DATA COLLECTION

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- Data collection is a process of gathering and measuring information on variables of interest, in a systematic fashion that enables one to answer RQ, test hypotheses and evaluate outcomes.

- Data gathered from a number of sources….

- **Types of data**: *Primary data (researcher data) and Secondary data (other researchers).*

*Instruments used for data collection
are the research instruments*

Types of Research Instruments

1. Questionnaire
2. Interview
3. Check list
4. Records
5. Observation
6. Experimental Approach

Questionnaires are the most frequently used instrument to data collection.

QUESTIONNAIRE

✓ **Questionnaire is A set of predetermined questions asked to all respondents to obtain statistically useful information about a given topics.**

✓ **When properly constructed and administered, questionnaires become a vital instrument used to collect factual information**

▪ **Functions of questionnaire**

1) DESCRIPTION … **what ???**

2) MEASUREMENT of individual and/or group variables **… like what??**

Advantages of Questionnaire

- 1. Relatively simple method.
- 2. Consumes less time
- 3. Allows researcher to collect data from a widely scattered sample

Disadvantages of Questionnaire

1. Responses to a Questionnaire lack depth.
2. Respondent may omit or disregard any item he/she chooses.
3. Some items may select not actual choice.
7. Some items may be misunderstood.
8. The sample is limited to those who are literate.

Characteristics of good questionnaire

1. It has a well stated title, and confidentiality of information.
2. Anonymity
3. It has a statement of the purpose
4. It is designed to achieve the objective of the study.
5. Should be as short possible … **WHY???**
6. Directions, order and wording of question should be simple & neatly printed
7. The instrument must be valid
8. The instrument should be reliable
9. The instrument should be free of bias or cheating.

Types of Questions

1. **Closed Ended**

- **In quantitative studies.**

- **"Fixed- alternative":**

  - Yes- No …. "don't know" …why??

  - Agree- disagree

- **"Multiple alternative" …. "OTHERS"**

- **Easier to answer and analyze…**

Types of Questions

2. Open Ended "Free response":

- *Always in qualitative, Exploratory studies*

- *allow subject to speak , opinion*

- *Might change to closed*

- Disadvantage: Analysis IS difficult.

Open-ended and closed ended questions:

Ex.: from your point of views, what types of lifestyles can increase persons chance of having DM?
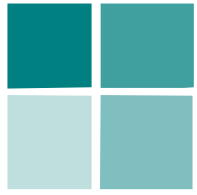
Open ended questions:

Ex.: which of the following habits that increases chance of having DM (select one):

    Unhealthy food   overweight   stress

Closed ended questions:

Types of questionnaires

1. **Structured questionnaires (Closed Ended Questions)**

✓ Are based predominantly on closed questions.

✓ Produce data, be analyzed quantitatively.

✓ The agenda is entirely predetermined by the evaluator.

✓ A closed question can be answered with either dichotomy; 'yes' or 'no', OR ……

Multiple answer closed ended questions;

Ex.: Which of the following habits increase the chance of having DM?
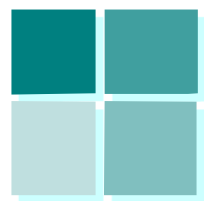
A. Smoking   (yes)   (No)   (Don't know)

B. overweight   (yes)   (No)   (Don't know)

C. Stress   (yes)   (No)   (Don't know)

May start open ended .. Then do closed ended

… Which is better ??

Types of questionnaires

2. Unstructured questionnaires (Open-ended)

✓ There is no list of answer choices (write their response) .

Ex: What are the facilities and services do you expect from your library?

3. Semi-structured questionnaires (Partially Structured Question) (mixed approach) .

Ex: do you use web based resources? Yes ,,, No.

 What purpose do you use web based resources?

For research work   …….. To write assignments

Ways of adapting for Research questionnaire

- *Borrow questionnaire from other studies?*

- *searching "health outcome questionnaire"*

- *Using standardized questionnaires will give us the appropriate data and will yield a valid study. Why?*

  - *To safe time, ensure comparison, previously tested.*

  - *Ideal to use without modification, may be necessary to add, change or delete … culture but Use clear language/ correct translation*

- *formulation of your questionnaire.*

- *Which one is the best*

formulation of questionnaire

1. Read professional journals so as to learn; what kind of instruments are being used for similar studies, theirstyle …

2. Talk with other expert researchers.

4. Combine or adapt one or more tools used by other researchers.

5.Knowthe charactersof goodquestionnaire…..

