

# Introduction to Nursing Research



முடிவும் இடையூறும் முற்றியாங்கு எய்தும்  
படுபயனும் பார்த்துச் செயல்.

Accomplishment the hindrances large profits won by effort; These compare, then let the work to be done.

## Learning Objectives

At the end of this chapter, the students will be able to:

- define nursing research
- gain knowledge about importance of nursing research
- list out the steps in nursing research
- define the descriptive statistics
- define the inferential statistics
- explain about the current computer applications in nursing research



## Introduction

The meaning of the word 'research' is to find correct answers to questions raised or to find solutions to problems identified.

In the past and for many years, people based their beliefs on presumptions or interpretations of things that they saw or observed in and around them and then came to various conclusions. These conclusions were not tested to find out whether they were correct (valid) or not.

For example, in ancient days, in Egypt, every year Nile river flooded and it left behind very rich soil along the riverbanks which helped

people to grow crops for the year. But along with the rich soil, a large number of frogs also appeared. Therefore, the Egyptian concluded that frogs came from muddy soil. Here we can say that scientific research was not used because the people never gave a thought if there can be any other reason for the large number of frogs living in the floods. Later problems were scientifically analysed based on data this is called scientific enquiry.





Every one will agree that if "Health is lost, everything is lost". Nursing is a profession and practice which serves as the foundation in providing care for the sick and needy. The challenges faced by the nursing fraternity is enormous. Thus research becomes the need and necessity in this noble profession.

Nursing is the profession and practice of providing care for the sick and needy. Nurses play significant role in taking care of people. Nursing plays an vital role in the research activity. A well developed and reliable body of knowledge is a foundation for any course of study. Research provides a solid foundation on which individual can develop and refine their basic knowledge and practice. Without knowledge we cannot improve in accustoming people to the latest techniques and therapies like infant care, pain management, grief counseling, health education, home care management, palliative care and related intervention.

Research on nursing practices began slowly, but since 1950, it has been accelerating rapidly. Nursing research continues to develop at a rapid phase and will undoubtedly flourish in the twenty-first century. Broadly speaking, the priority for nursing research in the future will be the promotion of excellence in nursing practices.



N o w a d a y s  
Health professionals believe in development of knowledge from logical reasoning and problem solving. It helps in identification of problem and planning evidence based care.

Nurses must acquire knowledge in both unstructured and structured method. In unstructured method, own experience, trial and error are followed. The structured method includes logical reasoning, problem solving and the research is conducted in a disciplined

format. In general, nurses try to understand a question / problem and search for possible solutions.

The quality of nursing practice and the future of health care depends on up-to-date organized body of nursing knowledge. Research is based on existing ideas and to improve the knowledge of the individuals. The purpose of the systematic inquiry is to find out the evidence based method of solving the problem identified.

The present era of complex health problems makes interdisciplinary research, an important one to find out the study of health and illness experiences of the society. Currently a lot of attention is being paid to research on nursing, which it seems will continue in the years to come, and will have its implications and impact on nurse administrators, nurse educators, as well as practitioners.

Hence, an expanded new knowledge is required for a growing profession. The health care professionals should realize that nursing is developing rapidly and they must be ready to take challenges of currently growing demand of new knowledge and to refine old outdated knowledge.

## ■ Meaning of Nursing Research

The word research is derived from the French term *researcher*, a compound word composed of a prefix 're' and a verb 'search'. *Re* means 'once again' 'a new', or 'a fresh' and *search* means 'to look for something'.

It is an systematic inquiry of investigation to validate and refine existing knowledge and to generate and refine existing knowledge and generate new knowledge.

Research is a systematic inquiry that uses disciplined methods to answer questions to solve problems.

Ultimate goal of research is to develop, refine and explore a body of knowledge.

## Definition of Research

Research is a systematic and scientific process to solve problems or to answer to questions about facts. Nursing research focuses primarily on developing knowledge about nursing including the care of person in health and illness.

In general, Nursing research is defined as the systematic objective process of analysing phenomena of importance to nursing.

According to **Waltz** and **Bausell** (1981) Nursing research is a systematic formal rigorous process used to gain solutions to problem or to discover and interpret new facts in clinical practice, nursing education and nursing administration.

