



EFFECTIVENESS OF PLANNED TEACHING PROGRAMME ON SAFE HANDLING OF CHEMOTHERAPY DRUGS AMONG STAFF NURSES

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ABSTRACT

Cancer is a group of disease characterized by uncontrolled growth and spread of abnormal cells. Chemotherapy drugs are one of the treatment modalities in cancer treatment. Planned teaching programmes about cancer and safe handling of chemotherapeutic drugs provide the nurses to safeguard themselves as well as patients. a pre-experimental design, was used to assess the effectiveness of planned teaching programme on safe handling of chemotherapy drugs among staff nurses in oncology ward. 30 samples were selected by using convenient sampling technique. The investigator assessed the Pretest level of knowledge by using questionnaire. Then the nurses were administered planned teaching programme regarding safe handling of chemotherapy drugs. After that 7th day post test was conducted. The Data were analysed by using descriptive and inferential statistics. The results shows there is a difference in the level of knowledge before and after administration of planned teaching programme, it was statistically significant at (p<0.001) (SPASS 21 version) The study concludes that planned teaching programme effective in improving the nurses knowledge in administering chemotherapy drugs.

KEYWORDS: Cancer,Chemotherapy, Planned teaching programme, Safe handling, Modalities



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INTRODUCTION

Cancer is a disease process that begins when an abnormal cell is transformed by the genetic mutation of the cellular DNA. This abnormal cell proliferate abnormally and rapidly and changes occur in surrounding tissue. This can be spread to other areas of the body to form (Metastasis) cancer spread in other parts of the body. According to American Cancer Society (ACS), Cancer is a group of disease characterized by uncontrolled growth and spread of abnormal cells. If the spread is not controlled, it can result in death. Incidence data were collected by the National Cancer Institute (Surveillance, Epidemiology, and End Results [SEER] Program), the Centers for Disease Control and Prevention (National Program of Cancer Registries), and the North American Association of Central Cancer Registries. Mortality data were collected by the National Center for Health Statistics. In 2016, 1,685,210 new cancer cases and 595,690 cancer deaths are projected to occur in the United States¹In India, in 2011, nearly 1,193,000 new cancer cases were estimated; a higher load among females (603,500) than males (589,800) was noted. It is estimated that the total number of new cases in males will increased from 0.589 million in 2011 to 0.934 million by the year 2026. In females the new cases of cancer increased from 0.603 to 0.935 million.)²The goal of cancer treatment is cure, control, or palliation. The goals of cure, control and palliation achieved through the four treatment modalities for cancer, surgery, Chemotherapy, radiation therapy and biologic therapy. Consequently the attitude towards cancer has become a more positive one bright with hopes of recovery. The use of chemicals as a systemic therapy for cancer has been evolving over the past several decades. In the 1940s chemotherapy was its infancy. In 1970s chemotherapy was established as effective treatment modality for cancer. It is very important to know the specific guidelines for administration of chemotherapeutic drugs. In addition, it is important to understand that drugs may be hazardous for health care professionals. Cytotoxic drugs, sometimes known as antineoplastic, anticancer or cancer chemotherapy drugs are defined as hazardous drugs)³Chemotherapy is administered intravenously, orally or intrathecally Without taking proper precautions,

by some nurses and other health workers can be exposed to the drugs. Recent studies shows an increase in the potential risk due to occupational exposure to cytotoxic drugs. Nurses are more prone to get exposure to chemotherapy agents while administering the drugs. To evaluate practices for compounding antineoplastic drugs, the NIOSH Health and Safety Practices Survey of Healthcare Workers was conducted among members of professional practice organizations representing primarily oncology nurses, pharmacists, and pharmacy technicians. not always wearing two pairs of chemotherapy gloves (85% 47% respectively)⁴Risks to health professionals from hazardous drugs in Iran: a pilot study of understanding of healthcare team to occupational exposure to cytotoxics conducted and the results shows Almost all nurses reported the use of a safety cabinet during preparation, however only 55 % reported that they have annual medical checkups and 45 % reported having received specialized training..⁵recent environmental studies have demonstrated measurable drug contamination on surfaces even when recommended guidelines are followed. It is therefore imperative that healthcare workers are aware of the potential hazards of antineoplastic agents and employ the recommended precautions to minimise exposure. potential risks associated with exposure to cytotoxic drugs for healthcare staff. The safe-handling precautions required in the storage, preparation, transport, administration and waste disposal of cytotoxic drugs are presented.)⁶Educational programmes about cancer and safe handling of chemotherapeutic drugs provide the nurses to safeguard themselves as well as patients. It includes guidelines of administration, and manifestation of toxicity, appropriate intervention. In addition the health care professional must be familiar with the medication, mode of action, side effects an appropriate administration and disposal procedure.

