

“A Study To Evaluate The Effectiveness Of Planned Teaching Programme On Knowledge And Perception Regarding The Telenursing Among The Staff Nurses”

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Abstract

The study titled “A Study to Evaluate the Effectiveness of Planned Teaching Programme on Knowledge and Perception Regarding Telenursing Among the Staff Nurses” aimed to assess how educational intervention impacts staff nurses' understanding of telenursing. A quantitative approach with a pre-experimental one-group pretest-posttest research design was used to measure the effectiveness of the intervention. This design involved administering a structured questionnaire to 45 staff nurses before and after a planned teaching programme, allowing comparison of knowledge and perception levels. Participants were selected using non-probability convenient sampling. The results showed a significant improvement in post-test scores, indicating that the teaching programme effectively enhanced the nurses' awareness and perception of telenursing. The study concludes that structured educational interventions, when applied using appropriate research designs, can play a key role in equipping nurses with essential knowledge for emerging healthcare technologies.

INTRODUCTION:

Telenursing is one of the various innovative and improved methods of providing nursing care. The word telenursing came from the Greek word telos, which implies distance. This concept might have been originated centuries ago but the current system of telemedicine was first used in 1960 by National Aeronautics and Space Administration (NASA). Telenursing refers to the use of telecommunications technology in nursing to enhance patient care. It involves the use of electromagnetic channels (e.g., wire, radio, and optical) to transmit voice, data, and video communication signals. International Council of Nurses (2007) has defined telenursing as the use of telemedicine technology, to deliver nursing care and conduct nursing practice. It combines information technology to render nursing services to clients at geographically distant locations. “Telenursing is effective in decreasing the costs borne by patients, decreasing the number of outpatient and emergency room visits, shortening hospital stays, improving health-related quality of life and decreasing the cost of care”.

The delivery of healthcare services, where distance is a critical factor, by all healthcare professionals using information and communication technologies for the exchange of valid information for diagnosis, treatment and prevention of disease and injuries, research and evaluation, and for continuing education of healthcare providers, all in the interests of advancing the health of individuals and their communities. Tele-nursing refers to the use of telecommunication and information technology for providing nursing services in health care whenever a large physical distance exists between patient and nurse. The physical separation from patient may make it more difficult to establish a therapeutic relationship and require nurses to develop enhanced communication skills as well as technological competency. Tele nursing is not new, in some setting nurses have provided health information and nursing advices over the telephone for decades. Special licensure and certificate are not required but systems need to be in place to ensure the delivery of safe practice and quality of care.

STATEMENT OF THE PROBLEM:

“A study to evaluate the effectiveness of planned teaching programme on knowledge and perception regarding the telenursing among the staff nurses”

OBJECTIVES:

1. To evaluate the knowledge and perception of staff nurses on telenursing.
2. To evaluate the effectiveness of planned teaching programme on staff nurses regarding telenursing.
3. To find out the association between pre-test knowledge regarding telenursing with selected socio demographic variables.

HYPOTHESIS:

H0 (Null Hypothesis) – There will be no significant effect of planned teaching program on knowledge and practice regarding telenursing on staff nurses.

H1 (Research Hypothesis) – There will be significant effect of planned teaching program on knowledge and practice regarding telenursing on staff nurses.

Review of Literature

A review article telenursing study was done by Geeta Rawat, in 2018. A study show that telenursing is a very specialized field of Nursing practice that has advanced in response to the introduction of recent new technologies and modalities with in the health care delivery system. Telenursing has been defined as the use of telecommunication technology in nursing to enhance patient care in remote area. As health care has become more costly and complex now a days due to more challenges to access, telenursing is applied to alleviate these types of problems. Telenursing is an opportunity for social innovation, but change is not easy. Despite foreseeable benefits, non-receptivity to widespread 'tele' adoption may pose the biggest barrier. Tele nursing Telenursing is the application of technology in delivering nursing care and conducting nursing practice. Tele-intensive care unit helps the practice telenursing through leveraging the resources available by using technology. With the racially and culturally diverse population and large geographical area, it is very difficult to provide for essential healthcare. Telenursing is considered to the best solution to this hindrance and guarantee an effective, inclusive and comprehensive association of trust within the different communal population. Telenursing in India is emerging due to increased number of old aged and ill population, wider distance between patient and health care center, concern for cutting costs of health care and thinly populated regions. Physicians develop protocols which can be used by nurses to assess the client over telephone and assists them to suggest permitted interventions. Nurses also conduct physical visits to homes of clients and the clients can be supervised by nurses in homes and agencies.⁴

LIMITATIONS OF THE STUDY:

The study is limited to staff nurses.

