**MATRIC NO:** 16/MHS02/038

**COURSE CODE:** NSC414

**COURSE TITLE:** RESEARCH METHODS IN NURSING

 **ASSIGNMENT**

Read about data collection methods and summarize qualitative and quantitative data collection methods with relevant examples.

 **DATA COLLECTION METHODS**

Data collection is a process of collecting information from all relevant sources to find answers to a research problem, test hypothesis and evaluate the outcomes. It is the systematic approach to gathering and measuring information from a variety of sources to get a complete and accurate picture of an area of interest. The task of data collection begins after a research problem has been defined and research design drawn out.

 **QUALITATIVE DATA COLLECTION METHOD**

Qualitative data are exploratory in nature. They are cannot be easily measured like quantitative data and they provide answers to questions like ‘‘why?’’ and ‘‘how?’’. They are majorly concerned with gaining insights and understanding the thoughts and behaviors of the audience.

These methods of qualitative research are connected with words, sounds, emotions, colors, and other non-quantifiable elements. They are often open-ended and have less structured procedures Qualitative data collection methods include the following:

* One-on-one interview:

This is the most common method of qualitative data collection due to its personal approach. In this method, the researcher (interviewer) collects data directly from the participant (interviewee) on a face-to-face interaction. It is informal and the questions asked are usually unplanned where the response of the interviewee gives rise and direction for the next question to be asked. It allows the interviewer explore the conversation by asking follow-up questions, thereby getting more information in the process.

This form of qualitative data collection is more suitable when there are few respondents. It is time consuming and tedious to repeat the same process when there are many participants.

* Focus Group:

This is also a form of interview that involves gathering of a particular number of people. They carry out a group discussion on a particular topic organized for research purposes. A small group of people with about 8-10 members discuss the common area of problem.

The discussion is guided, monitored and recorded by the researcher (also called the moderator).

Depending on the research problem and data to be collected, the members of the group must have something in common. For example, if a researcher is carrying out a study on rehabilitation of married women who has undergone mastectomy, the common features the members of the group must have are: (a) must be a married woman (b) must have undergone mastectomy.

* Observation:

In this method, the researcher fixes him or herself in the setting and becomes participatory in activities where he/she looks at everything and also record findings.

This helps the researcher in getting more reliable information and the actual thing happening.

Asides taking of notes, the researcher can also make use of audio, photographs and video recording to take down information. One of the shortcomings of this method is that the participations may affect the researcher’s opinion, thereby altering the actual goal of being objective.

* Questionnaire:

There are two forms of administering questionnaire which are the paper based questionnaires and web based questionnaires.

* Paper based questionnaire:

Questionnaire involves the use of short and structured questions in collecting data. In qualitative questionnaires, the questions asked are usually open-ended. This allows the respondent provide detailed answers to the questions asked. The advantage of this method is that they can be used for a large sample size unlike the one-on-one interview. The shortcoming is that the large number of respondents and detailed answers make data analysis time consuming and tedious.

* Web- based questionnaires:

This involves uploading of a questionnaire on a site where the respondent logs in to fill the questions instead of making use of a paper and pen. Data collection is faster, more organized and uncomplicated.

* Case studies:

In this qualitative method, data is gathered by taking a close look and an in-depth analysis of a “case study” or “case studies” – the unit or units of research that may be an individual, a group of individuals, or an entire organization. This methodology’s versatility is demonstrated in how it can be used to analyze both simple and complex subjects.

However, the strength of a case study as a data collection method is attributed to how it utilizes other data collection methods, and captures more variables than when a single methodology is used. In analyzing the case study, the researcher may employ other methods such as interviewing, floating questionnaires, or conducting group discussions in order to gather data.

**Example of qualitative data collection:**

In a focus group for rehabilitating female drug abusers where the respondent shares her personal experience on the withdrawal phases. The information given is detailed and cannot be quantified which makes it a qualitative data.

 **QUANTITATIVE DATA COLLECTION METHOD**

Quantitative research methods describe and measure the level of occurrences on the basis of numbers and calculations. In qualitative studies, questions such as ‘‘how many?’’ and ‘‘how often?’’ are asked. They are methods that usually rely on random sampling and structured data collection instruments. The results produced from them are usually easy to summarize, compare and generalize.

Quantitative data are data that deal with quantities, numbers or making them measurable. This also explains that they are usually expressed in numerical form such as length, size and also duration. They are commonly used to study events and level of occurrence. Quantitative methods also make use of larger sample sizes due to its measurable nature.

They include the following:

* Experiments/clinical trials:

Experiments are quantitative in nature and they involve the manipulation of an independent variables to determine if it will have an effect on thr other variables especially the dependent variables.

Quantitative researchers usually make use of experiments in collecting data. For example, observing and keeping records of distinct trials such as counting the number of women that come in for ante-natal at specific times of the day.

Clinical trials are research studies performed in people which is aimed at evaluating a medical, surgical, or behavioral intervention. They are the primary way that researchers find out if a new treatment such as a new drug or diet is safe and effective for use by the 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.

* Observation:

In quantitative observation, researchers collect quantitative data through systematic observations by using techniques like counting the number of people present and the quantifiable things useful for the study being carried out. More often, for quantitative data collection, the researchers have a naturalistic observation approach that needs keen observation skills and senses for getting the numerical data about the “what” and not about “why” and ”how.” It is a simple and easy way of data collection.

* Interviews:

Personal one-on-one interviews may also be used for gathering quantitative data. In collecting quantitative data, the interview is more structured than when gathering qualitative data and it comprises of a prepared set of standard questions. The interview can be in the following forms:

1. Face-to-face interview
2. Telephone/ online interview
3. Computer assisted interview
* Questionnaire:

Questionnaire involves the use of short and structured questions in collecting data. In qualitative questionnaires, the questions asked are usually close-ended and well structured unlike the qualitative questionnaire.

Answers are usually provided with options and the respondent is allowed to pick the best option that suits their experience or thoughts towards the study. The responses are analyzed by assigning numerical values to Likert- scale which helps to make analysis easier.

**Example of quantitative data collection:**

 Observing and keeping records of distinct trials such as counting the number of women that come in for ante-natal at specific times of the day. This will give a numerical value which is said to be quantitative and measurable.