

“A Pre-Experimental Study To Assess The Effectiveness Of Planned Teaching Programme On Knowledge Towards Safe Handling Of Chemotherapeutics Drugs Among Staff Nurses In Lakshya Cancer Hospital Lucknow”

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Abstract

Background: Cancer is the group of more than 200 diseases characterized by uncontrolled and unregulated growth of cells. It is the major health problem that occurs in people of all ethnicities. Although, cancer is often considered a disease of aging, with the majority of cases diagnosed (76%) in those over the age of 55 years, it occurs in people of all ages. Globally cancers accounts for 5.1% of total disease burden and 12.5% of all deaths. Chemotherapy is a kind of treatment that uses drugs to attack cancer cells. It is called a "systemic treatment" since the drug, entering through the blood stream, travels throughout the body and kills cancer cells at their sites. The drugs may rarely be intended to have a local effect, but in most cases, the intention is to destroy cancer cells wherever they may exist in the body. Since chemotherapy also affects normal actively dividing cells such as those in the bone marrow, the gastrointestinal tract, the reproductive system and in the hair follicles, most patients experience some degree of side effects like nausea, vomiting, hair loss, mouth sores, ulcers.

Methods: A sample of 60 staff nurses from Lakshya Cancer Hospital was selected by non-probability purposive sampling technique. Data was collected by administering structured questionnaire before and after the administration of PTP. Data was analysed using descriptive and inferential statistics and represented in graphs and tables.

Results: Results revealed that 23.33% of the respondents had poor knowledge regarding safe handling of chemotherapeutic drugs before the administration of planned teaching programme. But after the administration of planned teaching programme 50% of them had good knowledge. The mean post-test scores of 16.6 was higher than the mean pre-test scores of 12.95 which was significant at P-value of 0.00001 level which showed significant increase in knowledge and thus it proves the effectiveness of the planned teaching programme.

Conclusions: The study showed that there was a significant improvement in the knowledge scores after the administration of planned teaching programme. Hence it can be concluded that the planned teaching programme was effective in improving the knowledge of staff nurses on prevention of safe handling of chemotherapeutic drugs.

Keywords: PTP-planned teaching programme, effectiveness, knowledge, safe handling of chemotherapeutic drugs.

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I. Introduction

Cancer, is multidisease phenomenon and the word cancer came from the ‘Father of Medicine’, Hippocrates, a Greek physician. Hippocrates used the Greek words, Carciones and carcinoma to describe tumours, thus killing cancer ‘Karkinos’. In Greek the words refer to ‘carb’. It is also found in the animal kingdom is most of the multi cellular animals like mammals, fish, reptiles and amphibians.

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. Cancer therapy has progressed rapidly in the last half of the 20th century. Many cancers once considered incurable are now controlled with the discovery of different methods like surgery, radiation, and chemotherapy. Consequently, the attitude towards cancer has become a more positive one bright with hopes of recovery. The era of cancer therapy began in the 1940 with the first use of nitrogen mustards and folic acid antagonist drugs. At the turn of century Paul Ehrlich, who coined the term chemotherapy and was named the “Father of Chemotherapy”. The

modern era of chemotherapy was initiated by the discovery of the effective use of estrogen in prostate and breast cancer.

Chemotherapy is now a mainstay of cancer therapy used in the treatment of most of solid tumours and hematologic malignancies like leukaemia's, lymphomas, myeloma and myelodysplastic syndromes. One of the primary responsibilities of the nurse in the delivery of chemotherapy is to ensure that the correct dose of the appropriate drug is given to the appropriate individual. Despite the fact that safeguards are in place, serious medication errors do occur. Such tragic events are regrettable but not so remarkable when one considers the number of chemotherapy doses given and the number of patients treated. The overall medication error rate is estimated to be 2-10%. However, one recent survey revealed that 63% of the respondents reported that errors had occurred at their workplace. In addition, only 3% of the errors were reported to drug manufacturers or national databases though most were reported internally.

Objectives

The primary objective was to assess the knowledge of staff nurses regarding safe handling of chemo therapeutic drugs. Secondary objectives were to determine the effectiveness of planned teaching program on knowledge regarding safe handling of the chemotherapeutic drugs and to find the association between pre-test knowledge regarding safe handling of chemotherapeutic drugs and selected variables.

