**MATRIC NO: 16/MHS02/036**

**CORURSE CODE: NSC 414**

**COURSE TITLE: RESEARCH METHODS IN NURSING**

**ASSIGNMENT**

READ ABOUT DATA COLLECTION METHODS:

At the end of your reading you should summarise the following in maximum of 6 typed pages-

1.  Quantitative data collection methods with relevant examples

2. Qualitative data collection methods with relevant examples

**QUANTATIVE DATA COLLECTION METHODS**

Quantitative data collection methods relies on random sampling and structured data collection instruments that fits diverse experiences into predetermined response categories. They produce results that are easy to summarize, compare, and generalize.

Quantitative research is concerned with testing hypotheses derived from theory and being able to estimate the size of a phenomenon of interest. Depending on the research question, participants may be randomly assigned to different treatments. If this is not feasible, the researcher may collect data on participant and situational characteristics in order to statistically control for their influence on the dependent, or outcome, variable. If the intent is to generalize from the research participants to a larger population, the researcher will employ probability sampling to select participants.

A **probability sampling** method is any method of sampling that utilizes some form of random selection*.* In order to have a random selection method, you must set up some process or procedure that assures that the different units in your population have equal probabilities of being chosen. Simple examples of random selection are picking a name out of a hat or rolling a dice.

Typical quantitative data gathering strategies include:

1. Administering surveys with closed‐ended questions (e.g., face‐to face and telephone interviews, mail questionnaires, etc.)

(http://www.achrn.org/quantitative\_methods.htm)

1. Experiments/clinical trials.
2. Observing and recording well‐defined events (e.g., counting the number of patients waiting in emergency at specified times of the day).
3. Obtaining relevant data from management information systems.

**EXPERIMENTS/CLINICAL TRIALS**

Clinical trials are research studies performed in people that are aimed at evaluating a medical, surgical, or behavioral intervention. They are the primary way that researchers find out if a new treatment, like a new drug or diet or medical device (for example, a pacemaker) is safe and effective in people. Often a clinical trial is used to learn if a new treatment is more effective and/or has less harmful side effects than the standard treatment.

Other clinical trials test ways to find a disease early, sometimes before there are symptoms. Still others test ways to prevent a health problem. A clinical trial may also look at how to make life better for people living with a life-threatening disease or a chronic health problem. Clinical trials sometimes study the role of caregivers or support groups.

Before the U.S food and drug administration (FDA) approves a clinical trial to begin, scientists perform laboratory tests and studies in animals to test a potential therapy’s safety and efficacy. If these studies show favorable results, the FDA gives approval for the intervention to be tested in humans.

**QUESTIONNAIRES**

A questionnaire is the common instrument used to elicit information from study units that is the participants or a document containing a list of items of information to be collected.

Questionnaires often make use of checklist and rating scales. These devices help simplify and quantify people's behaviors and attitudes. A **checklist** is a list of behaviors, characteristics, or other entities the researcher is looking for. Either the researcher or survey participant simply checks whether each item on the list is observed, present or true or vice versa. A **rating scale** is more useful when a behavior needs to be evaluated on a continuum. They are also known as Likert scales.

**PREPARATION OF A QUESTIONNAIRE**

1. Examine general aims and specific objectives of study
2. Make a checklist of relevant topics or items of information.
3. List all variables to measure each item of information.
4. List how each of these variables are to be measured
5. Start constructions of questions

**USES OF QUESTIONNAIRE**

1. It provides checklists for topic covered
2. It ensures uniformity of questions asked from all respondents
3. It assesses researcher’s understanding of variables relevant to study objectives
4. It allows easy processing of data collected- quantitatively and systematicaly
5. It ensures collection factual data
6. It allows preparation of dummy tables even before data collection

**ADVANTAGES OF QUESTIONNAIRES**

1. It can be sent to a large number of people.
2. It saves the researcher time and money compared to interviewing.
3. People are more truthful while responding to the questionnaires regarding controversial issues in particular due to the fact that their responses are anonymous.
4. Allows the respondent to answer at their leisure.

**DISADVANTAGES OF QUESTIONNAIRE**

1. In most cases, the majority of people who receive questionnaires don't return them.
2. May need to offer incentives to increase response rate.
3. Time – mail surveys take longer than other types of surveys.

**EXAMPLES OF QUANTITATIVE DATA**

For example, asking a person their actual age or yearly income will result in a number that is a type of quantitative data collection.

**QUALITATIVE DATA COLLECTION METHOD**

Qualitative data collection methods plays an important role in impact evaluation by providing information useful to understand the processes behind observed results and assess changes in people’s perceptions of their well‐being. These methods are characterized by the following attributes:

1. They tend to be open‐ended and have less structured protocols.
2. They rely more heavily on interactive interviews; respondents may be interviewed several times to follow up on a particular issue, clarify concepts or check the reliability of data.
3. Generally their findings are not generalizable to any specific population; rather each case study produces a single piece of evidence that can be used to seek general patterns among different studies of the same issue.

Regardless of the kinds of data involved, data collection in a qualitative study takes a great deal of time. The researcher needs to record any potentially useful data thoroughly, accurately, and systematically, using field notes, sketches, audiotapes, photographs and other suitable means. The data collection methods must observe the ethical principles of research.

The qualitative methods most commonly used in evaluation can be classified in four broad categories:

1. Observation methods
2. Document review
3. In-depth interview
4. Focus group discussions

**OBSERVATION METHOD**

One of the most common methods for qualitative data collection, participant observation is also one of the most demanding. It requires that the researcher becomes a participant in the culture or context being observed. Participant observation often requires months or years of intensive work because the researcher needs to become accepted as a natural part of the culture in order to assure that the observations are of the natural phenomenon.

**DOCUMENT REVIEW**

Document review is a way of collecting data by reviewing existing documents. The documents may be internal to a program or organization (such as records of what components of an asthma management program were implemented in schools) or may be external (such as records of emergency room visits by students served by an asthma management program)

**IN-DEPTH INTERVIEW**

In‐depth interviews are a useful qualitative data collection techniques that can be used for a variety of purposes, including needs assessment, program refinement, issue identification, and strategic planning. In‐depth interviews are most appropriate for situations in which you want to ask open‐ended questions that elicit depth of information from relatively few people.

**FOCUS GROUP DISCUSSION**

A focus group is a group interview group of selected sample of participants who share the same characteristics(homogenous) in a way relevant to the investigation being done. A facilitator guides the group based on a predetermined set of topics. The facilitator creates an environment that encourages participants to share their perceptions and points of view. Focus groups are a qualitative data collection method, meaning that the data is descriptive and cannot be measured numerically

**EXAMPLES OF QUALITATIVE DATA**

For example, think of a student reading a paragraph from a book during one of the class sessions. A teacher who is listening to the reading gives a feedback on how the child read that paragraph. If the teacher gives a feedback based on fluency, intonation, throw of words, clarity in pronunciation without giving a grade to the child, this is as an example of qualitative data.

1. The cake is orange, blue and black in color.
2. Females have brown, black, blonde, and red hair.