ETHICAL ASPECTS:

The study involves staff nurses as participants were reviewed and approved by Ethical Committee. The participants were informed about the purpose of the study. Participants agreed to participate in this study by answering the questionnaires. Confidentiality was assured. The individual participant had the liberty right to withdraw from the study without assigning any reason to investigate.

SUMMARY:

This chapter is a first step towards the solution of research problem. It has deal with introduction, background of the study, problem statement, and objective of the study, operational definitions, and scope of the study, assumption, limitation, and ethical aspect.

RESEARCH METHODOLOGY:

The methodology of research indicates the general pattern of organizing the procedure for gathering the valid and reliable data for the purpose of investigation.

Research methodology organizes all the components of study in a way that is more likely to validate answers to the sub-problems that have been posed.

This chapter deals with the description of different methods and steps used during collection and organization of the data. It includes research approach, research design, identification of target and accessible population, sampling technique, sample size, inclusion and exclusion criteria for sample, tool preparation, reliability and validity of the tool, feasibility of study, pilot study, data collection method and plan for data analysis.

RESEARCH APPROACH:

Research approach casts light on the nature and purpose of the study. According to Pilot and Hungler, "Research approach refers to the way in which the researcher plan or structures the research process. It is a set of the flexible spot designed to keep the research in right direction. This scientific process helps to acquire dependable and useful information".

The research approach explains the basic procedure for the conduct of research enquiry. it involves the description of the plan to investigate the phenomenon under study in a structured (quantitative), unstructured (qualitative) or a combination of two methods (quantitativequalitative integrated approach). Therefore, the approach helps to decide about the presence or absence as well as manipulation and control over variables.

In the present study, a quantitative-experimental approach was used to evaluate the effectiveness of planned teaching programme on knowledge and perception regarding the telenursing among the staff nurses.

