

## **CHAPTER TWO**

### **TOPIC SELECTION**

#### **2.1 Learning objectives**

**After completing this chapter, the student should be able to:**

1. Examine the cyclical nature of the development of a research proposal
2. Describe the principles underlying whether a problem situation is researchable.
3. List the criteria for selecting a research topic.
4. Identify and select his/her own topic (health problem) for research based on certain guidelines.

#### **2.2 Introduction**

The development of a health project goes through a number of stages. Formulation of the research proposal is the major task in the process of developing a research project. The proposal draws on all the preparatory steps of the research process and pulls them together in a document describing the rationale and the methodology proposed for research. The proposal is a basis for approval and funding. After approval, the proposal is used as a blueprint during implementation of the project. It should be noted that development of a research proposal is often a cyclical process. The process is not always linear. It is a usual practice to go up and down on the developed proposal and make the necessary revisions.

Is there evidence to indicate that the research proposal focuses on a problem of priority importance? Was the given health problem identified by relevant groups of the health system? Was the problem adequately analysed to include all possible contributory factors from different sectors? Was it clearly stated? These questions should be clearly answered before trying to develop the research proposal. The sections that follow are devoted to giving the guidelines useful for identification, selection, analysis and statement of the given problem.

## 2.3 Problem identification

If the answer to the research question is obvious, we are dealing with a management problem that may be solved without further research. A number of research questions could be presented that may be posed at the various levels of the health system.

**Whether a problem requires research depends on *three* conditions:**

- I) There should be a perceived difference or ***discrepancy between what it is and what it should be;***
- II) The reason(s) for this difference should be ***unclear*** (so that it makes sense to develop a research question); and
- III) There should be more than one possible and plausible answer to the question (or solution to the problem).

### **example1:**

**Problem situation:** In district “ Y “ a report showed that in the first month there were 500 children under one year old who started immunization, but at the end of the year it was found out that there were only 25 children who completed their vaccination.

**Discrepancy:** All the 500 children at district “Y “should have completed their vaccination but only 5% out of those who started vaccination have completed.

**Problem (research) question:** why only 5% of the children completed their vaccination?

**Definite answer:** Out of the 1 hospital, 2 health centers and 10 health stations found in district “Y” only 2 health stations were functioning, the rest were closed due to insecurity in the area.

**In the above example, assuming that all the given facts are true, there is no need of undertaking a research, since definite answer is obtained to the problem situation.**

## Example 2:

**Problem situation:** In district “Z” (population 150,000) there are 2 health centers, 1 hospital and 15 health stations and all of them function smoothly. However, at the end of the year it was found that the EPI coverage was only 25%.

**Discrepancy:** Although district “Z” had 100% availability of health services and at least 80% of the children should have had full vaccinations the EPI coverage was only 25% as seen above.

**Problem question:** What factors influence the low EPI coverage in district “Z”?

### Possible answers:

- Mothers might have problems for not attending in the EPI sessions.
- The **MCH, EPI, OPD, CDD**, etc... programmes might not have been integrated; hence children might have missed opportunities in getting immunization.
- The follow up of defaulting children might not be effective and other reasons.

**Thus, the above problem situation is researchable.**

## 2.4 Criteria for prioritizing problems for research

Each problem that is proposed for research has to be judged according to certain guidelines or criteria. There may be **several ideas to choose** from.

Before deciding on a research topic, each proposed topic must be compared with all other options.

**The selection and analysis of the problem for research should involve those who are responsible for the health status of the community. This would include managers in the health services, health-care workers, and community leaders, as well as researchers.**

The guidelines or criteria given below can help in the process of selection.

*a) Criteria for selecting a research topic*

1. **Relevance:** The topic you choose should be a priority problem:

Questions to be asked include:

- ***How large or widespread is the problem?***
- ***Who is affected?***
- ***How severe is the problem?***

2. **Avoidance of duplication:** Investigate whether the topic has been researched.

If the topic has been researched, the results should be reviewed to explore whether major questions that deserve further investigation remain unanswered. If not, another topic should be chosen.

3. **Feasibility:** Consider the complexity of the problem and the resources you will require to carry out the study.

Thought should be given first to personnel, time, equipment and money that are locally available. In situations where the local resources necessary to carry out the project are not sufficient, you might consider sources available at the national level.

4. **Political acceptability:** It is advisable to research a topic that has the interest and support of the authorities. This will facilitate the smooth conduct of the research and increases the chance that the results of the study will be implemented.

5. **Applicability of possible results and recommendations**

Is it likely that the recommendations from the study will be applied? This will depend not only on the blessing of the authorities but also on the availability of resources for implementing the recommendations.

## 6. Urgency of data needed

How urgently are the results needed for making a decision? Which research should be done first and which can be done late?

## 7. Ethical acceptability

We should always consider the possibility that we may inflict harm on others while carrying out research. Therefore, it will be useful to review the proposed study.

