknowledges the value-laden nature of the research
- Research is context-bound
- Research is based on inductive forms of logic, categories of interest emerge mainly from informants (subject).
- The goal is to uncover and discover patterns of theories that help explain a phenomenon of interest
- Determination of accuracy involve verifying the information with informants or triangulation among different sources of information.

Qualitative vs quantitative research

- Qualitative research is concerned with finding the answer to questions which begin with why?how? In what way?
- Quantitative research is concerned with questions about: how much? How many? How often? To what extent?

Qualitative vs quantitative research

- Quantitative research collects numerical data in order to explain, predict and or control phenomena of interest
- Data analysis is mainly statistical
- It is categorized with descriptive research correlational research, causal-comparative research and experimental research.
- The result of research is a number, or a series of numbers, presented in tables, graphs or other forms of statistics.

Qualitative vs quantitative research

- When conducting qualitative research, the researcher collects data consisting mostly of words, pictures, observations of events, etc. These may eventually be categorized in some way, and possibly quantified.
- Collects narrative data to gain insights into phenomena of interest
- Data analysis includes the coding of the data and production of a verbal synthesis.
- It offers a lot of freedom in terms of what to study. However, analyzing such data can be very time consuming, and may be influenced by researcher bias.

Qualitative vs Quantitative methods

- In other words...
- **Quantitative Research:**
 - Involves the numerical representation and manipulation of observations for the purpose of describing and explaining the phenomenon that those observations reflect.
 - It is argued that quantification allows for more precision in analysis and ease in summarizing data and making inferences
 - Attempts to be very objective and controlled
 - Can lack the depth of some qualitative approaches.
- **Qualitative research:**
 - Involves the examination and interpretation of observations for the purpose of discovering underlying meanings and patterns of relationship.
 - It provides much richer, in depth data, which often provide insights into subtle nuances that quantitative approaches might miss.
 - Very useful for exploratory research and in the early stages of theory development.

Some key qualitative and quantitative research methods

- **Quantitative**
- Randomized clinical trial
- Cohort
- Case-Control study
- **Qualitative**
- Participant observation
- Case study
- Structural observation
- Content analysis of documents
- performance data
- Focus groups

Qualitative vs quantitative research

- Exemples
- **Quantitative**
- What proportion of smokers have tried to give up?
- **Qualitative**
- What stops people giving up smoking?

Qualitative vs quantitative research

- Example of a research project:*
- Title: Pregnancy outcomes in foreign-born and US-born women.
- Objective: To compare pregnancy outcomes between foreign-born women and women born in the United States.
- Method: Retrospective cohort study of all deliveries at Grady hospital in Atlanta between 1991 and 2000.
- *Authors: Forna F, Jamieson DJ, Sanders D, Lindsay MK. Int.J.Gynecol.Obstet. 2003;83:257-65

Qualitative vs quantitative research

- **Example of a research project ***
- Title: The acceptability of contraceptive by women in Pakistan
- Objectives: To find out the reasons why there is such a low acceptability of methods of contraception in Pakistan, where conventional methods of family planning are failing miserably. Why aren't the people of Pakistan using these methods when their immediate neighbors, India and Bangladesh are slowly and steadily increasing their contraceptive rates
- Method: The project will be conducted as a survey and some focal group discussions will be held. A total of 1200 women will be interviewed, 600 will be of the urban area and 600 from the rural areas.

- * Research project proposed by Samina Shaheen Ali, Maternity and Child Welfare Association of Pakistan 2006