



“Assessment of Knowledge Regarding Chemotherapy Drugs Among B.Sc Nursing Students At Selected College In Hyderabad”

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CHAPTER I INTRODUCTION

“The only person who can save you is you: That was going to be the thing that informed the rest of life.”

-**Sheryl Crow** The most common cause of death globally was from non-communicable diseases. This includes cardio vascular diseases, cancer, and chronic respiratory diseases. They tend to develop gradually over time and aren't infectious themselves. Cancer is the second leading cause globally responsible for causing almost one in 5 deaths. Cancer is a disease in which some of the cells grow uncontrollably and spread to other parts of the body.¹

Cancer can start almost anywhere in the human body, which is made up of trillions of cells, normally human cells grow and multiply through a process called cell division. There are two types. Cancerous and non-cancerous. Benign and Malignant. Benign is non-cancerous lump of tissue. Malignant is cancerous tumors spread into or invade nearby tissue and can travel form new tumor called metastasis malignant tumors. Types of cancer treatment 1. Bio marker 2 chemotherapy 3 Radiation therapy 4 Surgery etc.¹

Chemotherapy is the treatment where medicine is used to kill cancer cells. These stop cancer cells reproducing which prevent them from growing and spreading in the body. During preparation transportation administration and disposal of chemotherapy waste and body fluids nurses can be affected by exposure. Before handling chemotherapy drugs proper precautions should be taken by wearing double gloves, mask, head cap, googles. In 2022, the projected number of new cases in India was with the crude individual 100.4per 1,00,000, Approximately 1 in 9 in India is expected to face a cancer diagnosis during lifetime.²

Chemotherapy is used after surgery as adjuvant treatment to eradicate any microscopic cancer cells, and to decrease the likelihood of cancer recurrence. Chemotherapy is often used as neoadjuvant treatment; it is designed to reduce the size of bulk of the tumors so surgical resection can more easily performed. The chemotherapy drugs work by interfering with DNA synthesis, damaging cell's genetic material, preventing the cells from dividing.²

As, a palliative therapy, chemotherapy can be used to help make the cancer patient's life as comfortable as possible. In the case of inoperative cancers, chemotherapy is administered to relieve symptoms and serious complications. As a palliative therapy, chemotherapy, when given in non -therapeutic doses, can help make the cancer patient's life as comfortable possible. Chemotherapy is given via many routes including but not limited to intravenous, subcutaneous, intramuscular, oral. Chemotherapy may be given after surgical resection to address microscopic disease and /or reduce cancer recurrence. This type of chemotherapy is called adjuvant chemotherapy.³

Cancer cells contain multiple alterations in the number and structure of genes and chromosomes, mainly acquired by mutations in somatic cells. Clinically there are many types of cancer, but biologically, the origin of cancer is similar, which is due to defect in gene expression, prevention of cancer should be a totalistic approach targeting all levels of prevention through primary, secondary, tertiary level.¹

1.1 NEED FOR STUDY

According to recent reports by world health organization WHO, the incidence of cancer will increase in future decades. In fact, this condition is expected to be the second most common cause of mortality. Chemotherapy is a drug treatment that uses powerful chemicals to kill fast growing cells in the body. Nurses should know how to store and handle chemotherapy drugs. Use cold system transfer devices and manage spill. They should also know how to wear and remove PPE.²

The projected cancer burden in India is expected to rise from 26.7 million DALYs {adjusted mortality to incidence} in 2021 to 29.8 million in 2025, with the highest burden in north and north east regions. The international agency for research on cancer [IACR] estimates that one in five men and one in six women worldwide will develop cancer over the course of their lifetime. According to national institute of cancer prevention and research. The most common type of cancer seen in men is oral, lung, stomach, colorectal, pharynx and in women breast, cervix, ovary, oral cavity.³

The numerous factors impact survival rates of cancer, encompassing variables such as the type of cancer, gender, disease stage and the treatment received. In India the data from eleven PBCRs under the NCRP has indicated a five-year survival rate of 51.7% and breast cancer 66.4%. According to WHO the lung cancer was most commonly occurring cancer worldwide with 2.5 million new cases. Female breast cancer ranked second 2.3 million.⁴

Anbumani Janet, Diksha Sharma (2023) conducted a quantitative study to assess the effectiveness of STP on handling of chemotherapeutic drugs among BSc nursing 4th year students in B.Sc. college of nursing, Jammu. A sample of 40 BSc nursing 4th year students participated in this study. The sample was selected through purposive sampling technique. A pre-experimental study following one pre-test post-test design was used. The study concluded by data was analyzed using SPSS16. The t test analysis showed a significant difference before and after the administration of STP on knowledge regarding safe handling of chemotherapy drugs [$t = 16.580$ and $P = 0.000$] at 0.05 level of significance

In pre-test knowledge, majority of the students 33(82.5%) had below average and only few 7(17.5%) had average knowledge whereas in post-test more than majority of the students 16(40%) had very good level of knowledge, few 12(30%) had average level of knowledge.

The STP was effective in enhancing knowledge (pre-test score = 8.05 ± 1.584 and post-test score = 15.35 ± 2.558) of BSc nursing 4th year students on safe handling of chemotherapeutic drugs. There was no significant association of STP with post-test knowledge scores.

Hence mainly reviews have been concluded that students need adequate knowledge on chemotherapy drugs. Thus, the investigators found interest in educating their fellow beings in caring for most deadly disease.⁵

1.2 STATEMENT OF THE PROBLEM

“A Study to Assess the Knowledge Regarding Chemotherapy Drugs Among B.Sc. Nursing Students in Selected College in Hyderabad Telangana.”

1.3 OBJECTIVES OF THE STUDY

1. To assess the level of knowledge regarding chemotherapy drugs among B.Sc. nursing students.
2. To find out the association between the knowledge regarding chemotherapy drugs among B.Sc. nursing students with their selected demographic variable.

1.4 ASSUMPTIONS

The study assumes that:

1. Students may have some knowledge on chemotherapy drugs.

1.5 RESEARCH HYPOTHESIS

H1: There will be significant association between knowledge of students on chemotherapy drugs and selected demographic variables.

1.6 DELIMITATIONS

The present study is delimited to:

- Nursing students those who are all studying in 2nd year, 4th year, GNM, Semester 4 students.

1.7 OPERATIONAL DEFINITION

ASSESS:

The process of gathering and analyzing the information or responses given by samples against the questions posed about medicines used in treating cancer.

KNOWLEDGE:

A set of statistical data gathered in the form of responses which is represented and tabulated as poor, good, and average scores obtained through structured Interview Schedule.

CHEMOTHERAPY DRUGS:

Medications that help in slow growth or cessation of cancer cells.

NURSING STUDENTS:

III year and semester V students of BSc Nursing Program who have studied Medical and Surgical Nursing subject in their curriculum.

