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Practical : Designing questionnaire & study tools

6th practical lecture

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Designing questionnaire & study tools¹

Designing Questionnaires

It is necessary to always keep in mind that design of questionnaire influences data quality and thereby the results. Hence it is vital to design a good questionnaire.

Necessary Details to Know Before the Designing of Questionnaire

1 Clear objectives and research question

2 Target population

3 Precise definitions of **all** measurement variables



When asking about marital status, it's wrong to ask only about being married and single, instead, include widow and divorced statuses

Types of Questions

Open³

- Open questions allow the respondent to answer freely.
- However, if opened ended questions are used, **then the methods for analyzing these responses should be considered during the design of the questionnaire.**
Smaller sample, qualitative

→ Example

How do you rate Madagascar as an exotic destination?

Answer : _____

Closed²

- Closed questions are questions which limit the response to a specified list of answers.
- The use of closed questions offers a number of advantages to the researcher, **including providing a set of standard responses that enable researchers to produce aggregated data quickly.** **Larger sample, quantitative**

→ Example

Do you feel that every case of domestic violence must be reported?



1. Slides are based on what Dr. Taha gave only
2. **Larger sample.**
3. **Smaller sample, why? Because the answers are repetitive.**

Designing questionnaire & study tools

Categorization of Question

Title, purpose and confidentiality details	Habits and personal details ¹
Sociodemographic details²	Measurements-clinical/biochemical
Medical history	And other title related question

Pilot or Pre-testing³

Piloting the questionnaire among a representative sample of the target population **in the same way** that it will be administered in the main study is essential and will help identify potential problems with the design or layout of the questionnaire

Points to Remember

1

It is preferred to keep the questions **short and specific.**

2

Clear instructions on how to fill the questionnaire must be given.

3

Consent should be clearly mentioned on top of the questionnaire.

Survey # _____ Hospital Name: _____ Department: _____ Ward: _____
 Age: _____ Date: _____

Male Female

	Never	Sometimes	Usually	Always
1. During this hospital stay, how often did nurses treat you with courtesy and respect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. During this hospital stay, how often did nurses listen carefully to you?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. During this hospital stay, how often did nurses explain things in a way you could understand?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. During this hospital stay, how often did doctors/health officers treat you with courtesy and respect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. During this hospital stay, how often did doctors/health officers listen carefully to you?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. During this hospital stay, how often did doctors/health officers explain things in a way you could understand?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I could distinguish between doctors/health officers and nurses.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. During this hospital stay, how often was the room you were sleeping in kept clean?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. During this hospital stay, how often was the area around you quiet at night?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. During this hospital stay, how often did staff make sure you have enough personal privacy?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. During this hospital stay, did you experience any pain?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Skip 12 & 13	
12. During this hospital stay, how often was your pain well controlled?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. During this hospital stay, how often did staff do everything they could to help you with your pain?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. During this hospital stay, were you given any medication that you had not taken before?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Skip 15 & 16	
15. Before giving you any new medication, how often did staff tell you what the medicine was for?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Before giving you any new medication, how often did staff describe possible side effects in a way you could understand?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Were you given information in a way you could understand what symptoms or health problems to look out for after you leave the hospital?	<input type="checkbox"/> Yes	<input type="checkbox"/> No		
18. Was it easy to find your way around the hospital?	<input type="checkbox"/> Yes	<input type="checkbox"/> No		
19. Is this your first time being treated at this hospital?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Cannot remember	
20. On a scale of 0-10 (0 being the worst hospital, 10 being the best hospital), how would you rate this hospital?	Worst hospital: <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input type="checkbox"/> 10 Best hospital			
21. Would you recommend this hospital to your friends and family?	<input type="checkbox"/> Definitely no	<input type="checkbox"/> Probably no	<input type="checkbox"/> Probably yes	<input type="checkbox"/> Definitely yes
22. Did you have to pay for this hospital stay?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Skip Q23	
23. Do you consider this hospital stay too expensive?	<input type="checkbox"/> Yes	<input type="checkbox"/> No		
24. How would you rate your overall health?	<input type="checkbox"/> Poor	<input type="checkbox"/> Fair	<input type="checkbox"/> Good	<input type="checkbox"/> Excellent
25. What is the highest grade or level of school that you have completed?	<input type="checkbox"/> Illiterate <input type="checkbox"/> Reading & writing ability, no formal education <input type="checkbox"/> 1 st grade <input type="checkbox"/> 2 nd - 12 th grade <input type="checkbox"/> Diploma and above <input type="checkbox"/> Other			

Public awareness of Non-Alcoholic Fatty liver disease
 Thank you very much for your time and participation in this survey.
 Yes = Y, No = N, Don't Know = DN

1. Age <20 20-40 41-60 >60

2. Sex Male Female

3. Ethnicity Caucasians Hispanics African-American
 Asian/Pacific Islander Others

4. Education Elementary School High School College Postgraduate

5. Has your doctor ever mentioned fatty liver? Y N

6. Have you ever heard about Cirrhosis (Shrinkage of liver)? Y N

7. Which of the following do you think can advance to cirrhosis? (one or more answers)
 Alcohol consumption Hepatitis B/ Hepatitis C infection
 Fatty liver Other - Please specify _____