**Wilson** (1980) Differentiated nursing research and research in nursing. In that nursing research is concerned with clinical problem. Whereas research in nursing is the broader study of the nursing profession which includes historical, ethical and policy studies.

### 13.1 Importance of Research in Nursing

1. Research builds an advanced body of nursing knowledge.
2. Research provides a cost effective, and efficient health care.
3. Research moulds the attitude and improves technical skills.
4. Research fills the gap and helps in finding out new knowledge of practice.
5. Research makes individual health care responsibility and decision making in health related problems.
6. Research modifies the old theories and discovers new theories.
7. Research adopts evidence based practice, while providing care or health education to those who are in need.

8. Research develops knowledge about the current issues happening in medical field.
9. Research provides scientific basis for the practice of the nursing profession on need based intervention.
10. Research prepares the individuals to be a nurse scientists.

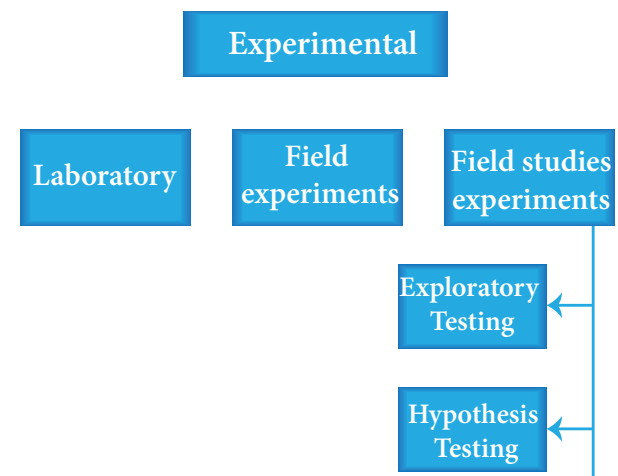
### 13.2 Types of Research

Research is classified according to their purposes and approaches.

- **Basic research or fundamental research** are carried out in laboratory situations
- **Applied research** helps to evaluate practices and identifies the needs of the person
- **Action research** tries to solve ongoing problems

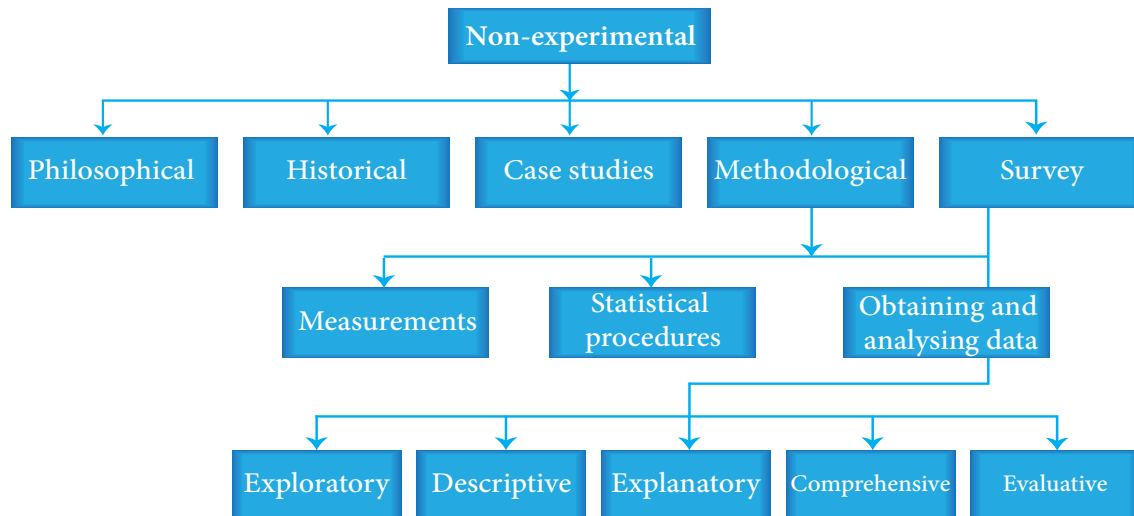
### Research Approaches

There are two types of Research Approaches. Namely Experimental and Non Experimental



### 13.3 Steps in Nursing Research

- Identification of the phenomenon/ problem of the study
- Review of literature
- Deriving conceptual frame work



- Identifying the assumption and formulation of Hypothesis
- Selection of research design
- Entry in to the research site (Pilot Study)
- Protect the rights of the participants
- Planning tools for data collection
- Collection of data
- Analysis of the data
- Communicating the findings

2. **Review of literature:** It is one of the most important step in the research process. A literature review is an account of what has been already established or published on a particular research topic by various researchers.(University of Toronto 2001)

### Simple Steps In Research Process

1. **Identifying the problem:** It is a clear finding of the problem that should be studied. In general broad topic area is selected and then the topic is narrowed down to a specific one. It may be from personal experiences or literature sources.

