MATRIC NUNBER: 16/MHS02/043.

COURSE CODE: NSC414.

COURSE TITLE: RESEARCH METHODS IN NURSING.

QUESTION: DISCUSS THE QUANTITATIVE AND QUALITATIVE METHOD OF DATA COLLECTION WITH RELEVANT EXAMPLES

DEFINITION OF DATA COLLECTION

Data collection is a form of gathering information to address those critical evaluation

questions that the addressesthe researcher’s topic. It is an important aspect of any type of research study. Data collection is the process of gathering and measuring information on variables of interest, in an established systematic process that enables the researcher to answer stated research questions, test

hypotheses, and evaluate outcomes

DATA COLLECTION METHODS

There are two methods of collecting data. They are,

1. Quantitative Data Collection

2. Qualitative Data Collection

1. **QUANTITATIVE DATA COLLECTION**

Quantitative data is numerical in nature and can be mathematically computed.

Quantitative data measure uses different scales, which can be classified as nominal scale, ordinal

scale, interval scale and ratio scale. Often (not always), such data includes measurements of

something. Quantitative approaches address the ‘what’ of the program. They use a systematic

standardized approach and employ methods such as surveys and ask questions. Quantitative

approaches have the advantage that they are cheaper to implement, are standardized so

comparisons can be easily made and the size of the effect can usually be measured. The Quantitative data collection methods rely on random sampling and structured data collection instruments, that fit diverse experiences, into predetermined response categories. They produce results that are easy to summarize, compare, and generalize.

Quantitative data gathering strategies include -

— Experiments/clinical trials.

— Observing and recording well-defined events (e.g., counting the number of patients waiting in

emergency at specified times of the day).

— Obtaining relevant data from management information systems.

— Paper-pencil-questionnaires can be sent to a large number of people and saves the researcher

time and money. People are more truthful while responding to the questionnaires regarding controversial issues in particular due to the fact that their responses are anonymous.

— **PROBABLITY SAMPLING**

A definite method of sampling carried out by utilizing some form of random selection and enabling researchers to make a probability statement based on data collected at random from the targeted demographic. Data is collected randomly from the selected sample rules out the possibility of sampling bias.

There are three significant types of probability sampling

1) Simple random sampling: more often, the targeted demographic is chosen for inclusion in the sample.

2) Systemic random sampling: any of the targeted demographic would be included in the sample, but only the sample is selected randomly, rest are selected in the ordered fashion as if one out of every ten people on the list.

3) Stratified random sampling: it allows selecting each unit from a particular group of the targeted audience while creating a sample. It is useful when the researchers are selective about including a specific set of people in the sample, i.e., only males or females, managers or executives, people working within a particular industry.

— **INTERVIEWS**

Interviewing people is a standard method used for collection of data. However, the interviews conducted to collect quantitative data are more structured, wherein the researchers ask only a standard set of questionnaires and nothing more than that. There are three major types of interviews conducted for data collection which are:

1) Telephone interviews: for years, telephone interviews ruled the charts of data collection methods. However, nowadays, there is a significant rise in conducting video interviews using the internet, Skype, or similar online video calling platforms.

2) Face- to- face interviews: it is a proven technique to collect data directly from the participants. It helps in acquiring quality data as it provides a scope to ask detailed questions and probing further to collect rich and informative data. Literacy requirements of the participants are irrelevant as face-to- face interviews offer ample opportunities to collect non verbal data through observation or to explore complex and unknown issues. Although it can be an expensive and time consuming method, the response rates of this interview are often higher.

3) Computer assisted personal interviewing: it is nothing but a similar setup of the face to face interview where the interviewer carries a desktop or laptop along with him at the time of interview to upload the data obtained from the interview directly into the database. This saves a lot of time in updating and processing the data and also makes the entire process paperless as the interviewer does not carry a bunch of papers and questionnaires.

2) **QUALITATIVE DATA COLLECTION**

Qualitative data are mostly non-numerical and usually descriptive or nominal in nature. This means the data collected are in the form of words and sentences. The Qualitative data collection methods provides information useful to understand the processes behind observed results and assess changes in people’s perceptions of their well-being.

Regardless of the kinds of data involved, data collection in a qualitative study

takes a great deal of time I.e It is time consuming. 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. Qualitative questions are open-ended. Qualitative methods include focus groups, group discussions and interviews.

**1) INTERVIEWS**

Interviews are useful to explore experiences, views, opinions, or belief on specific matters. There are different grades of structuring the interview: structured, semi- structured or open/ in-depth, dependent on the characteristics of structuring the interview by the researcher. Often the researcher develops a topic list before the start of the interview, which can be used in a flexible manner. As the interview is a product of interaction between the researcher and the interviewee, the setting and skills of the researcher are of importance.

**2) FOCUS GROUP DISCUSSIONS**

These are useful to examine how social knowledge is produced. The researcher stimulates discussion in order to examine how knowledge and ideas develop and operate in a given group. Most of the times, a facilitator guides a discussion about a particular topic in a group of usually 6-12 people. Some sensitive issues might be more easily discussed within a group, although personal information’s might be withheld, for instance when persons are acquainted with each other or because of hierarchical relations within the group. The role of a facilitator is to create can open atmosphere, involve participants in the discussion and manage this discussion. The organization of a focus group requires a careful attention.

**3)OBSERVATIONAL METHODS**

These are used to understand phenomenon by studying people’s accounts and actions in an everyday context. There are different types of observations, with various degrees of research participation, like non participating observation (e.g. by using video recordings), and participants observation.