1.8 CONCEPTUAL FRAMEWORK

It is the conceptual approach to the study of problem that are scientifically based and emphasized on selection, arrangements, and classification of its concepts. It deals with the abstractions, which are assembled by virtue of their relevance to common theme.

In this present study a diagrammatic representation of concepts of study is shown in figure. The knowledge on chemotherapy drugs depends on their clinical experience, subject of interest, any family history of cancer. All these are interlinked and may affect the knowledge of students regarding chemotherapy drugs.

In this study Sr Callista Roy's, Roy's adaption model was used. It says, the person is a bio- physio- social being. The person is in constant interaction with a changing environment. To cope with the changing world, persons use both innate and acquired mechanisms which are biological, psychological, and social in origin.

In this present study, the investigator has made an attempt to assess the knowledge of students, studying in Apollo College of Nursing, Jubilee hills, Hyderabad. This conceptual framework based on assessment of knowledge regarding chemotherapy drugs in BSc nursing students in Apollo College of Nursing Jubilee hills, Hyderabad.

INPUT: It identifies STIMULI and adaption level, which can come from the environment or from within the person.

In this study input is structured questionnaire on chemotherapy drugs among BSc nursing students.

EFFECTORS: These are categories of behavior to adapt to stimuli, it includes physiologic function, self-concept, role function and inter dependence.

In this study effectors are Age, Gender, Family income, Subject of interest, Year or Semester, Type of family, Family history of cancer, Previous exposure to chemotherapy, Source of information.

OUTPUT: It is the outcome of the system

In this study output is knowledge on chemotherapy drugs. It includes Poor, Average, Good.

The level of knowledge, majority of (86.1%) of students had average knowledge (12.7%) had poor knowledge (1.2%) had good knowledge.⁶

1.9 SUMMARY

This chapter deals with Introduction, Need for study, Assumptions, Delimitations, Operational definition, Research hypothesis and Conceptual framework.

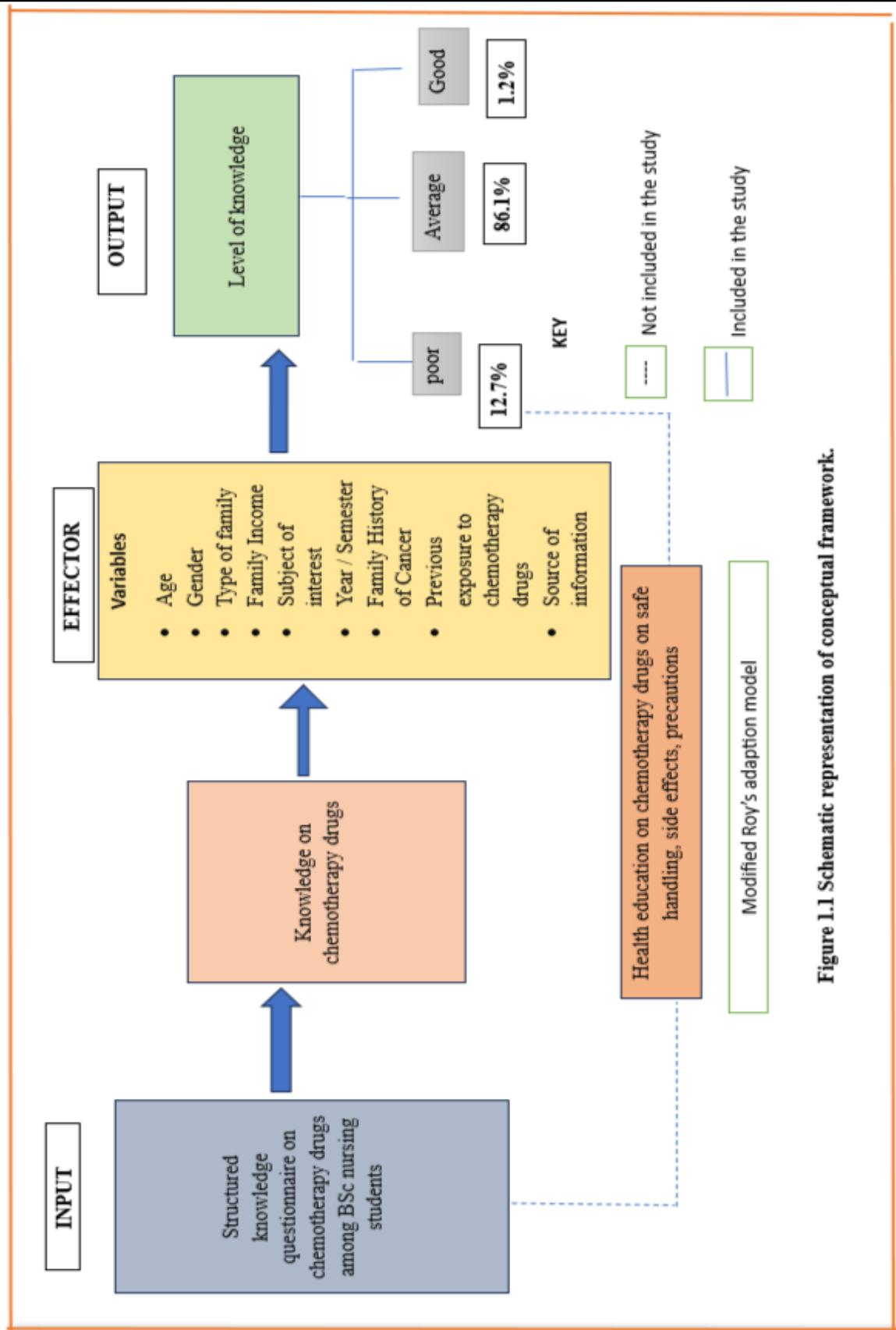


Figure 1.1 Schematic representation of conceptual framework.

CHAPTER II

REVIEW OF LITERATURE

Review of literature is one of the most important steps in the research process. It is an account of what is already known about phenomenon.

