

Data collection

Development of the study instrument

Dr. Mohammed Walid Zimmo

PhD

Al Azhar Uneversity



Research methods

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graph TD; A[Research methods] --> B[Quantitative Research]; A --> C[Qualitative Research];
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**Quantitative
Research**

**Qualitative
Research**



1. Quantitative Research

1. **Observation :**
 - ▶ Clinical Examination
 - ▶ Laboratory Testing
 - ▶ Visual Observation
2. **Interview and self administer questionnaire**
3. **Documents:**
 - ▶ Records
 - ▶ Registry
 - ▶ Certificates



Qualitative Research

- ▶ Participatory rapid appraisal (PRA)
- ▶ Focus groups
- ▶ In-depth interview
- ▶ Key informant interview



Study Instruments

Questionnaire

Purpose:

Why we construct a questionnaire?

- It is a tool chosen to obtain data
- Translation of research objectives to questions
- It involves operational concepts for the study variables



Modes or methods

How it is conducted?

The three commonly used methods are:

In-person
interviews

1



Telephone
interviews

2



Mailed
Questionnai
res - Email

3



Characteristics of the three modes for:

1. Response Rate
2. Quality of information
3. Cost and staff
4. Time
5. Supervision and training
6. Sampling technique



In-person interviews

Telephone interviews

Mailed Questionnaires - Email

1. Response Rate

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2. Quality of information

- Interviewer bias is common
- Short Vs. redundant questions to be considered

- Selected timing of calls for best response
- Probably no bias in "early" vs. "late" respondents

- Are sensitive/ complex questions better by mail?
- No interviewer bias
- Respondents can look up records

3. Cost and staff

- More staff and Cost is usually high

- Lower cost – Phone cost

- Lowest cost



In-person interviews	Telephone interviews	Mailed Questionnaires - Email
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4. Time		
Long time	Selected timing of calls for best response	Some delay occurs to get reply

5. Supervision and training		
Supervision and training is required and costly	Supervision and training is less than in – person	No need for interviewer and training

6. Sampling technique		
Cluster sample is the easiest	Sampling Techniques (Simple or Stratified) – Phone Book	Wide frame work – You can reach all the world