MATERIAL AND METHODS

RESEARCH DESIGN

A pre experimental design, one group pretest post test design was used to assess the Effectiveness of planned teaching programme on safe handling of chemotherapy drugs among staff nurses.

Table1
Schematic Representation of the Research Design

Group	Pre test	Intervention	Post test
I	O ₁	X	O ₂

Group I- The patients with Bronchial Asthma in Experimental group.

O₁-Pre test assessment of level of knowledge regarding safe handling of chemotherapy drugs

X – Planned teaching programme.

O₂- Post test assessment of level of knowledge regarding safe handling of chemotherapy drugs

VARIABLES

Independent variable

Planned teaching programme on safe handling of chemotherapy drugs

Dependent variable

Knowledge of staff nurses regarding safe handling of chemotherapy drugs

Setting

The study conducted at Saveetha Medical college and Hospitals, Thandalam. It is a 1200 bedded Multi speciality Hospital. In Oncology ward per month 30-40 patients get admitted.

Population

The population was the staff Nurses working in Oncology ward. The target population for the present study comprised of staff nurses with less than 5 year of experience working on oncology ward.

Sample

The samples in the study were staff nurses with less than 5 years of experience in oncology ward at Saveetha Medical college at Hospital.

Sample size

The Total sample size of this study was 30 nurses in oncology ward.

Sampling technique

Non Probability - Convenient Sampling was used to select the samples for this study.

Sample selection criteria**Inclusion criteria**

- Staff Nurses working in oncology ward.
- Staff nurse with less than five year of experience
- Who are willing to participate.

Exclusion criteria

Staff Nurses with more than five years of experience in oncology ward.

Tool and scoring procedure**Part I: Demographic Data**

This section consisted of 08 items seeking personal information such as Age, Gender, religion, professional qualification, years of experience, confident level in administering chemotherapy drugs, source of Information regarding safe handling of chemotherapy drugs.

Part - II: Knowledge questionnaires

The knowledge questionnaires consisted of 20 items on knowledge aspects Such as introduction about cancer and chemotherapy, routes of exposure, adverse effects, and Personal protective equipments used in handling chemotherapy drugs, and safe handling of chemotherapy drugs.

Score

- >15-Adequate knowledge
- 11-15-Moderate knowledge
- >10-Inadequate knowledge

Development of Planned Teaching Program (STP)

A Planned teaching program was prepared based on the assessed learning

Needs of the nurses. The steps followed in construction of the STP were

- Referred related literature regarding safe handling of chemotherapy drugs.
- Prepared the contents of STP
- Established content validity of the STP

Data collection procedure

The main study was conducted for 2 weeks at Saveetha Medical college and Hospital. Chennai. Formal permission was obtained from the authority to conduct the study. A the investigator first selected the samples by using inclusion criteria. 30 samples were selected by using convenient sampling technique. Oncology ward staff Nurses selected for this study. After the sample selection informed consent was obtained from each sample and after the general instructions the investigator collected the demographic data by structured interview schedule. The investigator assessed the Pretest level of knowledge regarding safe handling of chemotherapy drugs by using questionnaire. Then the nurses were administered planned teaching programme regarding safe handling of chemotherapy drugs. After that 7th day post test was conducted. The Data were analysed by using descriptive and inferential statistics SPASS(21version)

RESULTS

Table 1
Frequency and percentage distribution of demographic variables of staff Nurses working in oncology ward

Demographic Variables	Experimental Group	
	No.	%
Age		
20 - 25 years	16	53.33
26 - 30 years	8	26.66
>30 years	6	20
Gender		
Male	28	93.33
Female	2	6.66
Religion		
Hindu	10	33.33
Christian	20	66.66
Muslim	-	-
Others	-	-
Professional Qualification		
GNM	8	26.66
Bsc(N)	18	60
P.B.Bsc(N)	4	13.33
Experience in years		
0-1year	22	73.33

Demographic Variables	Experimental Group	
	No.	%
2-3years	6	20
4-5 years	2	6.66
Confident level in administering chemotherapy drugs		
Yes	26	86.66
No	4	13.33
Source of Information		
Electronic	18	60
Print	2	6.66
Research	2	6.66
Workshop	6	20
Others	2	6.66