6. Write a first draft of the questionnaire..

formulation of questionnaire

7. Reexamine by yourself and revise the questions withcolleaguesandexperts…

8. Pretest the questionnaire

9. Edit the questionnaire and specify the procedures for its use.

10. Develop your own instrument to fulfil a specific need

Wording in questionnaire

✷ *Simplicity*: use simple language… avoid difficult nomenclature.

✷ *Clarity* … Avoid ambiguity and abstract words

✷ *Neutrality* :avoid loaded words: ex. **it is better to ask**: "during the last Wk, how often did you drink coffee

✷ **" than to ask**:"during the last wk, did you drink a large amount of coffee?

✷ *Avoid pitfalls*: as double barreled questions, double negative question, hidden assumptions, options that do not match the question, leading question

✷   **Why???**

ORDER OF THE QUESTIONS IN QUESTIONNAIRE:

☐ **Move from general to specific in logical manner**

☐ **Start with simple questions and gradually narrow down**

❑ **No sensitive and embarrassing questions at beginning .. At the end.**

Conducting The Questionnaire

- *pre testing (small no.), clarity*

- *Pilot study to test: (potentially large no).*

    ~ Response

    ~ Time needed

    ~ Clarity

    ~ Length of questionnaire

- *MODIFICATE ACCORDENGLY …*

Accuracy and precision of questionnaire

- Accuracy .. Requires expertise and care in their construction…

- *Ask colleagues, experts to review questionnaire considering the content and clarity.* *why??*

(content validity and construct validity)

It refers to the truthfulness of a measure

Does it measure what it intends to measure?

Accuracy and precision of questionnaire

- Testing Precision ..Reliability … consistency of measurement.

- Common method: test- retest reliability

**FACTORS AFFECTING RELIABILITY:**

Number of items

Variability

Condition in which the questionnaire is

administered..??

- *One must follow all the basic guidelines and methods of constructing a questionnaire and test it before using it. Why ??*

- The quality of the results depends on the quality and appropriateness of the question, questionnaires and interviews. (accuracy ,, precision)
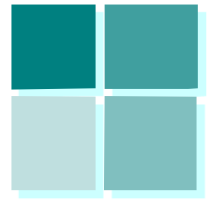
Interviews as a Tool of Data Collection

- Interview is a principal technique of data collection by employing verbal questioning .

- an interchange of views between two or more people on a topic of mutual interest.

- It allow participants to provide rich, contextual descriptions of events…. Social research, opinion

- Interviews basically consist of:

Asking questions, listening to individuals and recording their responses.
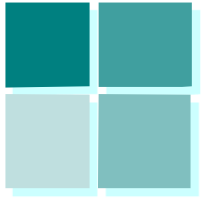
Why Interview? When ?

- There is a need to attain highly personalized data.

- There are opportunities required for probing.

- A good return rate is important.

- When respondents are not fluent in the native language of the country, or where they have difficulties with written language.
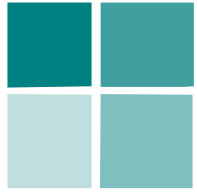
Characteristics of interview

- i. Personal Communication.
- ii. Equal status: The status of the interviewer & the interviewee is equal.
- iii. Instant response.
- iv. Temporary relationship between interviewer and the interviewee.
- v. Considerable flexibility in the interview guide.

Skills of interviewers

- An ability to listen

- An ability to be non-judgmental

- A good memory

- Ability to think on his/her tongue …

- Sense of humor

Codes,, Scores and scales:

Codes: giving a code 1,2,3, ex.:

1- Not diabetic

2- Type I DM

3- Type II DM.

Scores: ex. how important are these items for maintaining health?

HEALTHY FOOD	1	2	3	4
Drinking a lot of water	1	2	3	4
Practicing exercise	1	2	3	4

Types Of Scales

Summative (Likert) scale:

To measure respondent's attitudes ….

ex. For each item mark your opinion :

Neurotic type of mental health problem is very prevalent:

Strongly agree   Agree   Neutral   Disagree   Strongly disagree

OR

Agree   Neutral   Disagree

Ex. To what extent the information obtained from the web based resources are useful to you?

1- Unsatisfied ,, 2- Somewhat satisfied ,, 3- Neutral ,,   4- Satisfied   ,, 5 Extremely satisfied

Cumulative (Guttman) Scale:

 ex. circle the letter of every statement that you agree:

   A. smoking can cause illness.

   B. Smoking is an important cause of illness

   C. smoking is a very important cause of illness

   D. smoking is the most import. cause of illness