**COURSE TITLE: RESEARCH METHODS IN NURSING**

**COURSE CODE: NSC 414**

**MATRIC NO: 16/MHS02/039**

ASSIGNMENT: DATA COLLECTION METHODS

1. Qualitative data collection methods with relevant examples
2. Quantitative data collection methods with relevant examples.

**QUANTITATIVE DATA COLLECTION METHODS**

It is number-based, quantitative research refers to the process of manipulating numbers to make claims, describe phenomena, provide evidence, and determine relationships or causation. It involves the use of numbers to assess information and this information can then be evaluated using statistical analysis which offers researchers the opportunity to dig deeper into the data and look for greater meaning.

* Deals with numbers
* Deals with data can be measured
* Deals with length, volume, weight, speed, time, temperature, cost, ages and members.
* Answers questions such as who? When? What? Where?

Advantages of quantitative data collection

* It is not dependent on sample sizes as in the case of qualitative method; for example, a case study can generate a meaningful result with a small sample size
* It is extremely useful when a subject is too complex to be answered by a simple yes or no hypothesis
* It allows researcher to measure and analyze data.

Disadvantages of quantitative data collection

* Large population must be studied for more accurate result.
* The context of the study is ignored

Quantitative data collection methods are:

1. Generation of models, theories and hypotheses
2. Development of instruments and methods for measurement
3. Experimental control and manipulation of variables
4. Collection of empirical data
5. Modeling and analysis of data
6. Evaluation of results

Other examples are:

* Closed-ended surveys and online quizzes

They are based on questions that give respondents predefined answer options to opt for. There are two main types of closed-ended surveys – those based on categorical and those based on interval/ratio questions.

1. Categorical survey questions can be further classified into dichotomous (yes/no), multiple choice questions, or a specific piece of predefined information.
2. Interval/ratio questions – it can consist rating scale, Likert scale, or matrix questions and involve a set of predefined values to choose from on a fixed scale.

* Clinical trials

They are research studies carried on participants which is aimed at making new discoveries. The participants are usually divide into two groups: experimental and the controlled group which is to evaluate the medical, surgical or behavioral interventions performed.

* Questionnaire

Uses of questionnaire

* It allows easy processing of data collected
* It allows preparation of dummy tables even before data collection
* It ensures collection factual data
* Probability sampling
* Interviews
* Document reviews

**QUALITATIVE DATA COLLECTION METHODS**

It is defined as data that approximates and characterizes, it can be observed and recorded. The data collected is non-numerical in nature and it is collected through methods of one-to-one interviews, direct observations and conducting focus group discussions. Combining two or more data collections methods, for instance combining interview with focus group enhances the credibility of the study.

It aims to gather in-depth understanding of human behavior and the reasons that govern such behaviors. The qualitative method investigates the why and how of decision making not only the where, what and when. It deals with phenomena that are difficult to quantify mathematically e.g. beliefs, meaning, attributes and symbols.

Advantages of qualitative data collection

* It is good for exploratory research and hypothesis generation
* It enables more complex aspects of persons experience to be studied.
* Participants are able to provide data in their own words and in their own way.

Disadvantages of qualitative data collection

* It is difficult to determine the validity and reliability of linguistic data
* Data overload – open ended questions can sometimes create a lot of data
* It is time consuming

1. **Open-ended questionnaires/ survey**

It is opposite to open-ended surveys, the main difference is the fact that closed- eneded surveys offer predefined answer options that the respondents must choose from, where as open-ended surveys allow the respondents much freedom and flexibility when providing their answers.

Limitations

1. open-ended can be time consuming and demanding
2. it is usually difficult to compile and analyze
3. **In-depth interview (one– on-one )**

Face-to-face interviews are one of the most common types of data collection methods in qualitative research. The interviewer collects data directly from the interviewee. Due to it being a very personal approach, this data collection technique is perfect when there is need to gather highly-personalized data.

The interview can be informal, unstructured, conversational, and even spontaneous depending on the specific needs of the interviewer but it is more difficult to obtain data and time-consuming, it can also be semi-structured and standardized to a certain extent.

1. **Focus groups**

The focus groups data collection method is essentially an interview method, but instead of being done 1-on-1, group discussion is done. Whenever the resources for 1-on-1 interviews are limited (whether in terms of people, money, or time) or there is need to recreate a particular social situation in order to gather data on people’s attitudes and behaviors, focus groups can come in very handy.

Ideally, a focus group should have 3-10 people, plus a moderator. Though, depending on the research goal and what the data obtained is to be used for, there should be some common denominators for all the members of the focus group. For example, if there is a study on the rehabilitation of teenage female drug users, all the members of the focus group have to be girls recovering from drug addiction. Other parameters, such as age, education, employment, marital status do not have to be similar.

1. **Direct observation**

Direct observation is one of the most passive qualitative data collection methods. Here, the data collector takes a participatory stance, observing the setting in which the subjects of their observation are while taking down notes, video/audio recordings, photos, and so on. It entails the systematic noting and recording of events, behaviors, and artifacts in the social setting chosen for the study, it is referred to as field notes, non-judgmental concrete descriptions of what has been observed and this method assumes that behavior is purposeful and expressive of deeper values and beliefs

Due to its participatory nature, direct observation can lead to bias in research, as the participation may influence the attitudes and opinions of the researcher, making it challenging for them to remain objective. Plus, the fact that the researcher is a participant too can affect the naturalness of the actions and behaviors of subjects who know they’re being observed. It can range from a highly structured, detailed notation of behavior structured by checklists to a more holistic description of events and behavior.