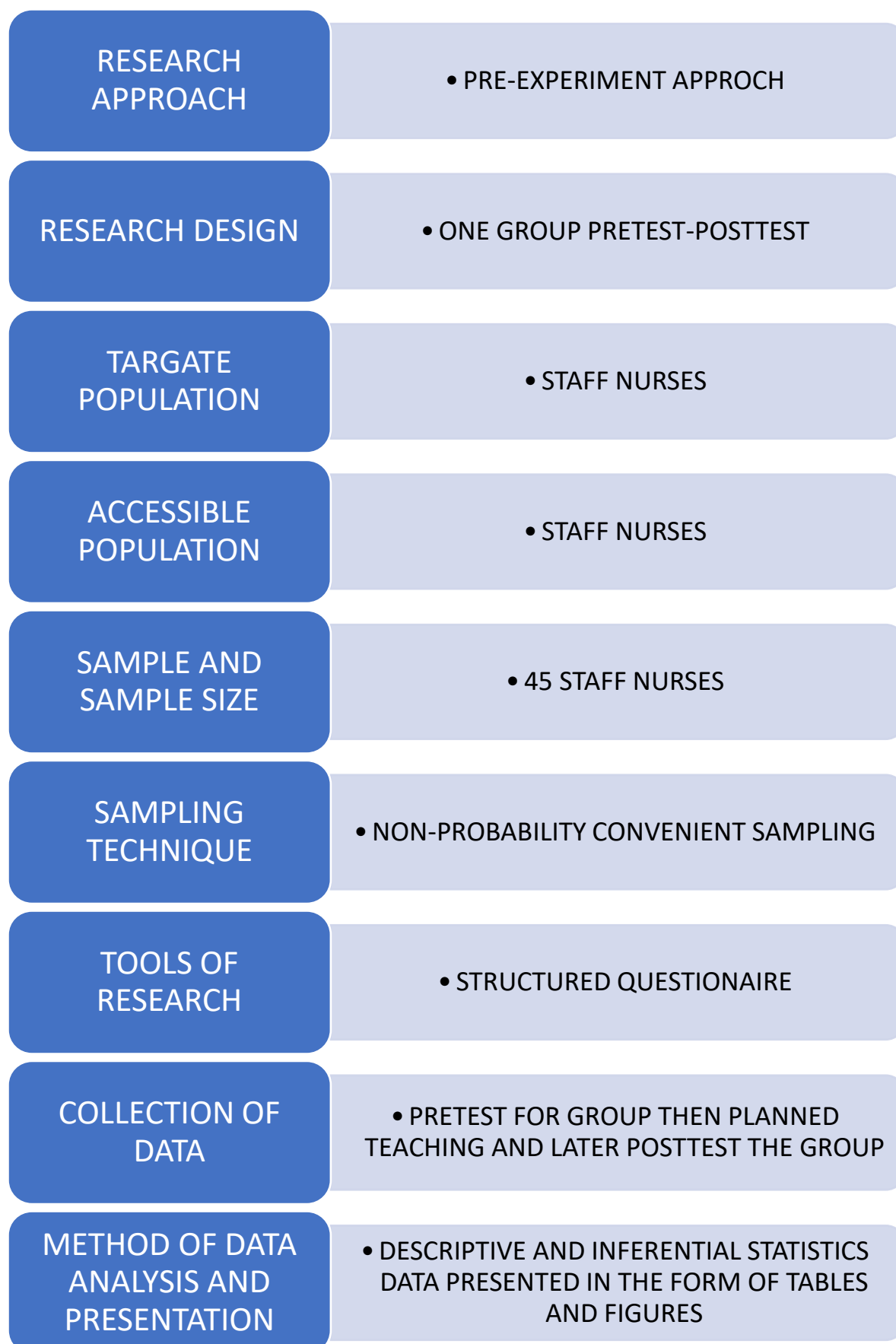


Figure 1 THE SCHEMATIC PRESENTATION OF STUDY

RESEARCH DESIGN:

Research design can be defined as a blue print to conduct a research study, which involves the description of research process, study setting. Sample size, sampling technique, tool and method of data collection and analysis to answer a specific research question or for testing research hypothesis.

The investigator's overall plan for obtaining the answers to research questions for testing the hypothesis is referred to as research design. Research design is the conceptual structure within which the research is conducted. It constitutes the blue print for collection, measurement and analysis of data. As such the design includes what researcher will do in order to test hypothesis its operational implication to final analysis.

The research design incorporates the most important methodology decisions that a researcher makes in conducting a research study. It depicts the overall plan for organization of scientific investigation. It helps the researcher in selection of subject and observation of the type of statistical analysis to be used to interpret the data.

In the present study a pre-experimental one group pre-test post-test design was used to assess the effectiveness of planned teaching programme of the knowledge of 45 subjects selected by non-probability convenient sampling.

Table 1: Schematic representation of pre-experimental one group pre-test post-test design:

Group	Pre-test	Treatment	Post-test
Staff nurses	Structured questionnaires regarding telenursing	Planned teaching programme on telenursing	Structured questionnaires regarding telenursing
E	O1	X	O2

Key

O1: pre-test

X: Treatment (Planned Teaching Programme)

O2: Post-test

The pre-experimental one group pre-test post-test design is used in the following sequence:

pre-test: By using structured questionnaire of Telenursing.

Intervention: Conduction of planned teaching programme on knowledge regarding Telenursing.

Post-test: By using structured questionnaire of Telenursing.