“A literature reviews are an evaluative report of information found in the literature related to selected area of study. The review describes, summaries, evaluate and clarifies this literature it gives a theoretical base for the research and help to determine the nature of research”

Jesson Matheson &Lacey, [2011]

2.1 STUDIES RELATED TO KNOWLEDGE ON CHEMOTHERAPY DRUGS AMONG NURSING STUDENTS.

V Uma, M Subhasree et.al (2024) conducted a study to assess the knowledge level and attitude regarding safe handling of chemotherapeutic drug among Nursing students at selected college, Puducherry. The research approach used for the study was Quantitative research approach and Non- Experimental Descriptive research design was selected for the study. The study was conducted on 100 BSc Nursing students (3rd and 4th year). The sample of the study was taken based on inclusion criteria and followed simple random sampling technique using lottery method. Information regarding chemotherapeutic drugs was gained through Self-Structured closed ended Questionnaire to assess the knowledge and attitude level on BSc Nursing 3rd and 4th year students. Tool consists of demographic data and self-structured closed ended questions of 37(25-Knowledge, 12-Attitude) questions to assess the level of knowledge and attitude. Data was analyzed by descriptive statistical method. The study results reveal that intra-class correlation coefficient is 0.98, it shows that there is a negative correlation between the knowledge and attitude level of BSc. nursing students. Majority 58(58%) of the subjects had moderately adequate knowledge and 42(42%) had inadequate knowledge regarding safe handling of chemotherapeutic drugs. Most of the students had positive attitude towards safe handling of chemotherapeutic drugs. Significant p-value infers that there is a negative relationship exists between moderately adequate knowledge level with attitude regarding safe handling of chemotherapeutic drugs.⁷

Saranya K.V, Rampriya G et.al (2022) conducted a Quantitative study on effectiveness of STP on knowledge regarding chemotherapy and chemotherapy administration and protocol among final year general Nursing and Midwifery students at selected school Bengaluru. Sample size was 50. Convenient sampling technique was used to select the sample. The investigator assessed the knowledge using structured teaching questionnaire regarding chemotherapy and chemotherapy administration protocol after conducting pretest. Structured teaching questionnaire was introduced and post-test was conducted after 7days. The result shows that there is significant difference between pre - test and post-test. There was no statistically significant association found with the demographic variables of age, religion, close family members with cancer with $P>0.05$. The study concluded that there is significant improvement in the post - test knowledge score of final year.⁸

Jagdish Kumar, Bhavesh Verma et.al (2022) conducted a pre - experimental study to assess the effectiveness of structured teaching program on knowledge regarding chemotherapy administration among student nurses of government college of nursing, Jodhpur. The sample consisting of 60 student nurses were selected by using convenient sampling. The tool comprised of Self-administered Structured knowledge Questionnaire. The research design was a Pre - Experimental one group pre - test post- test research design. The post test was conducted after one week. The data obtained were analyzed by using descriptive and inferential statistics. The mean score of post- test knowledge 29.45 (92.03%) was apparently higher than the mean score of pretest knowledge score 16.52 (51.60%), suggesting that the structured teaching program was effective in increasing the knowledge of the student nurses. The mean difference 12.93 between pretest and post-test knowledge score of the student nurses was found to be significant.⁹

Anil Vijayan (2020) conducted a study on knowledge regarding chemotherapy drugs in Bhuvneshwar. Total sample were 60 collected by Non-probability Sampling technique the study reveals that among 60 students 40% had moderately adequate knowledge 33% of them had inadequate knowledge. In 2022, the projected number of new cancer cases in India was 1,461,427 with a crude incidence rate of 100.4 per 100,000 individuals. Approximately one in nine people in India is expected to phase a cancer diagnosis during lifetime. Notably, lung cancer ranked highest among males, while breast cancer held the top spot for females. Lymphoid leukemia emerged as the predominant site, accounting for 29.2% in boys and 24.2% in girls. Looking ahead an estimated 12.8% increase in cancer incidence by 2025 is expected as compared to 2020. This study concludes that knowledge level was moderately adequate based on reviews.¹⁰

Dr. Li Ming, (2020) was conducted a Descriptive study to assess the level of knowledge regarding chemotherapy drugs among BSc nursing, China. The sample Size was 350. Descriptive research design with a Structured Questionnaire was used to conduct the study. The sample was collected using a systematic sampling technique, where every 5th student was selected from the list of all BSc nursing students in the selected college. The level of Significance of p value was $p < 0.05$. The study result found that 50% of the students had inadequate knowledge regarding chemotherapy drugs, while 35% had moderate knowledge and 15% had adequate knowledge. The study concluded that there is a need to improve the level of knowledge regarding chemotherapy drugs among BSc Nursing students in China.

Dr. S Kumar, (2019) conducted a Descriptive study to assess the knowledge regarding chemotherapy drugs among BSc Nursing Students in a Selected College from South India. Descriptive research design and a Structured Questionnaire was used to collect data from a sample of 150 BSc nursing students. The questionnaire consisted of 20 items that assessed the students' knowledge regarding chemotherapy drugs, including their pharmacology, nursing management, and side effects. The results showed that 62% of the students had inadequate knowledge regarding chemotherapy drugs, while 31% had moderate knowledge and 7% had adequate knowledge. The study also found that there was a significant association between the inclusion of chemotherapy education in the nursing curriculum to ensure that nursing students are adequately prepared to provide care to patients receiving chemotherapy.

M Sohrab Hosen, Mahedi Hasan et.al (2019) conducted a study on evaluation of knowledge and practice of handling chemotherapy agents by nurses; a multi-center studies in Bangladesh. The Cross-sectional study was designed based on anonymous Self-administered Questionnaire. The study was conducted on 96 registered nurses. Descriptive statistics was used for data analysis. A P value of 0.05 or less was chosen to determine statistical significance for statistical analysis. There were 96 respondents who participated in the survey. The minimum and maximum score on chemotherapy agents handling was 8 and 15 respectively. Most of the respondents 88 (91.66%) had good level of knowledge their score was 11-15 and minority 8(8.34%) nurses scored range 5-10. The study concluded that most nurses have an average knowledge for handling chemotherapy agents.¹¹

Savitha, Sanjay (2019) conducted a Pre-experimental study to evaluate the effectiveness of structured teaching program on chemotherapy administration in terms of knowledge among student nurses in a selected institution at Hubballi. Pre experimental one group pre-test – post-test design was selected. Settings of the study were K.L.E.S Institute of Nursing Sciences, Vidyanagar, Hubballi. 50 student nurses were selected for the study. Pre-test was conducted after giving planned teaching program, after 7 days post-test was conducted. The study revealed that most of the subjects 32 (64%) had average knowledge, 9 (18%) had poor knowledge and 9 (18%) good knowledge in pre -test. Whereas in the posttest all 50 (100%) of subjects had good knowledge, no one had average and poor knowledge. The calculated paired t value ($t_{49} = 29.85$) was greater than tabulated 't' value ($t_{49} = 2.02$). Hence, H₁ was accepted. This indicates that gain in knowledge score was statistically significant at 0.05 level of significance. Therefore, the structured teaching program was effective among the subjects in terms of gain in knowledge scores.¹²

Dr. R. K. Sharma, (2018) conducted a Descriptive study to assess the level of knowledge regarding chemotherapy drugs in BSc nursing students in a selected college from North India. The ample Size was 200. Descriptive research design with a Structured Questionnaire was used. The level of knowledge chemotherapy drugs with inadequate knowledge 120 (60%), moderate knowledge 60 (30%), and adequate knowledge: 20 (10%). The mean knowledge score: 15.6 ± 4.2 . The study result found that the majority of BSc nursing students (60%) had inadequate knowledge regarding chemotherapy drugs. The level of knowledge was significantly associated with age ($p < 0.05$) and gender ($p < 0.05$). The study concluded that there is a need to improve the level of knowledge regarding chemotherapy drugs among BSc nursing students in North India. The study recommends that nursing educators and curriculum developers should prioritize the inclusion of chemotherapy education in the nursing curriculum.