II. Methods

Research approach, design, study variables, setting, population & duration

One group pre-test post-test design without control group was selected.

Target & accessible population

Residents of Hospital, receiving planned teaching programme during the period of study.

Sample size & sampling technique

Sample size was 60 & Convenient sampling technique was used.

Tools for data collection, analysis & intervention

Tool 1 Self structured questionnaire which includes demographic variables. Tool 2 Structured Knowledge questionnaire to get exact and complete information from the subject. Descriptive and inferential statistics was used for data analysis. Intervention was pre-test followed by post-test.

Inclusion Criteria

The study included the participants who were; Staff nurse for Lakshya Cancer Hospital who were willing to participate and got PTP.

Exclusion Criteria

The study excluded staff nurses of Lakshya Cancer Hospital who were not willing to participate in the study.

Data Collection Process

In data collection process, systematic methods were used for gathering information relevant to the research. In this study, data collection was done at Lakshya Cancer Hospital, Lucknow. Firstly, ethical permission was obtained from concerned authority.

The method of data collection adopted for the study was structured self-administered Questionnaire. The participants of the study were 60 peoples who were selected as per the convenient sampling method. As per part of the study, Pre-test was conducted by distributing the questionnaire and instructions were given on answering the question and doubts were clarified, After the pre-test planned teaching programme was administered of the staff nurses at Charak Hospital. On 10th day post test was conducted by giving the same structured knowledge self-administered questionnaire.

III. Results

Distribution of Staff Nurses in relation to their Demographic Variables

The findings showed that; majority of the subject, i.e. 13 were between 18-20 (21.67%), 29 were between 21-25 (48.33%), 14 were between 26-30 (23.33%) and 4 were between 30-40 (6.67%) years of the age group. Also, 19(31.67%) were male and 41(68.33%) were female. With regard to the education standard 12(20%) were from GNM nsg, 30(50%) were from P.bsc nsg, 17(28.33%) were from Bsc nsg, 3(5%) were from m.sc nsg. In nsg experience 13(21.67%) were from >2yrs, 15(25%) were from 2-4 yrs, 19(31.67%) were from 4-6 yrs, 13(21.66%) were from <6yrs.

Table1: Frequency & percentage distribution of Staff Nurses in relation to their Demographic Variables

Demographic Variable	(n=60)	
	f	%
Age		
18-20	13	21.67
21-25	29	48.33
26-30	14	23.33
31-40	4	6.66
Gender		
Male	19	31.66
Female	41	68.33
Professional Qualification		
ANM	12	20
GNM	30	50
P.Bsc	15	25
B.Sc Nursing	3	5
M.Sc Nursing	0	0
Experience		
<2 yrs	13	21.66
2-4 yrs	15	25
4-6 yrs	19	31.66
>6 yrs	13	21.66
Training Workshop		
Yes	26	43.33
No	34	56.67
Training on cancer		
Yes	33	55
No	27	45

Distribution of Staff Nurses according to their knowledge regarding safe handling of chemotherapeutic drugs (Pre Test)

The findings showed that; The majority of samples 32 (53.33%) had average knowledge, 14 (23.33%) had poor knowledge, 14 (23.33%) had good knowledge and none had excellent knowledge.

Table2: Frequency & percentage distribution Pre Test knowledge scores

Level of Knowledge	(n=60)	
	f	%
Poor	14	23.33
Average	32	53.33
Good	14	23.33
Excellent	0	0.00

Distribution of Staff Nurses according to their knowledge regarding safe handling of chemotherapeutic drugs (Post Test)

The findings showed that majority of sample 30 (50%) had good knowledge, 21 (35%) had average knowledge, 5 (8.33%) had poor knowledge and 4 (6.67%) had excellent knowledge.

Table3: Frequency & percentage distribution Post Test knowledge scores

Level of Knowledge	(n=60)	
	f	%
Poor	5	8.33
Average	21	35
Good	30	50
Excellent	4	6.67

Effectiveness of PTP on knowledge of staff nurse safe handling of chemotherapeutic drugs ‘Z’ Test value

The mean of pre-test and post-test scores were 12.95 and 16.6 respectively and standard deviation of pre-test and post-test were 2.94 and 3.34 respectively.