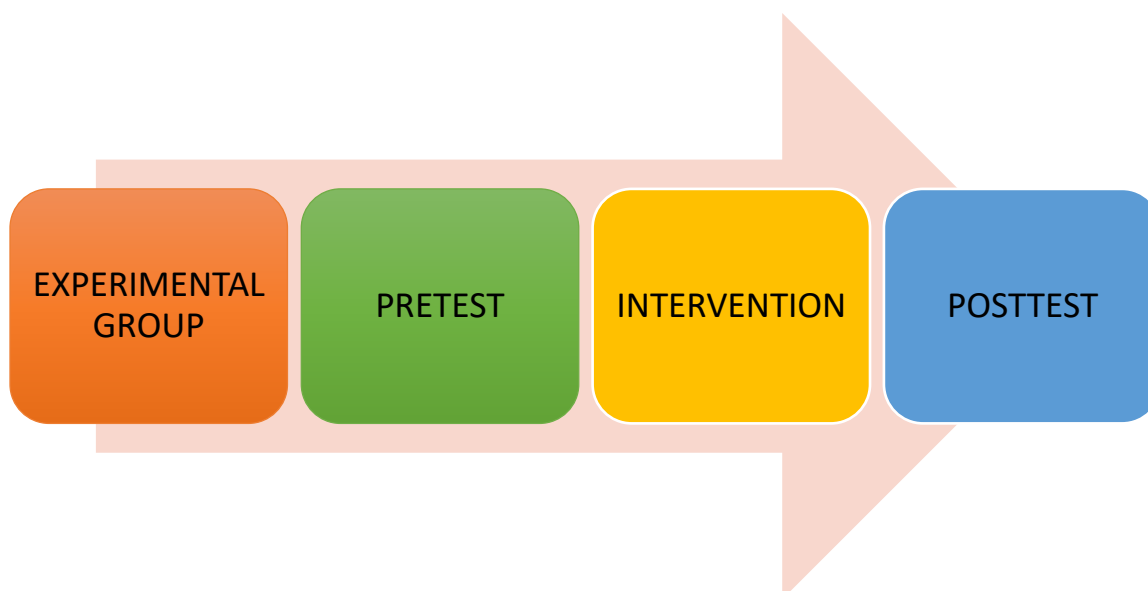


Figure: 2 Showing the Research Design Used in the Present Study

VARIABLES:

Variables are qualities, properties, or characteristics of person, things, or situation that change or vary. Chinn and kramer stated that "variables are concepts at different level of abstraction that are concisely defined to promote their measurement or manipulation within study".

Variables are classified based on their nature, actions and effects on the variables. Following variables are used in this study:

1. An independent variable: It is a stimulus or activity that is manipulated by investigator to create the effect on the dependent variable. In this study planned teaching programme is an independent variable.

2. A dependent variable: It is the outcome or response due to the effect of the independent variable, which investigator wants to predict or explain. In this study, to evaluate the effectiveness of planned teaching programme on knowledge and perception regarding the telenursing among the staff nurses.

IDENTIFICATION OF TARGET:

Population:

Population is the entire aggregation of cases that meet a designated set of criteria Population is a group whose members possess specific attributes that a researcher is interested in for the study.

The population for the present study was conducted on selected Staff Nurses.

TARGET POPULATION:

According to Pilot and Hungler (1999) "the target population refers to the population that the researcher wishes to study and make generalization.

The Staff Nurses selected were the target population.

SAMPLE:

According to Pilot and Hungler 'A sample is the subset of a population selected Nursing college to participate in the study.

In the present study the staff nurses those had fulfilled the designated criteria were the samples for the study.

SAMPLE SIZE:

The sample size for the present study was 45.

Inclusion criteria:

Staff Nurses of

- Willing to participate in the study.
- Able to understand Hindi or English.
- Registered staff nurse.
- Who were present at the time of study?

Exclusion criteria:

Staff Nurses of

- Not willing to participate in the study.
- Student Nurses
- Who were unavailable at the time of study?

SAMPLING TECHNIQUE:

Sampling is a process of selecting a subset of population in order to obtain information regarding a phenomenon in a way that represents the entire population. The process of sampling makes it possible to draw valid inferences on generalization based on careful observations of variables within a relatively small proportion of population.

In the present study the investigator used non-probability convenient sampling.

TOOL AND TECHNIQUE:

A tool is an instrument or equipment used for collecting data. Data collection tools are the procedures and instruments used by the researcher to observe or measure the key variables in the research problem.