### *b) Scales for rating research topics*

#### **Relevance**

- 1 = Not relevant
- 2 = Relevant
- 3 = very relevant

#### **Avoidance of duplication**

- 1 = Sufficient information already available
- 2 = Some information available but major issues not covered
- 3 = No sound information available on which to base problem-solving

#### **Feasibility**

- 1 = Study not feasible considering available resources
- 2 = Study feasible considering available resources
- 3 = Study very feasible considering available resources

#### **Political acceptability**

- 1 = Topic not acceptable
- 2 = Topic somewhat acceptable
- 3 = Topic fully acceptable

#### **Applicability**

- 1 = No chance of recommendations being implemented
- 2 = Some chance of recommendations being implemented
- 3 = Good chance of recommendations being implemented

### **Urgency**

- 1 = Information not urgently needed
- 2 = Information could be used but a delay of some months would be acceptable
- 3 = Data very urgently needed for decision-making

### **Ethical acceptability**

- 1 = Major ethical problems
- 2 = Minor ethical problems
- 3 = No ethical problems

N.B. The above rating should be based on the existing data and not on mere assumptions.

### **Exercises**

1. In a certain district (population, 150,000), sanitary conditions are very poor (only 5% of households have latrines) and diseases connected with poor sanitation, such as, gastroenteritis and worms are very common. The Ministry of Health has initiated a sanitation project that aims at increasing the number of households with latrines by 20% each year. The project provides materials and the population should provide labour. Two years later, less than half of the target has been reached.

**State the discrepancy, research question and the possible answers. Is this problem situation researchable?**

2. Go to the nearby health institution and identify three health problems. Discuss about these health problems and rate them based on the selection criteria.

When rating these problems based on the criteria, use the rating scale indicated at the bottom of the table (you can also refer to the "Scales for rating research topics" presented in section 2.4b). You can do the exercise in small groups.

**Which topic do you select for research? Defend your first choice in a plenary session.**

### **Rating Sheet**

Criteria for selecting a research topic	Proposed topic		
	Health problem I	Health problem II	Health problem III
Relevance			
Avoidance of duplication			
Feasibility			
Political acceptability			
Applicability			
Urgency of data needed			
Ethical acceptability			
Total			

Rating scale: 1 = low, 2 = medium, 3 = high

## CHAPTER THREE

### ANALYSIS AND STATEMENT OF THE PROBLEM

#### 3.1 Learning objectives

After completing this chapter, the student should be able to:

1. Describe the advantages of a systematic analysis of a problem
2. Describe the importance of a clear statement of a problem
3. Enumerate the points that should be included in the statement of a problem

#### 3.2 Introduction

Was the problem adequately analysed to include all possible contributory factors from different sectors? Was it clearly stated? These questions should be clearly answered before trying to develop the research proposal. The sections that follow are devoted to giving the principles useful for the analysis and statement of the given problem.

#### 3.3 Analyzing the problem

A systematic analysis of the problem, completed jointly by the researchers, health workers, managers, and community representatives is a very crucial step in designing the research because it:

- Enables those concerned to **bring together** their knowledge of the problem,
- **Clarifies** the **problem** and the possible **factors** that may be contributing to it,
- **Facilitates decisions** concerning the focus and scope of the research.

#### 3.4 Formulating the problem statement

After identifying, selecting and analyzing the problem, the next major section in a research proposal is “statement of the problem”



**a) Why is it important to state and define the problem well?**

***Because a clear statement of the problem:***

- Is the **foundation** for the further development of the research proposal (research objectives, methodology, work plan, etc);
- Makes it easier to find information and reports of similar studies from which your own study design can benefit;
- Enables the researcher to systematically point out why the proposed research on the problem should be undertaken and what you hope to achieve with the study results.

**b) Points that need to be considered for justifying the selected research problem**

A health problem selected to be studied has to be justified in terms of its:

- Being a current and existing problem which needs solution
- Being a widely spread problem affecting a target population
- Effects on the health service programmes
- Being a problem which concerns the planners, policy makers and the communities at large.

**c) Information included in the statement of a problem**

- A **brief description** of socioeconomic and cultural characteristics and an overview of health status.
- A more detailed description of the nature of the problem
  - basic description of the research problem
  - the discrepancy between what is and what should be
  - its size, distribution, and severity (who is affected, where, since when, etc.)

- An analysis of the major factors that may influence the problem and a convincing argument that available knowledge is insufficient to answer a certain question and to update the previous knowledge.
- A brief description of any solutions that have been tried in the past, how well they have worked, and why further research is needed.
- A description of the type of information expected to result from the project and how this information will be used to help solve the problem
- If necessary, a short list of definitions of crucial concepts used in the statement of the problem.

A list of abbreviations may be annexed to the proposal, but each abbreviation also has to be written out in full when introduced in the text the first time.

### **3.5 Exercises**

1. Why do we need to analyze the research problem?
2. What are the points required to justify the selected research problem?
3. What information should be included in the statement of a problem?