Questions types

```
graph TD; A[Questions types] --> B[1. Closed ended questions (Multiple choices)]; A --> C[2. Open ended questions];
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**1. Closed ended questions
(Multiple choices)**

2. Open ended questions



Questions types

1. Closed ended questions (Multiple choices)

Advantages

- Less variability for interviewer
- Less time
- Standardized for respondent

Disadvantages

- Force respondent to unnatural frame.
- Guide respondent to answers (may not think).
- Need to know appropriate response in advance.



Questions types

2. Open ended questions

Advantages

- Not influenced by specific answer.
- Reveal most salient.
- Explore work for pretest.
- More express sensitive or disapproved behavior

Disadvantages

- Great deal of material (irrelevant)
- Variation in articulation among respondents
- Require reduction, categorization and coding
- Variation among interviewers in coding



Kinds of Questions

► **knowledge:**

- Presence /Absence of Knowledge
- Level of knowledge
- Accuracy of knowledge

► **Attitude:**

- Presence / Absence of Attitude
- Degree of structure of Attitude
- Direction of Attitude
- Degree of intensity of Attitude

► **Behavior:**

- Presence / Absence of Behavior
- Frequency of Behavior
- Completeness of Behavior



Kinds of Questions

Example of smoking

- ▶ Smoking: Yes – No
- ▶ Smoking types: cigarette – cigar – pipe _ Argela
- ▶ Number of cigarettes
- ▶ Past History of smoking
- ▶ Passive smoking



Requirement of question

- Face validity
- Responded can be expected to know the answer
- Must be clear
- Must not be offensive
- Must be fair
- Avoid sensitive question



Techniques for enhancing validity of reporting of the past:

- Bounded recall using interview - re - interview approach
- Narrow the reference period
- Averaging or asking about typical behavior
- Use of landmarks to aid dating
- Providing cues to stimulate recall



Questions construction and coding

General consideration

- Need for standardization
- Concern with completeness and accuracy of information elicited, general rule: “You can ask multiple questions on a topic”
- Time and cost consideration
- Questions order
- Use of questions used on other surveys
- Avoid biases resulting from concern with: Prestige - Social acceptability - Self-image - Courtesy (not wanted to offend interviewer)



Avoid biases resulting from tendencies to:

- Give the same response within a series of question
- Produce an opinion in response to survey where no opinion really exists
- Give any answer just to get interview completed
- Give answers that will lead to quicker completion of interview



General issues for code construction

- **Types of data:** Nominal - ordinal - derived from ranking choice - derived from scale responses-rating - Guttman scale - cardinal (interval) - ratio
- Codes derived from answer to several questions period comparisons
- Don't know versus no response
- Consistency in directional coding (1=yes,2=No, throughout)



Some specific issues for questionnaire items:

- Chose of words:
 - Avoid use of words requiring subjective judgment. e.g. "often", "usually"
- Chose of questions:
 - Avoid ambiguities and imprecise questions
 - Length of questions: avoid long questions
 - Open versus closed questions
- Likert scales versus visual analogue scales
- Problem concepts (e.g. "proportion of time")
- Use of lists (e.g. how frequently to repeat associated probe)
- Recall period



Questionnaire Design and Layout

- ❑ Question design and questionnaire design is still an art.
- ❑ Be clear about your Goals
- ❑ Do not seduced by side issues
- ❑ Meet the research Objectives
- ❑ Obtain the most complete and accurate information possible.
- ❑ Respondents may: Forget – misinterpret – refuse to answer – lie
- ❑ Observe the limits of time and resources (\$\$\$),

You always have less than you need.



Question Design: Parts of a questionnaire

1. The Introduction:

- ▶ Vital to subject's acceptance of interview and interviewer, what you are doing, i.e., a survey, who the survey is for, what the survey is about, Be brief!

2. The Warm-Up: A few easy questions to set the respondent at ease Non-threatening, not personal, not demographic

3. The Body:

- ▶ The real “meat” of the matter
- ▶ Leave more sensitive issues for later.

4. The closing:

- ▶ Easier questions again.
- ▶ Demographics variables could be asked here



Example



Name:	Date:
Admission from:	☐ Emergency room ☐ Outpatient clinic

Age: _____ Years	Weight: _____ Kg	Height: _____ cm
Parity (Para+abortion): _____	Number of living: _____	

History:

1. Medical:	☐ DM ☐ HTN ☐ Bronchial asthma ☐ Cardiac disease ☐ Anemia
☐ Other, specify: _____	
Drug/s taken: 1. _____ 2. _____ 3. _____	
4. _____ 5. _____ 6. _____	
2. Surgical:	
3. Menstrual:	
▪ Age of menarch: _____ Years Age of menopause: _____ Years	
▪ Menstrual regularity: ☐ Regular ☐ Irregular	
▪ Duration of menses: _____ Days	
▪ Frequency: _____	
4. Family history :	

Investigation:

1. Laboratory:	☐ Hb _____ g/dl ☐ Blood Group: _____	
☐ Tumor marker: _____		
Other significant lab investigation: _____		

2. Imaging:		
Ultrasound (US) findings:		

CT findings:		

MRI findings:		

3. Pap smear done:		☐ No ☐ Yes

Pap smear findings:

4. D&C biopsy done: ☐ No ☐ Yes Date of D&C: _____

D&C biopsy findings:

Hysterectomy details

Surgeon names:		
1. _____	2. _____	3. _____
Indication:		
Did she use medical treatment? ☐ No ☐ Yes, specify _____		
Type of hysterectomy:	☐ Total hysterectomy	☐ Radical hysterectomy
	☐ Subtotal hysterectomy	☐ Removal of adnexa: ☐ No ☐ Yes
Technique of hysterectomy:	☐ Abdominal hysterectomy	☐ Laparoscopic-assisted vaginal
	☐ Vaginal hysterectomy	hysterectomy

Operative details:

Intra-operative:		
1. Operative duration: _____ minutes		
2. Blood loss: _____ ml	3. Blood transfusion: ☐ No ☐ Yes	
4. Drain: ☐ No ☐ Yes		
5. Complication:		

Post-operative

1. Duration of hospital stay:Days
2. Post-operative complications:

3. Post-operative Pathological results:

4. Follow up: ☐ No ☐ Yes



Student survey for assessment of the Palestinian medical education

Personal (General) Information

Name (optional) NB: Student name will not be included in the result	
Gender	- Male - Female - Prefer not to mention
Age	 Years
Marital status?	- Single - Married - Divorced - Widow
City	- Jerusalem - Gaza - Nablus
Place of residence (Governorate)	- Gaza - North Gaza - Middle Gaza - Khan Younis - Rafah
Information about your medical study	
University	- AUG - IUG - NNU - Al-Quds
Year of study	4th 5th 6th - Internship
Your GPA (grade point average)	- Excellent - Very good - Good - Fair - Poor
Which core rotations have you completed?	- OB/Gyn - Surgery - Pediatrics - Internal Medicine

Appropriateness of educational atmosphere	- Satisfied - Neutral - Not satisfied
Class size (the number of students in each clinic)	- Satisfied - Neutral - Not satisfied
Good instructors' experiences	- Satisfied - Neutral - Not satisfied
Having a course planning	- Satisfied - Neutral - Not satisfied
Which speciality has your best satisfaction in outpatient training?	
Assessment of your bedside teaching	
Appropriateness of course duration	- Satisfied - Neutral - Not satisfied
Appropriateness of educational atmosphere	- Satisfied - Neutral - Not satisfied
Class size (the number of students in each clinic)	- Satisfied - Neutral - Not satisfied
Good instructors' experiences	- Satisfied - Neutral - Not satisfied
Having a course planning	- Satisfied - Neutral - Not satisfied
Which speciality has your best satisfaction in bedside teaching?	
Assessment of theoretical teaching (lectures)	
Appropriateness of course duration	- Satisfied - Neutral - Not satisfied





Thank you