The technique used for data collection was self-report method with the help of structured questionnaire, a method of gathering self-report information from respondents through self administration of question in a web based online survey format also referred to as self-administered questionnaire.

In this study structured questionnaire was used to measure knowledge and perception among staff nurses by used planned teaching for providing information.

TOOL PREPARATION:

A structured multiple choice questionnaire was developed/prepared to assess the knowledge and perception of staff nurses about Telenursing. The tool was prepared after discussion with experts and on the personal experience of the investigator.

A blue print was constructed for the study tool by taking into consideration various levels of cognitive domains.

DESCRIPTION OF THE TOOL:

The tool used in the present study, for the data collection, consisted of the following parts:-

Section- 1: Demographic details of the staff nurses

Section – 2: knowledge regarding telenursing

Section – 3: Attitude towards telenursing

VALIDITY OF THE TOOL:

Validity refers to the degree to which an instruction measures what is supposed to measuring.

Validation of the content of the tool was done by obtaining recopy from to the experts. The experts were requested to give their opinion and suggestion regarding the relevance and appropriate Ness of the tool. Based on the inputs on the experts, statical and in consultation with the guide the tool was modified to make the question more appropriate for the intended purpose.

PILOT STUDY:

A pilot study is referred to a small-scale preliminary tryout of the method to be used in an actually large study which acquaints the researcher with problems that can be corrected in proportion for the larger research study or is done to provide the researcher with an opportunity to try out the procedures, methods and tools of data collection.

I selected 5 samples for pilot study. The data gathered through the pilot study was analyzed, which showed that there was a significant effect of planned teaching programme on the knowledge and knowledge and perception regarding the telenursing among the staff nurses.

DATA COLLECTION PROCESS:

Methods of Data Collection:

The various steps or strategies used for gathering data and analyzing data in a research investigation are known as the methods of data collection. The investigator used Questioning (self-report) as a data collection method to collect data for the present study.

Duration of data collection:

The investigator did the data collection for the present study from 01/10/2021 to 10/10/2021.

Steps Followed During The Data Collection:

The investigator had been through the following steps to gather the data for the present study:

1. Validated tool from teachers and converted into google form.

The investigator took the permission from respective authorities to carry out the data collection.

2. Selecting the study samples.

The investigator, after getting information, selected the samples as convenient sampling method.

3. Pre-test:

A pretest in the form of 36 questionnaires was administered to the group.

4. Planned Teaching Programme:

Investigator delivered the planned teaching programme conducted after 2 days of pre-test

5. Post-test:

The investigator carried out post-test following pretest after 7 days

6. The data collection process ended with the data analysis and interpretation.

PLAN FOR DATA ANALYSIS:

Design in and implementing data analysis plan will be based in the specific objectives of the study.

Researcher planned to analysis the data in the following ways.

1. Analysis of demographic data of Staff Nurses with help of:

- Frequency

- Percentage

2. Analysis of data related to Staff Nurses knowledge about Telenursing with the help of:

- Frequency

- Percentage

3. Analysis of significance of effectiveness of planned teaching by:

- Frequency

- Percentage

4. Association of data related to Staff Nurses knowledge regarding telenursing with the help of:

- Mean

- Standard deviation

- Paired t-test

CONCEPTUAL FRAMWORK:

A conceptual framework is a defined as “A set of concept and the statement that integrate into a meaningful configuration.

A conceptual model deals with abstracts (concept) that are assembled because of their relevance to common theme. A conceptual model is derived from a synthesis of ideas, which then form a unified and meaningful system. In a study the frame work that has its meaningful system and its roots in a specific conceptual model is called the conceptual framework.

It serves three important function in the study:

1. It clarifies the concept in which the study is built.
2. It identifies and states the assumptions, hypothesis of study.
3. It specifies the relationship among the concepts.

A model is used to denote the symbolic representation of the concepts. Conceptual framework provides a rational for prediction about relationship among variables in the research study.

General system theory has three components.

