

*Tikrit University*

*College of Nursing*

*Basic Nursing Sciences*



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**Research Methods**

**(Research Problem and Research Question )**

*by:*

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## **Research Problem and Research Question**

One of the most important steps in research is selecting the problem and formulating the problem statement and purpose. The development of a research problem is a creative process that depends on imagination creativity and insight. In the early stages, when research ideas are being generated, it is wise not to be critical of them immediately. It is better to begin by relaxing and jotting down general areas of interest as they come to mind. The researcher selects a general topic and narrows it into a specific problem. The problem identified and state clearly before it can be solved

### **The purpose of the study, which typically generates from the research problem, clarifies:-**

1. The extent of the problem.
2. The significant of the problem.
3. The rational for the study.
4. The researcher's intentions.
5. The clinical context of the study.
6. The ways in which finding will be used.

### **Sources of research problems**

1. Experience and Clinical Fieldwork:- Potential source of research problems in nursing practice:-
2. Literature sources:- Ideas for research projects often come from reading the nursing literature.
3. Theory sources
4. Source involving interactions with peers and researchers.

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### **Factors to be considered when selecting a research problem:-**

The most important factors to consider are the:

1. Problems significance.
2. Research ability.
3. Feasibility.

4. Interest to the researcher.

**Research questions:** are the specific queries researchers want to answer in addressing the research problem. Research questions guide the types of data to be collected in a study. Researchers who make specific predictions regarding answers to the research question pose hypotheses that are tested empirically. The researchers may use a research question when knowledge is insufficient to formulate a hypotheses.

### **Characteristics of research questions:-**

1. Written as an interrogative sentence, using a present-tense verb.
2. Identify the population.
3. Contain one or more variables.
4. Reflect the problem statement.
5. May or may be empirically testable.
6. Focuses on the variables and their possible relationships.

### **Review of Literature**

The “Literature” is all the written sources relevant to your topic a literature review, essential to all types of nursing research, lays the foundation for the research project. The researcher conducts the review by thoroughly examining all available scientific and theoretical information related to the research problem.

The main purpose of the review helps the researcher to gauge what is known and unknown about the research problem.

### **The purpose of the literature review that may include:-**

1. Identifying or refining the research problem.
2. Strengthening the rationale for the research
3. Developing a conceptual framework for the study:
4. Providing a useful approach to conducting the research

### **Type of information to review**

Research findings from previous related studies conducted in nursing and other disciplines.

1. Theoretical information concerning the broader issue related to the problem: such as information include theories from nursing and other disciplines.
2. Methodological information on research methods used in previous studies including measurement techniques, data analysis procedure, and control methods.
3. Opinion articles discussing specific viewpoints or attitudes about the problem, the researcher should keep in mind the articles are subjective and therefore of limited use in a scientific review.
4. Anecdotal descriptions of others' experiences with related studies, the researcher should keep in mind that, although such descriptions may broaden the researchers' understanding of the problem, their use in a scientific review is limited.

## Sample and sampling

The following terms are commonly used in sampling:

**Population:** - entire group of elements that meets a well-defined set of eligibility criteria, population may consist of people, animals, objects, words, or events.

**Accessible population:** - group of elements conforming to the eligibility criteria that is available to the researcher for use in a study.

**Sampling:** is the process of selecting a portion of the population to represent the entire population. Sampling is used by researchers because it is an economical and efficient means of collecting data and because collecting data from the entire population usually is not necessary or feasible.

**A sample:** is a subset of population elements. An element is the most basic unit about which information is collected. In nursing research, the elements are usually humans.

**Representative sample:** group of elements whose characteristics closely match those of the target population.

**Target population:** entire group of elements meeting the eligibility criteria, about which the researcher hopes to generalize findings.

**Sampling bias:** is the systematic overrepresentation or underrepresentation of some segment of the population in terms of a characteristic relevant to the research question.

**Sampling frame:** list of all the elements in the accessible population.

**Sampling error:** difference between population values and sample values (such as the difference between the population's median income and the sample's median income), the larger the sampling error, the less representative the sample is of the population.

## Steps of sampling.

1. Identifying and defining the target population.
2. Delineating the accessible portion of the target population.
3. Deciding how to choose the sample.
4. Determining the sample size, human subjects committee or institutional review board to conduct the study.
5. Recruiting the subjects and obtaining informed consent.
6. Estimating the representativeness of the sample.

## The factors that should be taken into consideration when selecting a sample:

1. Type of sampling.
2. Heterogeneity of the variables being investigated.
3. Frequency occurrence of the variables of interest.

#### 4. Cost.