**The purpose of the study:** During the formulation of the problem statement the commonly used mnemonic is “SMART”

S – Specific

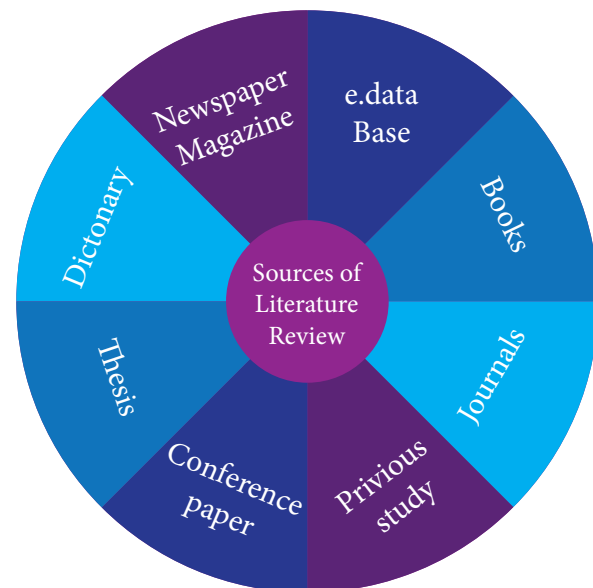
M – Measurable

A – Achievable

R – Relevant

T – Time Bound

This will be easy while writing objectives for the study. Objectives may be single or several.



### Sources of literature review

3. **Developing the a theoretical/conceptual framework :** It is the valuable part of scientific research. Which helps in the selection of the study characters and in defining them. It also directs to the prediction and the interpretation of the study findings.
4. **Identifying the study Assumptions :** Assumptions are held to be true but have not necessarily seen proven. It influences

the questions that are asked. It is based on the information collected and study interpretation.

#### There are three types of Assumptions.

- i) Universal Assumptions – Beliefs that are assumed to be true by a large percentage of Society.
  - ii) Assumptions based on theory or research findings- Previous research studies which form the basis for assumptions in the present study.
  - iii) Assumptions that are necessary to carry out the study – Need to conduct a research study.
5. **Formulating the Hypothesis or Research Question:** Hypothesis predicts the relationship between two or more characters. According to the asked questions in the problem statement. The hypothesis furnishes the answer to it. It is testable or verifiable by the information gathered. The research is guided by research questions that are further elaboration of the problem statement.
6. **Selecting the research Design :** It is the plan for how the study will be conducted as well as concerned with the type of information that will be collected.

7. **Identifying the population/sample:** The population means the complete set of individuals or objects that possess some common characteristics of interest to the researcher. The subgroup of populations is called study sample.
8. **Conducting a pilot study :** A pilot study is a miniature trial version of the planned study. It reveals the feasibility of the study and helps to test the instruments. It also plays a role in gaining experience with the study process and it indicates that where the revision should be made.
9. **Collecting Data :** It is the process of collection or gathering of pieces of information's facts that are related to the study.
10. **Organizing the data for Analysis :** It is the grouping of information's for tabulation and evaluation purpose. A statistician should be consulted in the early and phase of the research process. The statistician can help to follow the appropriate analytical method.
11. **Interpreting the findings :** After the data are analyzed the finding of the result are compared with those of previous studies for further recommendation

### 13.4 Related Websites/Software Used In Nursing Research

S. NO	USES OF COMPUTER IN	RELATED WEBSITE AND SOFTWARE
1.	Identification and formulation of problem statement	PUBMED
2.	Review of literature	MEDLINE, Open Access Journals
3.	Framing of conceptual framework	Visual display
4.	Planning of research design	Word processing, data base
5.	Preparation of sampling process	Word processing
6.	Data collection procedure	Video recorded, flash based narrator, Led interview
7.	Analysis and statistical calculation	SPSS, ANOVA
8.	Presentation of research	Open source software
9.	Budget mobility	Microsoft office, EXCEL
10.	Reference sources	Vancouver, APA, style