Table 2
Frequency and percentage distribution of pretest and post test level of Knowledge of Staff nurses regarding safe handling chemotherapy drugs

Level of knowledge	Adequate knowledge >15		Moderate knowledge 11-15		Inadequate knowledge <10		Mean	S.D
	No.	%	No.	%	No.	%		
	Pretest	10	33.33	17	56.66	3		
Post Test	26	86.67	4	13.33	-	-	22.83	1.89

Table 3
Effectiveness of planned teaching programme on level of knowledge on safe handling of chemotherapy drugs among staff nurses.

Test	Experimental Group		
	Mean	S.D	't' value
	Level of Knowledge	Pretest 23.50	1.69
	Post test 22.83	1.89	P=0.001, S

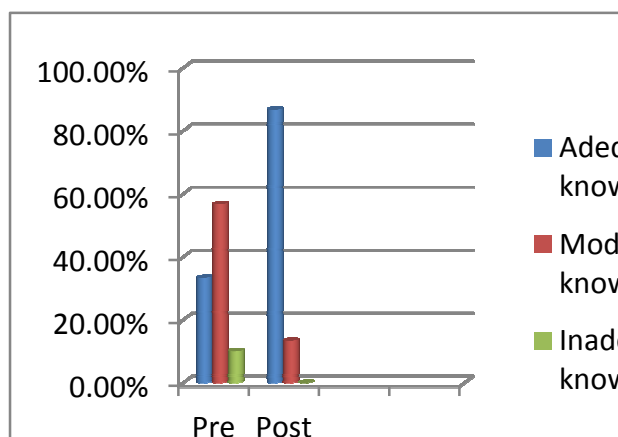
*** p<0.001, S – significant

Table 4
Association between post-test score in knowledge level of staff nurses with their selected demographic variables

Sl. No	Demographic variables	Characteristics	Knowledge			Chi square
			Inadequate	Moderate	Adequate	
1.	Experience in Years	a.0-1yrs		4	18	$\chi^2=26.22$ p = 11.34 S**
		b.2-3 yrs		-	6	
		a) c.4-5 yrs		-	2	
2.	Confident level	a. Yes		-	26	$\chi^2=13.12$ p = 9.12 S**
		a) b. no		4	-	

S-Significant, NS-Significant

Graph1
Frequency and percentage distribution of pretest and post test level of Knowledge of staff nurses regarding safe handling chemotherapy drugs



DISCUSSION

The present study was conducted to assess the effectiveness of planned teaching program on knowledge of nurses regarding safe handling of chemotherapy drugs at saveetha medical college and Hospital, Thandalam. In order to achieve the objectives, a pre-experimental approach and one group pre test and post test (pre experimental) design was adopted and convenient sampling technique was used to select the samples. The study was conducted over a period of 2 weeks. The data was collected from 30 staff nurses with less than five years of experiences at saveetha medical college and Hospital, Thandalam by using the structured questionnaires followed by administration of structured teaching program. After seven days post test was conducted.

The findings of the study are discussed under following headings.

Section I

Demographic characteristics of nurses.

Section-II

Knowledge level of nurses regarding safe handling of chemotherapy drugs through pre and post test.

Section-III

Comparison of pre test and post test knowledge regarding safe handling of chemotherapy drugs.

Section-IV

Association of post-test knowledge scores with the demographic variables of nurses.

Major findings of the study

1. The pre test mean and standard deviation score was 23.50 ± 1.69 and the post test mean and standard deviation score was 22.83 ± 1.89
2. Major findings show that there is a difference in the level of knowledge before and after administration of planned teaching programme among Staff nurses working in oncology ward. It was statistically significant at ($p < 0.001$).
3. There was a significant association between experience in year, confident level and the post test level of knowledge among staff nurses working in oncology ward, other demographic variables are not significant.

CONCLUSION

The findings of the present study have implications in the field of nursing education, nursing practice, nursing administration and nursing research. It is the responsibility of each individual to take care of their own health. The effectiveness of planned teaching programme if established can be used as an informational mode to staff nurses, student nurses and the care providers. Every student nurses should be encouraged to do the safe handling techniques of cancer drugs and thus will get acquainted to this method. The skill will also be developed by practicing it.

CONFLICT OF INTEREST

Conflict of interest declared none.

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