8. Which of these conditions do you think can cause fatty liver? (one or more answers)
 Obesity Diabetes Excess alcohol intake High cholesterol
 Lack of exercise Other (specify) _____

9. Fatty liver is hereditary. True False

10. Is there a treatment available for fatty liver? Y N DN

11. Fatty liver is preventable. True False

12. Do you think that fatty liver can occur in a non-alcoholic? Y N DN

13. Do you think that fatty liver can be cured in its early stage? Y N DN

14. How do you think doctors diagnose fatty liver? (one or more answers)
 Sonogram of liver Blood tests
 Body weight obesity Not sure

15. Do you think fat in the liver can cause a serious health problem? Y N DN

Leave the age question as an OPEN ENDED question DO NOT put choices (ranges) you can later do that during data analysis on sheets




The validated tool (can be part of the questionnaire) is not the questionnaire.

- Sociobehavioral factors
- محددات السلوك والصحة
- If you are doing a questionnaire, an online survey for instance, send a pretest survey (similar to your original one) to the same target population but on a smaller scale to define potential problems

Designing questionnaire & study tools

Constructing a Questionnaire (Example 1)

Prevalence of Anemia Among Female Third Year Medical Students of KKHU

 Aim	<ul style="list-style-type: none">To determine the prevalence of anemia
 Target Population	<ul style="list-style-type: none">Third year female medical undergraduate students
 Measurement Variables	<ul style="list-style-type: none">Hemoglobin

Students are requested to volunteer and complete the questionnaire.

Consent

- Give a background about the research
 - this survey is conducted to determine the level of anemia among female undergraduate medical student
- Identity is unknown
- For research only
- Agree or not
 - the identity will be remain anonymous and confidentiality of data will be maintained, and it will be used for research purpose only please sign to agree for participation

Medical History¹

- Were ever diagnosed? Yes or no.
- If yes, what is the cause?
- Are you on iron pills?
- Are you suffering from vitamin B12 Deficiency?

Sociodemographic Information

- City
- ID
- Age

Clinical/Lab Investigations

- CBC.
- Hemoglobin²
- Height(cm) and Weight(kg) (BMI)²

1. Relating to the main objective(ex. Prevalence of anemia). In a simple and direct language.
2. Put a free space not choices, then divide it on Well doing data analysis. Same thing with age.

Designing questionnaire & study tools

Example 2

Prevalence of Overweight and Obesity Among Adolescent School Children



Aim

- To determine the prevalence of overweight and obesity



Target Population

- Adolescent school children aged 13 years to 18 years ¹



Measurement Variables

- Height and weight

Consent

- Give a background about the research
- Identity is unknown
- For research only
- Agree or not
- **Permission from parents.**

Anthropometric Measurements

- high(cm)
- weigh(Kg)
- BMI

Sociodemographic Information

- Gender
- Age → date of birth
- school type
- Residency
- Income

Dr's Notes

- The difference between tool and questioner is that the questionnaire involve a set of things and the tool is a part of it also the tool is a set of questions that will give you a score or measure a certain thing and it should be validated it is same as the lab test and it has to be taken all to give you an accurate measurement so don't take some of the questions and drop some of them.
- You have define specifically what is your target population for ex: if your study is on diabetic patient who has been diagnosed for one year so you have to make sure the participant has the inclusion criteria.
- To know how to choose close or open question when we want to discover a new idea or topic at the beginning we have to have open-ended questions with a qualitative study to know what is the answers that can be framed and used in close-ended question.
- Doing pilot, pre-testing is vital especially for those who have face to face interview.
- When it is come to how to put the question you are free to do the way of how making the questions if its answer yes or no, multiple-choice...

Questions

(1) A research group submitted the proposal to ethical review committee (ERC). The study involved interviewing patients at two stages: pre- and post-operative, each stage with a 20 page questionnaire and 75 questions. The ERC did not approve the study and returned the proposal advising the researchers to revise the questionnaire and to shorten the scope of research. Why do you think the ERC did not accept the proposal?

- A) Due to a long questionnaire ERC could not have enough time to review
- B) A long questionnaire at both of the stages, would exhaust the patients
- C) Risk of patients refusing to answer a long questionnaire and ERC role is to minimize risks
- D) There was a minimum benefit to patients, and ERC role is only to maximize benefits

(2) If you want to do a study about (knowledge of the community on how to protect/ maintain their mental health during covid-19). Which of the following types of questions are suitable for this study?

- A) Close ended questions - quantitative
- B) Multiple choice questions
- C) Open ended questions - qualitative
- D) Electronic questions

(3) A research group submitted the proposal to ethical review committee (ERC). The study involved asking about age and level of stress both using a closed question. The ERC did not approve the study and returned the proposal advising the researchers to revise the questionnaire, what can they do to get the ERC's approval?

- A) Rephrase both close-ended questions to open-ended questions
- B) Replace age question to open-ended question
- C) Rephrase stress question to open-ended question
- D) Resubmit their proposal

Answers:

1: B | 2: A | 3: B



Thank you for checking our work!

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