V Jayanthi, N Subhashini et.al (2018) conducted a Cross-sectional Descriptive study to assess the knowledge regarding side effects of chemotherapy among nursing students in Narayana College of nursing, Nellore. 100 Nursing Students were selected by using Non-Probability Convenience Sampling Technique. Structured Questionnaire method was used for collecting the information from samples. The results revealed that 71 (71%) nursing students have moderately adequate knowledge, 21(21%) nursing students having inadequate knowledge and only 8(8%) nursing students have adequate knowledge regarding side effects of

chemotherapy. The study findings reveal that majority of students has inadequate knowledge regarding side effects of chemotherapy. Hence there is a need to conduct CNE program to enhance the knowledge for better care delivery in health care system.¹³

Devi Saritha et.al (2018) conducted a Descriptive study to assess the practices regarding safe handling of chemotherapeutic drugs among nursing personnel of tertiary level care in tertiary care hospital, India. Non experimental descriptive approach was used. The total sample were 60 selected by convenient sampling technique. The data was collected through self-reporting rating scale. The study reveals that the majority of n the level of knowledge and demographic variables such as age, gender, and year of study. The study concluded that there is a need to improve the knowledge of BSc nursing students regarding chemotherapy drugs, particularly in the areas of pharmacology and nursing management. The study recommended that nursing educators and curriculum developers should prioritize-nursing personnel 51.7% had average practices regarding safe handling of chemotherapeutic drugs. The statistically highly significant association was found between practices regarding safe handling of chemotherapeutic drugs and oncology work experience of nursing personnel and challenge in safe handling of chemotherapeutic drugs. The study concluded that the present study reveals that there were average practices regarding safe handling of chemotherapeutic drugs among nursing personnel of tertiary care hospital in India.¹⁴

Rupinder Kaur (2017) conducted a Quantitative study to assess the knowledge about safety measures regarding handling of chemotherapeutic agents among staff nurses in a tertiary care teaching hospital. A Descriptive research approach was used with one point of data collection. Through convenience sampling with random assignments 40 study subjects were selected. Structured knowledge Questionnaire was prepared and validated. This revealed that 60% of staff nurses had adequate knowledge and 40% had inadequate knowledge. The chi squared test values was found to be statistically significant at P-Value <0.05 regarding knowledge of chemotherapeutic agents with educational status and work experience. Study results concluded that there should be health talks, in-service education, seminar, and workshop programs conducted for staff nurses.¹⁵

Dr. John Lee, (2017) conducted a Descriptive study to assess the level of knowledge regarding chemotherapy drugs among B.Sc. Nursing students in Canada. The sample Size was 300. The sample was collected using a Stratified sampling technique. Structured questionnaire was used to conduct the study. The level of Significance of p value is $p < 0.05$. The study result found that 55% of the students had inadequate knowledge regarding chemotherapy drugs, while 35% had moderate knowledge and 10% had adequate knowledge. The study concluded that there is a need to improve the level of knowledge regarding chemotherapy drugs among BSc nursing students in Canada.

Rupali P. Pete, Alphy Rose, Seena Singh (2017) conducted a Descriptive study to assess the effectiveness of planned teaching on knowledge regarding safe handling of chemotherapeutic drugs among the nursing students in selected nursing college of Vidarbha region. The tool used is Structured knowledge Questionnaire. Non experimental descriptive study on 60 subjects which include student nurses of selected college of

Vidarbha region by nonprobability convenience sampling. The result shows that in pre-test, 1.67% had very poor knowledge, 26.67% of subject had poor knowledge, 58.83% had average knowledge, 13.33% had good knowledge and none of them had excellent knowledge. The minimum score was 4, maximum score was 15 and mean score was 9.95 ± 2.281 . where in post-test 45% had good and excellent knowledge, 8.33% had average knowledge, 1.67% had poor knowledge, and none were there in the group of very poor. The minimum score was 5 and maximum score was 20, mean score was 16.05 ± 2.620 . After the completion of study, it is revealed that before the planned teaching knowledge of student nurses was not adequate but after the planned teaching, knowledge of student nurses improved tremendously.¹⁶

Dr. Ahmed Ali, (2015) University of Cairo, conducted a study to assess the level of knowledge regarding chemotherapy drugs among BSc nursing students in Egypt. The sample size was 200. The sample was collected using a Cluster Sampling Technique, where the sample was divided into clusters based on the college departments. Descriptive research design with a structured questionnaire was used to conduct the study. Level of Significance $p < 0.05$. The study result found that 65% of the students had inadequate knowledge regarding chemotherapy drugs, while 25% had moderate knowledge and 10% had adequate knowledge. The study concluded that there is a need to improve the level of knowledge regarding chemotherapy drugs among BSc nursing students in Egypt.

Dr. Maria Rodriguez (2015) conducted a Descriptive study to assess the Level of knowledge regarding chemotherapy drugs among BSc Nursing students in the selected college USA. The Sample Size 250 was collected using a Convenience sampling Technique. Descriptive research design with a Structured Questionnaire was used to conduct the study. The results shows that the study found 60% of the students had inadequate knowledge regarding chemotherapy drugs, while 30% had moderate knowledge and 10% had adequate knowledge. The Level of Significance of p value is $p < 0.05$. The study concluded that there is a need to improve the level of knowledge regarding chemotherapy drugs among BSc nursing students in the USA.

N Gayathri (2014) conducted a pre-experimental study to assess the Effectiveness of Structured Instructional Module on Knowledge on Safe handling and administration of chemotherapeutic agent among the Nursing students at Rani Meyyammai College of Nursing, Chidambaram experimental one group pretest and posttest design was adopted. Sample size of 96 students of III-year B.Sc. Nursing was selected. The study revealed that the pretest mean score on knowledge on chemotherapy drugs was 4.614 and the posttest mean score was increased to 5.604. Regarding knowledge on skill on safe handling and administration of chemotherapy drugs, the pre-test mean value was 11.291 which was increased to 14.270 in posttest. The knowledge on nursing care for patient undergoing chemotherapy, the pretest mean value was 1.708 and it was increased to 2.687. Paired Z test was applied to compare mean and standard deviation of pretest and post-test. The result showed that knowledge on safe handling and administration was statistically significant at $P < 0.001$ level and the structure instructional module was found to be more effective.¹⁷

CHAPTER III

RESEARCH METHODOLOGY

Research methodology is the science of method, it is a set of methods and principles. It is a set of methods and principles used to perform a particular activity. The selection of research approach is an important step in research

Methodological research is research designed to develop or refine methods of obtaining, organizing, or analyzing data etc..¹⁸

-Polit and Beck (2008)

The present chapter deals with methodology adopted for this study which includes research approach, research design, variables, setting of the study, sample, sampling technique, criteria for sample collection, sample characteristics, method of data collection, development and description of the tool, validity, reliability of the tool and plan of data analysis.

