



Data collection methods

Data

- Information collected from the source.
 - Data is a collection of ***information, facts and evidence*** from which you can draw conclusions.
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Sources of data

1. **Primary sources of data:** it needs the involvement of the researcher himself.
 - ✓ **Census** and **sample survey** are sources of primary types of data.
 2. **Secondary sources of data:** In this case data were obtained from ***already collected sources*** like newspaper, magazines, CSA, DHS, hospital records and existing data like;
 - ✓ Mortality reports
 - ✓ Morbidity reports
 - ✓ Epidemic reports
 - ✓ Reports of laboratory utilization (including laboratory test results)
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Data collection techniques

- Allow us to **systematically** collect information.
 - The sources used in the health system research can be classified as:
 - Available sources/Secondary source
 - Empirical sources/ Primary source
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Data collection techniques

...

- **Data collection** is a crucial stage in the planning and implementation of a study
- If the data collection has been superficial/shallow, biased or incomplete, data analysis becomes difficult, and the research report will be of poor quality.
- Therefore, we should concentrate all possible efforts on developing appropriate tools, and should test them several times.

Data collection techniques VS Data collection tools

Data collection Technique	Data collection tools
Using available information	Checklist: Data compilation forms
Observing	Eyes and other sense, pen/paper, watch, microscope
Interviewing	Interview guide, Tape-recorder, etc
Administering written questionnaires	Questionnaire
FGD	Tape- recorder, pen/paper

Various data collection techniques:

- Using available information
- Observing
- Administering written questionnaires

Lect 7 Data collection instruments and questionnaire design.
pptx

- Focus group discussions
 - Interview
-

Using available sources

- ✚ It's a data that has already been collected by others
- ✚ From available sources/Secondary source like:
 - ❑ Mortality reports
 - ❑ Morbidity reports
 - ❑ Reports of laboratory utilization
 - ❑ Reports of individual case investigations
 - ❑ Reports of epidemic investigations
 - ❑ Special surveys
 - ❑ Demographic data

Cont'd

- **Checklist** or **data compilation sheet** is necessary.
- In designing such instruments, it is important to inspect the layout of the source documents from which the data is to be extracted.
- This will save time and reduce error.

Cont'd

- E.g. A check list for collecting a data about immunization status of Under-5 children from EPI record book
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Check list

1. Code No. _____
 2. Age of mother _____
 3. Educational status of mother _____
 4. Marital status _____
 5. Occupational status _____
 6. No. of children _____
 7. Age of children _____
 8. Sex _____
 9. Immunization status _____
-

Advantage of Available Sources

- Is inexpensive
- Permits examination of trends over the past.

Disadvantage of Available Sources

- Data is not always easily accessible.
- Ethical issues concerning confidentiality.
- Information may be imprecise or incomplete.
- Data collection may not be standardized.
- The data is related only to numerical data.
- Fail to include important illness and disability

Techniques of collection of primary data

- 1. Observation**
 - 2. Administer written questionnaire**
 - 3. Interview (face-to-face):**
 - 4. FGD**
-

Administering written questionnaires

- **Questionnaire** -Is data collection tools.

- ✓ **Types**

I) A structured questionnaire

- Is one in which the questions asked are precisely decided in advance.

II) An unstructured questionnaire

- A question guide provided for the interviewer to direct the interview
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Cont'd

III) Semi structured questionnaire

- Some of the questions and their sequence are determined in advance, while others evolve as the interview proceeds.
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Self administered questionnaire

- ✓ **Sending questionnaires by mail**
 - ✓ Gathering all or part of the respondents in one place at one time, giving oral or written instructions, and letting them fill out the questionnaires
 - ✓ **Hand-delivering questionnaires** to respondents and collecting them later
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Advantage ...

- ❖ **Can be posted, e-mailed or faxed.**
- ❖ Can cover a large number of people or organizations.
- ❖ Wide geographic coverage.
- ❖ Relatively cheap.
- ❖ No prior arrangements are needed.
- ❖ Avoids embarrassment on the part of the respondent.
- ❖ Respondent can consider responses.
- ❖ **No interviewer bias.**

Disadvantage...

- Questions have to be relatively simple.
- Historically low response rate
- Assumes no literacy problems.
- No control over who completes it.
- Not possible to give assistance if required.

■ Problems with incomplete

Interview

- **Used to find out things we can't directly observe.**
- Involves oral questioning of respondents, either individually or as a group.
- Interviews can be conducted with varying degrees of **flexibility**:
 - **High and low degree of flexibility**

Interview...

- It is designed to allow the respondent to **tell their story in their own ways.**
- It also allows the subject matter to be explored in some depth.
- Different Types:
 - Structured
 - Semi-structured
 - In-depth (Unstructured/Focused)
 - In-depth or Semi-Structured

cont ...