Table4: Comparison between pre-test and post-levels of knowledge

Knowledge	Mean	SD	MD	SED	Z Value
Pre Test	12.95	2.94	3.65	0.17	1.50
Post Test	16.6	3.34			

Association Between the Level of Knowledge with Selected Demographic Variables

Table5: Frequency, Percentage and χ^2 distribution on level of knowledge among staff nurses with their demographic variables

Demographic Variables	Level of Knowledge					Table Value	χ^2	Significance Level
	Poor	Average	Good	Excellent	Df			
Age								
18-20	2	10	1	0	9	16.92	175.52	Significant
21-25	1	24	3	1				
26-30	1	10	1	2				
31-40	1	1	1	1				
Gender								
Male	3	14	1	1	3	7.82	441.25	Significant
Female	2	34	3	2				
Professional Qualification								
ANM	2	8	2	0	9	16.92	109.65	Significant
GNM	2	23	2	1				
P.Bsc	1	15	1	0				
B.Sc Nursing	0	0	1	2				
M.Sc Nursing	0	0	0	0				
Experience								
<2 yrs	1	10	1	1	9	16.92	252.14	Significant
2-4 yrs	1	10	3	1				
4-6 yrs	2	14	1	2				
>6 yrs	1	10	1	1				
Training Workshop								
Yes	1	12	10	3	3	7.82	113.07	Significant
No	4	14	10	6				
Training on cancer								
Yes	2	19	10	2	3	7.82	164.05	Significant
No	3	14	8	2				

IV. Discussion

To assess the knowledge of staff nurses regarding safe handling of chemo therapeutic drugs

In the domain of pre-test knowledge score among the staff nurses majority had average knowledge 53.33%, poor knowledge 23.33%, good knowledge 23% and no excellent knowledge regarding safe handling of chemotherapeutic drugs. The mean score for pre-test level of knowledge among staff nurses of safe handling of chemotherapeutic drugs Lakshya Cancer Hospital is 12.95 with standard deviation 2.94 In the domain of post-test knowledge score among the staff nurses majority had good knowledge 50% and average knowledge 35% & excellent knowledge 6.67% regarding the safe handling of chemotherapeutic drugs. The mean score for post-test level of knowledge among staff nurses is 16.6 with standard deviation 3.34.

To determine the effectiveness of planned teaching program on knowledge regarding safe handling of the chemotherapeutic drugs

Comparison between the pre-test and post-test knowledge Z test value =1.50. Tabulated value of Z test at 5% level of significance. So, Z test of pre-test and post-test of calculation > 0.05 level of significance. Z calculated > Z tabulated.

Hence H1 is accepted that means PTP is effective & there is significant difference between the pre-test and post scores of the staff nurses. These findings are consistent with the study findings of M.K. David, (2009) conducted a study to assess the effectiveness of education programme on safe handling of chemotherapeutic drugs. in selected nursing college in Bangalore. 74 100 samples participated in the study. Pre-test, the knowledge scores were poor, fair and satisfactory for 42.3%, 57.6% and 0.1% of the total sample respectively. These rates improved in the post-test to 0.2%, 42.8% and 57.0% respectively after the introduction of teaching programme. Thus, the introduction of teaching programme brought a subsequent gain in the knowledge of care givers.

To find the association between pre-test knowledge regarding safe handling of chemotherapeutic drugs and selected variables

Association was done between Post Test Scores and Selected Demographic Variable such as gender, age, professional qualification, experience, did you have attend any in-service training/workshop on cancer chemotherapy, did you attend any specific training for preparation and administration of cancer chemotherapy. Shows there is significant association between subject education of post test scores and Demographic variables.

Limitations

Some limitations were found by the researcher during the research study period such as the study sample was small and cannot be generalized. Also, the study period was limited.

V. Conclusion

The main purpose of the study was to assess the effectiveness of planned teaching programme regarding safe handling of chemotherapeutic drugs. Before the administration of planned teaching programme no one was in excellent category but after the administration of PTP most of the staff nurses were in a excellent category, so i concluded that PTP ensured the increase in knowledge of the residents which was beneficial for them. Finding of this study in relation to other earlier conducted studies also showed that other teaching strategies like video assisted teaching programme, pamphlets, computer assisted learning etc are helpful in increasing the knowledge of the residents.

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