**MATRIC NO: 16/MHS02/016**

**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

Data collection is the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer stated research questions, test hypotheses, and evaluate outcomes. The data collection component of research is common to all fields of study including physical and social sciences, humanities, business, etc. While methods vary by discipline, the emphasis on ensuring accurate and honest collection remains the same.

Data collection can also be described as the process of gathering qualitative and quantitative information on specific variables with the aim of evaluating outcomes or gleaning actionable insight. Good data collection requires a clear process to ensure the data collected is clear, consistent and reliable.

THE PURPOSE OF DATA COLLECTED

1. To obtain accurate informations

2. To keep on record

3. To make decisions about important issues

4. To pass accurate information to others

CONSEQUENCES FROM IMPROPERLY COLLECTED DATA INCLUDE

• inability to answer research questions accurately

• inability to repeat and validate the study

• distorted findings resulting in wasted resources

• misleading other researchers to pursue fruitless avenues of investigation

• compromising decisions for public policy

• causing harm to human participants and animal subjects

TYPES OF DATA COLLECTION

1. Qualitative data collection

2. Quantitative data collection

QUALITATIVE DATA COLLECTION

Qualitative data collection is descriptive in nature rather than numerical.

Different methods are used in qualitative research. The most common are interviews, focus group discussions, observational methods and document analysis. Combining two or more data collections methods, for instance interviews as well as focus groups.

Interviews

Interviews are useful to explore experiences, views, opinions, or beliefs on specific matters. Accounts can be explored and compared to others, to develop an understanding of the underlying structures of beliefs (See chapter 4 in Green & Thorogood, 2010). 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 (e.g. the ability to build a sense of trust (developing rapport), the way of phrasing questions, give the interviewee room to tell a story, body language).

Focus group discussions

Focus group discussions 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 easy discussed within a group, although other (personal) information might be withheld, for instance when persons are acquainted with each other or because of hierarchical relations within the group. The role of the facilitator is to create an open atmosphere, involve participants in the discussion and manage this discussion. The organization of a focus group requires careful attention. This includes the sampling and recruitment of participants, the composition of the topic list and how the data will be collected.

Observational methods

Observational methods are used to understand phenomena 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 participant observation or ethnography. Ethnography ‘usually involves the researcher participating, overtly or covertly, in people’s daily lives for an extended period of time, watching what happens, listening to what is said, and/or asking questions through informal and formal interviews, collecting documents and artefacts

Document analysis

Document analysis is based on existing sources, like government reports, personal documents, articles in newspapers, books or medical records.

QUANTITATIVE DATA COLLECTION

Quantitative research can be described as entailing the collection of numerical data and exhibiting the view of relationship between theory and research as deductive, a predilection for natural science approach, and as having an objectivist conception of social reality. In other words, quantitative studies mainly examine relationships between numerically measured variables with the application of statistical techniques. Quantitative data collection methods includes;

1. Probability sampling

A definitive 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.

There are three significant types of probability sampling

\* Simple random sampling: More often, the targeted demographic is chosen for inclusion in the sample.

\* Systematic random sampling: Any of the targeted demographic would be included in the sample, but only the first unit for inclusion in the sample is selected randomly, rest are selected in the ordered fashion as if one out of every ten people on the list.

\* 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

2. Interviews

Interviewing people is a standard method used for data collection. 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

\* 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.

\* 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

\* Computer-Assisted Personal Interviewing (CAPI): 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.

3. Surveys/questionnaires

Surveys or questionnaires created using online survey software are playing a pivotal role in online data collection be is quantitative or qualitative research. The surveys are designed in a manner to legitimize the behavior and trust of the respondents.

There are two significant types of survey questionnaires used to collect online data for quantitative market research.

\* Web-based questionnaire: This is one of the ruling and most trusted methods for internet-based research or online research. In a web-based questionnaire, the receive an email containing the survey link, clicking on which takes the respondent to a secure online survey tool from where he/she can take the survey or fill in the survey questionnaire. Being a cost-efficient, quicker, and having a wider reach, web-based surveys are more preferred by the researchers.

\* Mail Questionnaire: In a mail questionnaire, the survey is mailed out to a host of the sample population, enabling the researcher to connect with a wide range of audiences. The mail questionnaire typically consists of a packet containing a cover sheet that introduces the audience about the type of research and reason why it is being conducted along with a prepaid return to collect data online.

4. In this method, researchers collect quantitative data through systematic observations by using techniques like counting the number of people present at the specific event at a particular time and a particular venue or number of people attending the event in a designated place. 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.”

5. Document Review

Document review is a process used to collect data after reviewing the existing documents. It is an efficient and effective way of gathering data as documents are manageable and are the practical resource to get qualified data from the past. Apart from strengthening and supporting the research by providing supplementary research data document review has emerged as one of the beneficial methods to gather quantitative research data.

Three primary document types are being analyzed for collecting supporting quantitative research data

\* Public Records: Under this document review, official, ongoing records of an organization are analyzed for further research. For example, annual reports policy manuals, student activities, game activities in the university, etc.

\* Personal Documents: In contrast to public documents, this type of document review deals with individual personal accounts of individuals’ actions, behavior, health, physique, etc. For example, the height and weight of the students, distance students are traveling to attend the school, etc.

\* Physical Evidence: Physical evidence or physical documents deal with previous achievements of an individual or of an organization in terms of monetary and scalable growth.

DIFFERENCES BETWEEB QUANTITATIVE AND QUALITATIVE

|  |  |
| --- | --- |
| QUANTITATIVEDATA COLLECTION | QUALITATIVE DATA COLLECTION |
| Research process is deductive. | Research process is inductive. |
| Measure objective facts. | Social reality, meaning is constructed. |
| Focus on variables. | Focus on in-depth meaning. |
| Value-free research. | Values are present & explicit (empathy). |
| Independent of context. | Contextual importance. |
| Many cases, subjects. | Few cases, participants. |

CONCLUSION

Data collection in healthcare allows health systems to create holistic views of patients, personalize treatments, advance treatment methods, improve communication between doctors and patients, and enhance health outcomes.