3.1 RESEARCH APPROACH

The overall plan for addressing a research question, including specifications for enhancing the study's integrity.¹⁹

-Polit and Beck (2008)

The approach adapted for the study is descriptive study. The purpose of descriptive study is to observe, describe and document, the aspects of a situation as it naturally occurs and sometimes to see as a starting point for hypothesis generation or theory development.

The present study aims that assessing the knowledge regarding chemotherapy drugs among BSc nursing students, Apollo college of nursing, Hyderabad.

3.2 RESEARCH DESIGN

Research design is a blue print by using the research approach and deciding researcher component and phenomena of the study to fulfill the goal.²⁰

-Bruner and Grove 2003:195;

Research design is the overall of addressing a research question including specification for enhancing the study integrity, the research design selected for the present study is Non-Experimental, Descriptive research design.

3.3 VARIABLES OF THE STUDY

Variables are defined as an attribute of a person or object that varies; It takes on different value which vary and which are not constant. These are the qualities, properties or characteristics that are observed and measured. It focuses on the study and reflects the empirical aspects of the concepts being studied by the investigator.²¹

Research variable:

Knowledge on chemotherapy drugs.

3.4 RESEARCH SETTINGS

The settings refer to the physical location and condition in which data collection takes place.

This study was conducted in Apollo College of Nursing, Jubilee Hills Hyderabad.

3.5 POPULATION

According to Chris Jordan: population is an aggregate of elements showing some common set of criteria.²²

The population of the study is Nursing students.

Target population:

In this study, the target population is, BSc Nursing students and Semester students.

Accessible population:

In this study, the accessible population is BSc nursing 3rd year and Semester 5 students in Apollo College of Nursing Hyderabad

3.6 SAMPLE

Sample is a subset of a population selected to participate in a study.²³

- Polit and Beck (2008)

In other words, sample consist of a subset of units which comprise the population selected by investigators or researcher to participate in their research project.

In this study, the sample is B.Sc. Nursing students.

Sample size:

The sample size for the study was arbitrary decided to be 165 students who are perusing BSc nursing 3rd year and Semester 5.

3.6.1 SAMPLING TECHNIQUE

Sampling is the process of selecting a representative segment of the population under study.

In the present study, the technique adopted was non probability convenient sampling technique used for selecting the subjects for the study.

3.7 CRITERIA FOR SAMLE SELECTON

In sampling selection criteria, the researcher specifies the characteristics of the population under the study by the inclusion and exclusion criteria. Inclusion criteria are the characteristics that each sample element must possess to be included in the sample. Exclusion criteria are the characteristics that could confound or contaminate the results of the study; therefore, such participants are excluded from the study.

3.7.1 Inclusion Criteria

The study includes:

- Students who are studying BSc nursing 3rd year and 5th semester students.
- Who are studying from the same college?
- Students who are willing to participate.

3.7.2 Exclusion criteria

The study excludes:

- Students who are not willing to participate.

3.8 DEVELOPMENT AND DESCRIPTION OF TOOL

3.8.1 DISCRIPTION OF THE TOOL

The tool which has taken for the study is modified structured interview schedule. It consists of 2 sections.

SECTION A: DEMOGRAPHIC VARIABLES

It deals with Demographic variables like age, gender, type of family, family income, year/semester, family history of cancer, previous exposure to chemotherapeutic drugs, source of information regarding chemotherapeutic drug preparation, subject of interest.

SECTION B: STRUCTURED KNOWLEDGE QUESTIONNAIRE ON CHEMOTHERAPY DRUGS

It refers to assess the level of knowledge on chemotherapy drugs which consists of 24 questions.

SCORING KEY

Each question carries '1' mark and wrong answer carries '0' mark.

LEVEL OF KNOWLDEGE	SCORE
POOR	1-8
AVERAGE	9-16
GOOD	17-24

3.8.2 CONTENT VALIDITY

Validity refers to the degree to which an instrument measures what it is intended to measure.

To obtain content validity of the tool, the prepared tool, with objectives and operational definitions was submitted to three experts including one Experts in field of Nursing Foundation, one expert in field of Mental Health Nursing and one expert in Community Health Nursing. The experts requested to check for the relevance, adequacy and appropriateness in the tool, a few items were modified and thereby content validity was ascertained.²⁴

3.8.3 RELIABILITY

Reliability is the degree of consistency or dependability with which an instrument measures the attribute, it is designed to measure.²⁵

Acc to (Polit).

In this study the reliability of the tool was established through Split half technique by using Karl Pearson's correlation method among two areas scores. The obtained value $r = 0.789$, which indicates that the tool was reliable.