- 1) **Input** – Refers to material, energy or information that enters into the system through its boundary. In this study, input refers to the students, who have some knowledge regarding CAUTI.
- 2) **Process** – Refers to transformation which enables the input to be transformed in such a way that it can be used readily by the system. In this study, process includes the planned teaching to the students after the pre test & in post test again giving the same questionnaire to check the knowledge score.
- 3) **Output** – Refers to energy, information or matter that is transformed to environment. In this study, output is the improvement in the knowledge of the students regarding CAUTI.

ITO (Input Output Model of Conceptual framework) invented by Professor Wassily W. Leontief in 1951 The Input-Output (IPO) Model is a functional graph that identifies the inputs, outputs, and required processing tasks required to transform inputs into outputs. The model is sometimes configured to include any storage that might happen in the process as well. A conceptual framework is an analytical tool with several variations and contexts. It is used to make conceptual distinctions and organize ideas.

How it works: To convert the plan teaching program in automated version to implement and easy convenient and systematic method of evaluation criteria which include feedback. Input includes students knowledge regarding needle stick injury, existing knowledge. Pertest include evaluating their present knowledge executing plan teaching program. Output includes their increase knowledge.

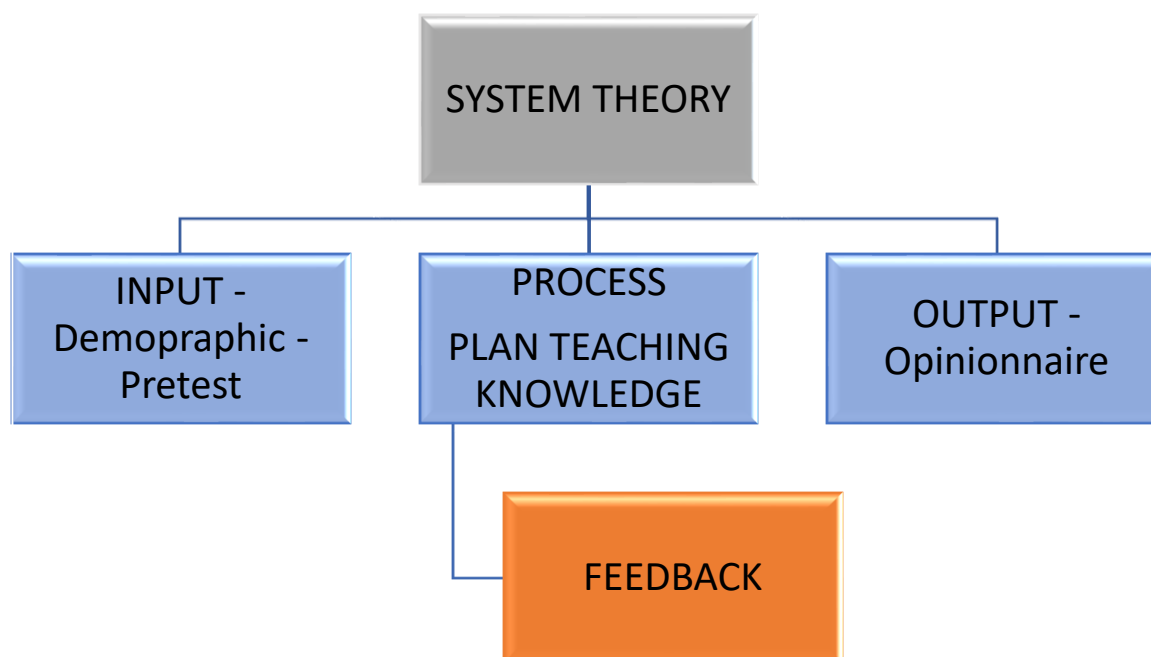


Figure: 4 showing the system theory

Results

The demographic analysis revealed that the majority of the participants were aged between 21 and 25 years and were predominantly working in private healthcare settings. Most had access to internet-connected computers at their workplace, and a significant number had previously heard of telenursing through internet sources.