## SUMMARY

- ❖ **Identifying a problem:** Any problem or question which we want to clarify, instead of assuming the answers or solutions
- ❖ **Searching professional literature for possible solutions:** Looking up literature so as to know what has been written or studied about the same problem earlier.
- ❖ **Prepare a research question in an answerable or testable format:**  
Writing the questions related to the study going to be conducted
- ❖ **Considering a solution to solve the problem:** In problem – solving methods, one should put down possible ways of solving the problem
- ❖ **Making a research hypothesis that can be tested:** Writing a statement making a relationship between various factors
- ❖ **Conducting the study or research (Pilot Study):** Conducting the study using the selected tool with minimum participants.
- ❖ **Analysing the result:** Making sense of all the data collected by grouping and analyzing during the research
- ❖ **Determining if the scientific hypothesis is correct:** Checking back to see if the hypothesis or factors have any relationship with each other or not
- ❖ **Applying the variant:** Making a final judgement based on the results and preparing recommendations

## GLOSSARY

A-Z

<b>Conceptual</b>	– Strategy for expressing a framework of a study that diagrammatically shows the interrelationships of concepts and statements
<b>Conclusion</b>	– Synthesis and clarifications of the meanings of study findings
<b>Data</b>	– Informations that are collected during a study
<b>Data analysis</b>	– Technique used to reduce, organize and give meaning to data
<b>Data collection</b>	– Systematic gathering of Information
<b>Descriptive statistics</b>	– Statistics that allow the researcher to organize the data in ways that give meaning and facilitate insight
<b>Design</b>	– Blue print for conducting a study
<b>Findings</b>	– The translated and interpreted results from a study
<b>Hypothesis</b>	– Formal statement of expected relationship between two or more variables in a specified population
<b>Variables</b>	– Characteristics of person to be measured
<b>Population</b>	– The individuals or objects having some common characteristics.
<b>Theory</b>	– Integrated set of defined concepts used to describe, explain and predict the relationship between study outcome and the view of the nursing theorist.
<b>Intervention</b>	– Treatment or independent factor while conducting the study.



## Evaluation

### I. Choose the correct answer

- Nursing Research started since
  - 1950
  - 1960
  - 1917
  - 1920
- Nursing Research is based on
  - Systemic enquiry
  - Improved knowledge
  - General knowledge
  - Obtained Knowledge
- Research means
  - Careful examination
  - Search again and again
  - Simple enquiry
  - General Enquiry
- Nursing Research helps to
  - Fulfill the gap
  - Decrease the technical skills
  - Decrease communication
  - Increase workload
- Steps in Research excludes
  - Review of Literature
  - Communication of results
  - Programme planning
  - Presentation of data
- From the following table select the appropriate steps in the preparation of data analysis

A	B	C	D
Coding	Modifying	Entering	Transferring
Transferring	Coding	Coding	Editing
Editing	Transferring	Transferring	Entering
Modifying	Entering	Editing	Modifying
Entering	Editing	Modifying	Coding



- Analytical procedure that allows researcher to describe and summarize data is known as
  - Descriptive Statistics
  - Inferential Statistics
  - Health Analysis
  - Health coding

### II. Short answers

- Define Nursing Research
- State the steps in Research

### III. Brief answers

- List out the sources of Literature Review
- State the steps in Problem Solving
- Common statistical methods in nursing
- Uses of statistics in Health sciences

### IV. Detailed answers

- Write in detail about the uses of computer in Nursing Research.
- Discuss the importance of Research in Nursing.



## REFERENCE BOOKS

- Suresh K Sharma (2011) Nursing research and Statistics Mosby, Saunders, Elsevier India (P) Ltd
- Mercy john (2008), Introduction to research, Mid India board of Education of the nurses League Christian Medical Association of India. B. I. Publications Pvt. Ltd
- Vanitha Vani . K (2010) Introduction to Research Florence Publishers, Hyderabad.



## INTERNET LINKS

- <https://www.researchgate.net/figure/Sources-of-literature-review>
- <https://www.google.com> me country causes frustration.