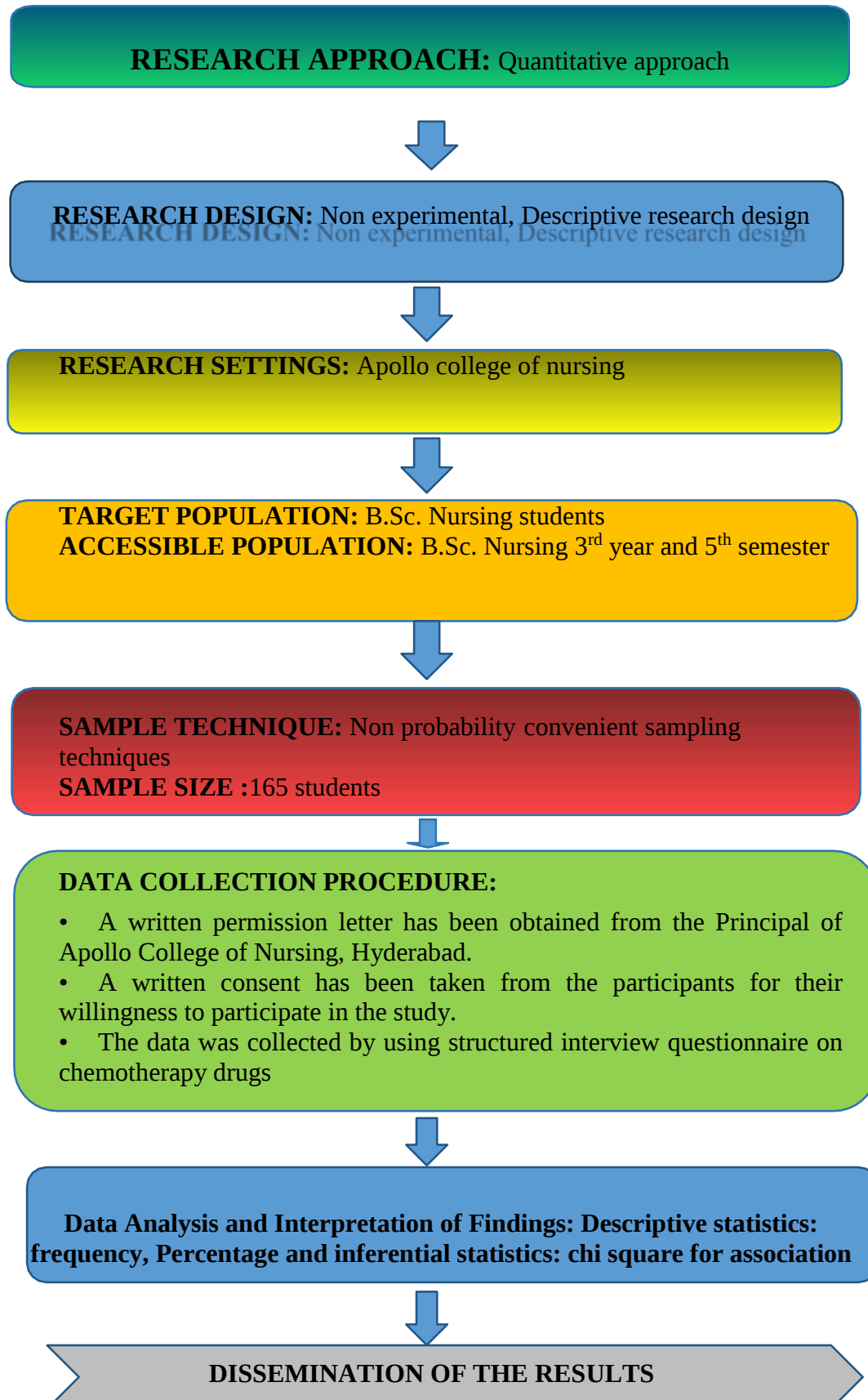


Figure:2.1 Schematic Representation of Research Methodology.

PILOT STUDY

A pilot study is a small-scale version or trial run designed to test the methods to be used in a larger, more rigorous study.²⁶

The pilot study was conducted to determine the possibility of the study. The pilot study was conducted at Indo American College of Nursing for a period of 1day i.e., on 17/01/25 using structured interview through questionnaires method on knowledge about chemotherapy drugs.

The investigators gave a brief introduction. The study was conducted for 30min.

The data was analyzed it shows that there is a significance of knowledge score. The findings revealed that the students are having good knowledge on chemotherapy drugs Considered to be feasible & reliable the main study.

3.9 DATA COLLECTION PROCEDURE

The study was conducted in Apollo College of Nursing. The Written permission was obtained from the principal and for each participants the purpose of the study was explained to them. The study was conducted on 165 students. Students are chosen by the inclusion criteria, Students from Apollo College of Nursing, Students who are available at the time of data collection. The investigator gave brief instruction about the questionnaires and study was conducted for 165 members about 30min. The knowledge on chemotherapy drugs.

3.10 PLAN FOR DATA ANALYSIS

Data analysis is the systematic organization and synthesis of research data and testing research hypothesis by using obtained data. It was planned to analyze and interpret data with the help of descriptive and inferential statistics. It was edited, coded, and entered in excel sheets.²⁷

The data analysis was organized under the following sections:

- Frequency and Percentage distribution of students according to demographic variables.
- Frequency and Percentage distribution of the students and their level of knowledge.
- Overall Mean and standard deviation of regarding their level of knowledge.
- Chi-square test to measure the association between the level of knowledge with selected demographic variables.

SUMMARY

This chapter dealt with the research approach, research design, setting, variables, population, sample and sampling technique, development and description of the tool, validity and reliability of tool, pilot study and procedure for data collection plan for data analysis.

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

“A research study is to see what everybody else has seen, and to think what nobody else has thought.”

- Albert Szent Gyorgyi

The analysis and interpretation of data involve the objective material in the possession of the researcher and his subjective reactions desired to derive from the data from the inherent meanings in that relation to the problem. To avoid making conclusions or interpretations from insufficient or invalid data, the final analysis must be anticipated in detail, when plans are being made for collecting information.²⁸

This chapter deals with the analysis and interpretation is to assess knowledge on chemotherapy drugs. Data was collected from 165 students by structured interview schedule questionnaires. Analysis and interpretation were done with the help of descriptive and inferential statistics to meet the objectives of the study and to test the hypothesis. These section deals with the background variables of 165 students. and are presented in tables in terms of frequency and percentage distribution.

Demographic variables included in the study were: Demographic variables like age, gender, type of family, family income, year/semester, family history of cancer, previous exposure to chemotherapeutic drugs, source of information regarding chemotherapeutic drug preparation, subject of interest.

The obtained data from the sample was updated in excel sheets, analyzed with standard statistical formulas and categorized according to the objectives of the study. The results are presented in tables and figures appropriately.

OBJECTIVES OF THE STUDY

- To assess the level of knowledge regarding chemotherapy drugs among B.Sc. nursing students.
- To find out the association between the knowledge regarding chemotherapy drugs among BSc nursing students with their selected demographic variable.

The analysis and interpretation of data have been organized in relation to the objectives and hypothesis of the study. The hypothesis of the present study was:

RESEARCH HYPOTHESIS

H1: There will be significant association between knowledge of students on chemotherapy drugs and selected demographic variables.

ORGANIZATION OF DATA

The data were analyzed and organized based on sections:

Section 4.1: Distribution of B.Sc. nursing students according to the demographic variable.

Section 4.2: Level of knowledge on chemotherapy drugs among B.Sc. nursing students in selected college.

Section 4.3: Mean and standard deviation of B.Sc. (N) students regarding their level of knowledge on chemotherapy drugs.