The pre-test results indicated a moderate level of knowledge and a varied perception towards telenursing. However, following the intervention, there was a statistically significant improvement in both knowledge and perception scores:

- The mean post-test knowledge score was significantly higher than the pre-test score ($t = 6.86$, $p < 0.05$).
- The mean post-test perception score also showed a marked increase ($t = 11.95$, $p < 0.05$).

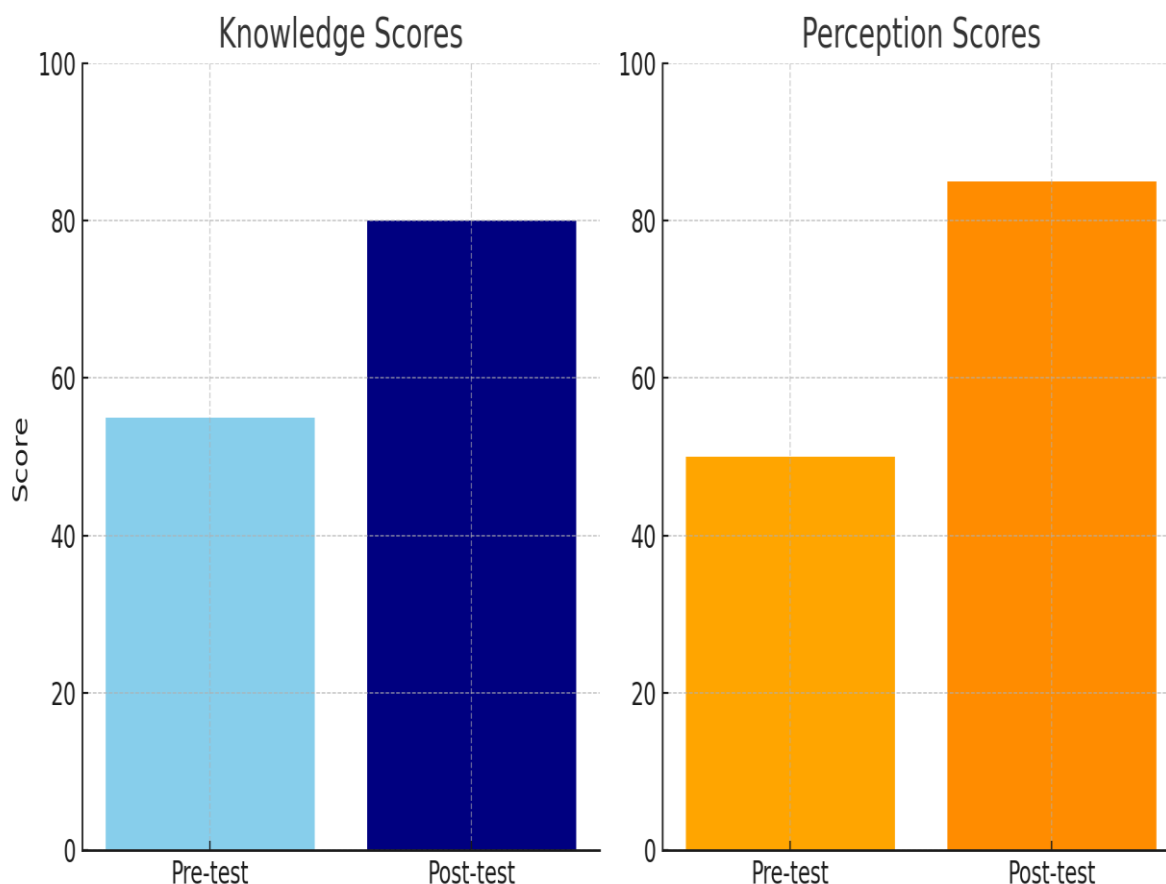


Figure: 5 Visualizing The Pre-Test And Post-Test Scores For Knowledge And Perception.

SUMMARY:

This chapter research methodology consists of research approach (quantitative), research design (pre-experimental one group pre-test post-test), variable, settings of the study, target population, accessible population, sample, sample size, criteria for sampling, sampling technique, tool used for the study, development of tool, description of tool, validity and reliability of the tool, development of structured teaching programme, feasibility of the study, pilot study, data collection process, the plan for data analysis and Conceptual framework.

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