- **Structured**

Standardized questions, *closed questions*, set order of questions.

- **Semi-Structured**

***Open and closed* questions together / the fixed interview guide approach where agenda set but open questions.**

Cont ...

- **In-depth (unstructured/Focused)**
 - **No fixed order.**
- **In-depth or Semi-Structured**
 - **It is a conversation between the researcher and the subject about the researcher area/topic.**

Preparation for Interview

- Choose a setting with little distraction.
 - Explain the purpose of the interview.
 - Address terms of confidentiality.
 - Explain who will get access to their answers and how their answers will be analyzed.
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Cont'd ...

- Explain the format of the interview.
- Indicate how long the interview usually takes.
- Tell them how to get in touch with you later if they want to.
- Ask them if they have any questions before you get started with the interview.
- **Don't count on your memory** to recall their answers.

Conducting Interview

- Verify the tape recorder (if used) is working.
 - Ask one question at a time.
 - Attempt to remain as neutral as possible.
 - Be careful about the appearance
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Qualities needed for the interviewer

- Proper training
 - Tactful/diplomacy
 - Sociability/Amiability
 - Neutrality
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Strength of interview

- It ensures almost completed and usable returns of the questionnaire
- Obtains large contextual data quickly

Weakness of Interview

- It is ***absolutely subjective***
 - Depends on cooperation of respondent
 - It also greatly depends on the ability of the researcher to be respectful, systematic, and honest to control bias.
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Face to face interview

- Is a data-collection technique that involves oral questioning of respondents, either individually or as a group.
 - Answers to the questions posed during an interview can be recorded by writing them down (either during the interview itself or immediately after the interview) or by tape-recording the responses, or by a combination of both.
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Face to face interview ...

Advantages

- Good at achieving high response rate
- Allows considerable flexibility in questionnaire
- Completed and immediate.
- Possible in-depth questions.
- Interviewer in control and can give help if there is a problem.
- Can investigate motives and feelings.
- Can use recording equipment.
- Characteristics of respondent assessed

Face to face interview ...

Disadvantages

- Social desirability bias
 - Needs training of interviewers
 - Interviewers bias
 - Can be expensive.
 - Embarrassment possible if personal questions
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Telephone interview

Advantages

- High response rate
 - Item non-response can be minimized
 - Quickest methods if time to obtain answers is important
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Conducting an In-depth Interview

- **Interview Guide usually prepared. It**
 - ✓ **helps the interviewer to remember the points to cover;**
 - ✓ **suggests ways of approaching and talking about topics;**
 - ✓ **reminds the interviewer about probes (= to search & examine carefully & thoroughly) and ways of asking questions.**
 - ✓ **includes an introduction and way of ending the interview.**

Interview Guide ...

- ✓ ensures that the interviewer covers all the topics;
 - ✓ gives a possible order of topics; and
 - ✓ helps the interviewer to enable people to talk in their own ways, and fully as possible.
- **It needs to have:**
- Beginning - Body - End

In-depth interview...

Beginning

- Put the respondent at ease/comfort and help them to begin to talk.
 - Ask them to describe their situation or something that has happened to them.
 - Give them a clearer ideas of the nature of the interview.
-

In-depth interview ...

Body

- Moves to the areas of particular interest to the researcher.**
 - As progressed more detailed or sensitive areas may be discussed.**
 - The researcher must be prepared to be flexible and to come back to explore in more depth areas that have been mentioned but not developed by the respondent.**
-

In-depth interview ...

End

- **As the interview draws to its close, the researcher moves on to less sensitive and more general matters.**
- **Remind again that the interview is confidential.**

Reading the Interview

- ✓ **In-depth interviews are usually *recorded* and then *transcribed*.**
- ✓ **The interviewer *must be familiar* with the tape recorders and other accessories.**

Tips on In-depth Interviewing

- Remember the interview is a **conversation, not an interrogation.**
- **Don't assume** that you understand what the respondent means - ask
 - ✓ Can you tell me more about that?
 - ✓ Can you tell me how you felt about that?
 - ✓ In what way was that a good/bad experience?
- **Try to sit an angle to the respondent and maintain eye contact.**

Tips cont...

- **Don't be thrown/fearful** if they say something which shocks or surprise you.
- **Look expectant and encouragingly** say “that is interesting!”
- **Use probes to encourage** people to tell you more:
 - ✓ “What happened next?”
 - ✓ “Can you tell me more about...?”
 - ✓ “You said earlier that... could we talk a bit more about that?”
 - ✓ “What do you mean?”
 - ✓ “In what way?”

Tips cont...