Section 4.4: Association between level of knowledge with selected demographic variables.**SECTION 4.1: Frequency and percentage distribution of knowledge on chemotherapy drugs according to the demographic variables.**

This section deals with frequency and percentage distribution of according to age gender type of family, family income, subject of interest, year or semester, family history of cancer, previous exposure to chemotherapy drugs, source of information regarding to chemotherapy drug preparation

Table 4.1.1: Frequency and percentage distribution of knowledge on chemotherapy drugs according to the demographic variables

n=165

S.NO.	SAMPLE CHARACTERISTICS	FREQUENCY (f)	PERCENTAGE (%)
1.	Age (in years)		
a.	18-19	10	12.5%
b.	20-21	122	70.5%
c.	22 and above	33	17%
2.	Gender		
a.	Male	24	14.5%
b.	Female	141	85.5%
3.	Type of family		
a.	Nuclear family	135	81.8%
b.	Joint family	30	18.2%
4.	Family Income		
a.	Rs.11,000–20,000	33	20%
b.	Rs.21,000-30,000	34	20.6%
C	Rs.31,000-40,000	30	18.2%
d	Rs.40,000 & above	68	41.2%
5.	Subject of Interest		
a.	Medical Surgical Nursing	61	36.9%
b.	Community Health Nursing	15	9.3%
C.	Obstetrics & Gynecology	41	24.8%
d.	Mental Health Nursing	24	14.5%
e.	Child Health Nursing	24	14.5%

6.	Year / Semester		
a.	3 rd Year	82	49.7%
b.	5 th Semester	83	50.3%
7.	Family history of cancer		
a.	Yes	18	10.9%
b.	No	147	89.09%
8.	Exposure to chemotherapeutic drugs		
a.	Yes	9	5%
b.	No	156	95%
9.	Source of information		
a.	Books	80	48.5%
b.	Clinical experience	71	43%
c.	Other source	14	8.5%

The above table 4.1.1 depicts majority of the sample 70.5% belongs to the age group of 20-21years, regarding gender majority 85.5% comes in female, majority are from nuclear family 81.8%, in case of family income 41.2% have 40,000and above, the participants who are interested in MSN is 36.9%, 50.3% are from third years, majority of them 89.09% were not having any family history of cancer, most of them 95% were not exposed to chemotherapeutic drugs and in case of source of information 48.5% were using books.

SECTION 4.2: Level of knowledge on chemotherapy drugs among BSc nursing students.

Table 4.2.1: Frequency and percentage distribution of students according to their level of knowledge.

Level of knowledge	Frequency	Percentage
Poor (1-8)	21	12.7
Average (9-16)	142	86.1
Good (17-24)	2	1.2
Total	165	100

The above table shows frequency and percentage distribution of level of knowledge. In students Average 142(86.1%) knowledge, Good 2(1.2%) of knowledge and Poor 21(12.7%) knowledge.

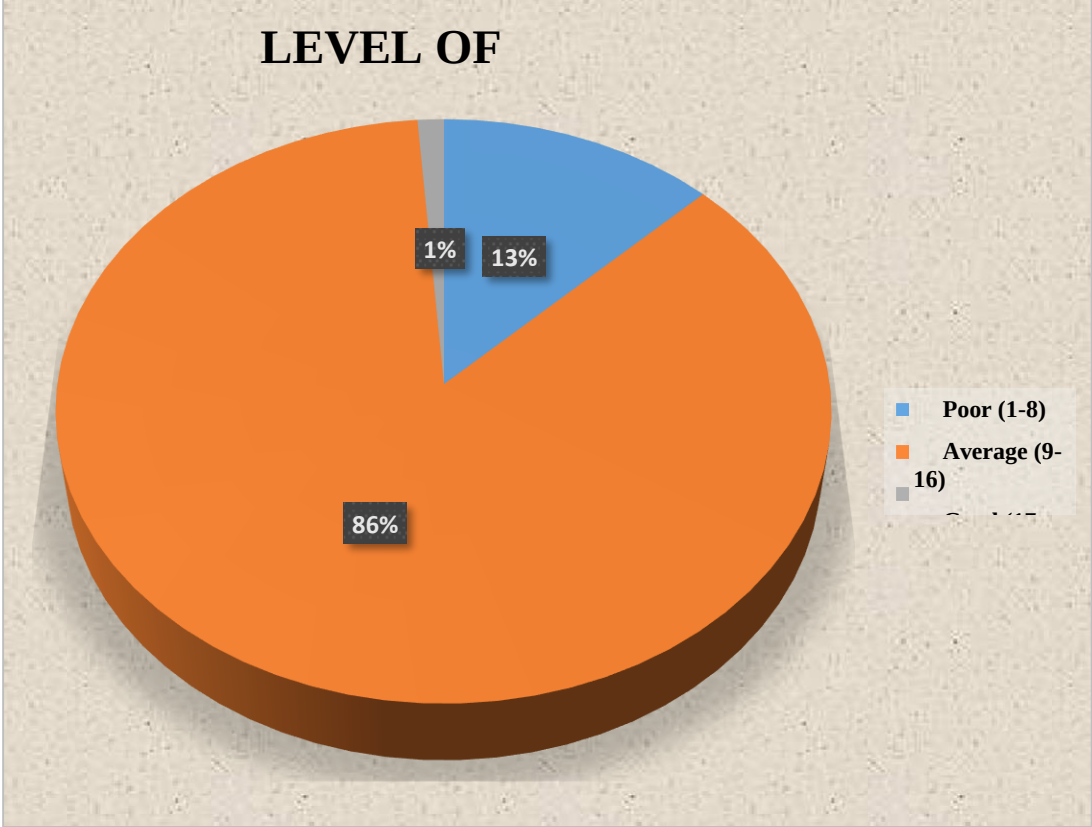


Figure 4.2.1: Frequency and percentage distribution of students according to their level of knowledge.

SECTION 4.3: Overall mean and standard deviation of students and regarding their level of knowledge on chemotherapy drugs.

Table 4.3.1: Mean and standard deviation of students regarding their level of knowledge (n=165)

AREA	MEAN	STANDARD DEVIATION
COLLEGE	11.28	2.447

SECTION 4.4: Association between level of knowledge with selected demographic variables.**TABLE 4.4.1: Association between the level of knowledge with their selected demographic variables**

S. No	Demographic Variables	Level of Knowledge			Chi Square Value	df	Table Value	Significance
		Poor (1-8)	Average (9-18)	Good (19-24)				
1.	Age of the Students							
	a)18-19 years	-	8	-	6.198	2	5.99	S*
	b)20-21 years	16	105	1				
	c)22 and above	3	32	-				
2.	Gender							
	a) Male	6	16	-	0.180	1	3.84	NS
	b) Female	13	127	1				
3.	Type of family							
	a) Nuclear Family	15	119	1	0.180	1	3.84	NS
	b) Joint Family	5	25	0				
4.	Family Income							
	a) Rs.11,000-20,000	5	26	-	2.135	3	7.82	NS
	b) Rs.21,000-30,000	4	29	-				
	c)Rs.31,000-40,0000	2	29	-				
	d)Rs.40,000-&more	9	60	1				
5.	Subject of Interest							
	a) MSN	8	51	1	4.370	4	9.49	NS
	b) COHN	1	15	-				
	c) OBG	7	29	-				
	d) MHN	1	25	-				
	e)CHN	1	26	-				
Year/ Semester								
6.	3 rd year	16	66	1	0.270	1	3.84	NS
	5 th semester	4	78	-				
7.	Family History of Cancer							
	a) Yes	0	21	0	0.534	1	3.84	NS
	b) No	17	126	1				
8.	Previous Exposure to Chemotherapeutic Drugs							
	a) Yes	0	7	0	1.388	1	3.84	NS
	b) No	17	126	1				

9.	Source of Information							
	a) Books	4	73	1	1.112	2	5.99	NS
	b) Clinical exposure	12	65	-				
	c) others	2	8	-				

From the above table the age of students calculated chi square value is 6.198 is greater than table value 5.99 at 2 degree of freedom at $p > 0.05$ level of significance. Which shows there is a significance association between level of knowledge with selected demographic variable.