- **Embarrassing situations and sensitive issues may be tackled by:**
 - ✓ “What about you? How do you feel about that?”
 - ✓ “Some people say that...what do you think about that?”
- **Avoid double questions, e.g. “How do you feel about going there with other people and having to do what they want to do?”**
- **Avoid leading questions, e.g. “Don’t you think it would be better if...?”**

Tips cont...

- **Don't sum up** what people say: rather, say: "Am I right in thinking that you...?"
- **Don't interrupt** the flow if they don't immediately answer the question, but don't let them stray too far away from the topic- gently bring them back! "That's very interesting; I wonder if we could now move on to talk about...?"

Focus group discussions (FGDs)

- FGDs allow a group of **8-12 informants** to freely discuss a certain subject with the guidance of a facilitator or reporter

FGD ...

- **are used as a research method to find out what groups of people think and how they discuss ideas together.**
- **attempt to create a natural phenomenon a group of people with something in common discussing an issue/event.**
- **It is not used to find out what each individual thinks or has experienced but rather how the group discusses the topic being researched**

FDG ...

A Focus Group

- ❖ Is a group discussion, i.e. group discusses views with each other;
 - ❖ Has **8 - 12 homogenous** group;
 - ❖ Focused on a particular topic;
 - ❖ Has members who have **something in common**;
 - ❖ Led by a facilitator;
 - ❖ Time and task limited.
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Golden Rules of FGD

Participants:

- **8 to 12 people (homogenous)**
 - with **similar background**
 - **preferably** do *not know each other*
 - **sitting in a circle**
-

FDG ...

- ❖ Has a ***beginning, middle, and an end.***
- ❖ ***Beginning:*** getting people talking,
relating experiences and ideas.
- ❖ ***Middle:*** helping people to focus by
asking more specific

Steps for conducting FGD

1. Recruitment of participants
 2. Physical Arrangements
 3. Introduction
 4. Discussion
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Skills needed for moderating FGD

- Ability to put others at ease
- Use simple language
- **Use *open ended questions***
- Ability to listen to others
- Ability to encourage others
- Know when to probe

Advantages:

- Quick result and cost-effective
 - Groups may generate important issues
 - Ideas as how to proceed with the study may be generated.
-

Disadvantages:

- Topic of discussion may be missed
 - The discussion may be manipulated by the moderator.
 - Needs well trained professionals
 - Some topics may be too sensitive and too personal.
 - Deviant views may be inhibited, etc.
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Observation

- Is a technique that involves systematically selecting, watching and recording behavior and characteristics of living things, objects or phenomena.
- Observation of human behaviour is a much-used data collection technique.
- It can be undertaken in different ways;

Observation

→ Participant observation

- The **researcher becomes part of the group** that is being investigated.
- The observer takes part in the situation he or she observes.

→ Non-participant observation

- The observer does not normally question or communicate with the people being observed.
- The observer watches the situation, openly or concealed, but does not participate.

Advantage

- ❑ Gives more detailed and context related information
- ❑ Permits collection of information on facts not mentioned in an interview
- ❑ Permits tests of reliability of responses to questionnaires
- ❑ Actual situation (not self reporting)
- ❑ give additional more information

Disadvantage

- ❑ **Ethical issue**
- ❑ **Observer bias**
- ❑ **Time consuming**
- ❑ **Could be expensive**
- ❑ Training of research assistants is required.
- ❑ Presence of the data collector can influence the situation observed.

Data collection process

Stages in data collection

Stage I. Permission to proceed

Stage II. Data collection

Stage III. Data handling

Cont'd

Stage I. Permission to proceed

- Obtaining consent from the relevant authorities, individuals and the community

Stage 2: Data collection

- Logistics:
 - who will collect what,
 - when and
 - with what resources

Cont'd

- Quality control:
 - Prepare a field work manual
 - Select your research assistants
 - Train research assistants
 - Supervision
 - Pre-test research instruments

Stage 3: Data handling

- Questionnaires
 - Identify the person responsible for storing data and the place where it will be stored.
 - Decide how should be stored
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Bias in information Collection

The Possible sources of bias in information collection:

A) Defective instruments

➤ Questionnaire with:

- Fixed or closed questions
- Open-ended questions
- Vaguely phrased questions
- **Illogical** order questions
- **Non standardized** use of instrument.

➤ These bias can be prevented by **carefully planning the data collection process** and by **pre-testing the data collection tools**.

Cont'd ...

B) Observer Bias

- Easily occur during observation or loosely structured group or individual interview.
- **Reduced by using:**
 - **Observation protocol, guidelines, training and practice**

Cont'd ...

C) Effect of the interview on the informant

- The informant may **mistrust** the intention of the interview or give misleading answers.
- ***Can be reduced by adequately introducing the purpose of the study to the informants***