For, Demographic variable all the calculated chi square value is less than Table Value $P > 0.05$, it shows there is no significance

SUMMARY

This chapter deals with the analysis and interpretation of data obtained from 165 BSc nursing students from selected college Hyderabad. The data was processed and analyzed based on objective and hypothesis formulated for the purpose of the study.

Demographic data was compared with the help of descriptive statistics using frequency, percentage, mean and standard deviation, the association between the knowledge and selected demographic variables by the chi square statistics.

CHAPTER V RESULTS, DICUSSION, IMPLICATION, SUMMARY, CONCLUSION, NURSING IMPLICATION AND RECOMMENDATION

This chapter deals with the discussion, summary of the study and its findings and conclusion, implications, limitations, and recommendations of the study.

DISCUSSION

For the present study Descriptive research design was used in which the researcher investigated the level of knowledge regarding chemotherapy drugs among BSc nursing students in selected college. The study was conducted at Apollo College of Nursing, Jubilee Hills, Hyderabad. the data was collected from 165 students. A Non-probability Sampling Technique was used for selection of sample. A Self Structured Questionnaire method on chemotherapy drugs. The research tool has 2 parts, part 1 consist of Demographic variables, part 2 consists of knowledge regarding chemotherapy drugs a standardized tool consists of 24 questionnaires to assess the knowledge.

Study was very informative and interesting. It provides valid data regarding level of knowledge on chemotherapy drugs and association between knowledge on chemotherapy drugs.

SUMMARY

The study was a new learning experience for the investigator. It was a hand on experience to apply and practice the fundamental principles of research has a scientific method. The investigator imbibed all the teachings of theory and practice while conducting the study. The investigators found it satisfying in conducting this study and helped spread of knowledge on chemotherapy drugs.

STATEMENT OF THE PROBLEM:

“A study to assess knowledge regarding chemotherapy drugs among BSc nursing students in selected college Hyderabad Telangana.”

THE OBJECTIVES OF THE STUDY:

1. To assess the level of knowledge regarding chemotherapy drugs among BSc nursing students.
2. To find out the association between the knowledge regarding chemotherapy drugs among BSc nursing students with their selected demographic variable.

RESEARCH HYPOTHESIS

H1: There will be significant association between knowledge of students on chemotherapy drugs and selected demographic variables.

RESEARCH METHODOLOGY

For the current study the sampling technique is Non-Probability Purposive Sampling Technique and sample size is 165. The data is collected through Structured Knowledge Questionnaire and Interview Schedule method is used. The data analyzed through Descriptive-Frequency Percentage and Inferential statistics – chi square test.

Major findings of the study:

- According to the age of students of the students 73.9% (122) belongs to the age group of 20-21 years.
- According to the level of knowledge on students 86.1% (142) has average knowledge, 12.7% (21) has poor knowledge and 1.2% (2) has good knowledge.

THE FIRST OBJECTIVE OF THE STUDY

To assess the level of knowledge regarding chemotherapy drugs among BSc nursing students.

In this out of 165 students have 86.1% (142) belongs to average knowledge 12.7% (21) belongs to poor knowledge and 1.2% (2) belongs to good knowledge.

Anil Vijayan (2020) conducted a study on knowledge regarding chemotherapy drugs in Bhuvneshwar. Total sample were 60 collected by non-probability sampling technique the study reveals that among 60 students 40% had moderately adequate knowledge 33% of them had inadequate knowledge.¹⁰

THE SECOND OBJECTIVE OF THE STUDY

To find out the association between the knowledge regarding chemotherapy drugs among B.Sc. nursing students with their selected demographic variables.

Dr. R. K. Sharma, (2018) conducted a descriptive study to assess the level of knowledge regarding chemotherapy drugs among BSc Nursing students in a selected college from North India. The study result found that the majority of students (60%) had inadequate knowledge regarding chemotherapy drugs. The level of knowledge was significantly associated with age ($p < 0.05$) and gender ($p < 0.05$).

In relation to the age of students ($\chi^2 = 6.198$) is greater than the table value 5.99 at a degree of freedom 2 significant at the level of significance $p > 0.05$ level and none of other demographic variable is associated with the level of knowledge with selected demographic variables.

There is a significant association between the level of knowledge with selected demographic variables.

Hence, H1 is retained.

CONCLUSION

The present research project was concluded among 165 students to assess the knowledge regarding chemotherapy drugs among BSc nursing students at selected college in Hyderabad Telangana. The data was collected by using self-structured questionnaire. The study result was analyzed using descriptive and inferential statistics. Out of 165 participants 86.1% had average knowledge 12.7% had poor knowledge 1.2% had good knowledge.

The result of the study revealed that there is significance of knowledge with the demographic variable – Age.

NURSING IMPLICATIONS

The investigator has forwarded the following implications from the study which is of crucial for nursing practice, nursing education, nursing administration and nursing research.

NURSING EDUCATION

Nursing curriculum should adequately equip nursing students with Knowledge and skills towards chemotherapy drugs handling & preparation, Hygiene techniques, Side Effect, dietary Supplements during chemotherapy, disposal method for chemotherapy waste & types of chemotherapy drugs.

NURSING PRACTICE

The student Nurse should ensure with the knowledge & skills regarding chemotherapy drugs which are helpful to plan, organize and implement health tasks and to update the Knowledge of the chemotherapy drugs.

Nurses and Nursing students who know about chemotherapy handling and preparation and its side effects they can manage effectively and also; they can teach the clients about it.

NURSING ADMINISTRATION

Nursing administration should provide necessary facilities and opportunities for nursing Students & staff to equip them with knowledge regarding handling, side Effects and preparation of Chemotherapy drugs.

NURSING RESEARCH

The research should be focused on the knowledge and skills of student nurses regarding the preparation of drugs and handling techniques of chemotherapy drugs. Nursing students should have adequate knowledge about the chemotherapy drugs.

RECOMMENDATIONS

- ❖ The researcher presents strong recommendation to the students to involve actively participate in survey. The study recommends the following for the future research.
- ❖ This study can be conducted to assess side effects of chemotherapy and handling of chemotherapy drugs.
- ❖ This study can be conducted as experimental study.
- ❖ This study can be conducted in a large scale.
- ❖ This study can be conducted to compare knowledge between students and staff nurses.

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