

A Study to Assess the Effectiveness of Structured Teaching Program on Knowledge and Practices regarding Preparation and Administration of Chemotherapeutic Drugs among Staff Nurses in Sassoon General Hospital, Pune

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Abstract: Cancer is the second leading causes of fatality among adults worldwide. In India, the International Agency for Research on Cancer has indirectly estimated that about 635, 000 people have died from cancer in 2008, representing about 8% of all estimated global fatalities from cancer and about 6% of all deaths in India. Chemotherapy may be used to achieve control over the disease by preventing or slowing down the growth of a malignant tumor and thus prolonging survival. **Methods:** A one group pre - test post - test design used in present study. To evaluate the effectiveness of the structured teaching Programme on knowledge and skill among staff nurses regarding administration of chemotherapy. A total of 30 samples were selected for study. Purposive sampling technique was used for present study. **Results:** The study finding displayed an increase in the knowledge level and skill level following the structured teaching program. In this study, the statistical analysis showed that there was an association between previous knowledge on intravenous administration of chemotherapy and educational status. There was positive correlation seen between pre and post - test level of knowledge and skill among nurses. **Conclusion:** This study finding showed that structured teaching program was helpful in improving knowledge and skill among nurses preparing and administering intravenous chemotherapy.

Keywords: Chemotherapy, Nurses, Cancer, Knowledge, Skill.

1. Introduction

Cancer is the second leading causes of fatality among adults worldwide. In India, the International Agency for Research on Cancer has indirectly estimated that about 635, 000 people have died from cancer in 2008, representing about 8% of all estimated global fatalities from cancer and about 6% of all deaths in India. Cancer prevalence in India is estimated to be around 2.5 million, with over 800, 000 new cases observed each year. The absolute number of cancer fatalities in India has been projected to increase because of population growth.

Chemotherapy may be used to achieve control over the disease by preventing or slowing down the growth of a malignant tumor and thus prolonging survival and it may be used palliatively in the management of symptoms such as pain or breathlessness.

Chemotherapy administration is primarily the responsibility of a registered nurse who has specific knowledge about the pharmacology and dosing of the drug as well as competence in preparation, administration and management of toxicity. Chemotherapeutic drugs are associated with serious side effects, including carcinogenicity and teratogenicity. Health care workers who handle antineoplastic drugs can be exposed to low doses of the drug by direct contact, inhalation and injection and could be at risk for some of the same side effects associated with the therapy. It is essential that any health care provider working with cytotoxic drugs follow the occupational safety and health administration guidelines to prevent injury to self and others

It is very important to know the specific guidelines for administration of chemotherapeutic drugs. In addition to understanding that, drugs may pose an occupational hazard to health care professionals who do not follow safe handling guidelines.

Nurses must be aware of the safe handling of chemotherapeutic drugs, which include assessment of drug preparation, administration and disposal. "It is clear that nurses remain at risk of exposure. Many dont have adequate knowledge about the effects because they are not aware of the literature, while others may be aware of the problem and are either very concerned about it, or they believe that their workplace is safe.

A descriptive cross - sectional study was conducted for determining the knowledge and practice on oral care among the patients receiving chemotherapy a total of 102 respondents, visiting B. P. Koirala Memorial Cancer Hospital, Bharatpur Chitwan. A structured and semi - structured interview schedule consisting of questions related demographic characteristics, knowledge and practice were used. The study result shows that the knowledge on oral care was adequate among 23.4% of the respondents and 18.6% of the respondents had adequate practice receiving chemotherapy. Only 28.4% respondents had adequate knowledge, among total respondents 60.7% of the respondents had adequate knowledge on the prevention of oral problems and 55.8% of the respondents had adequate knowledge on treatment of oral problems. Nurses were found as a main source of information on oral care. Thus the study also concluded that adequate knowledge on oral care

should be provided to the patients before undergoing chemotherapy.

Objectives

- 1) Assess the existing knowledge among nurses administering intravenous chemotherapy.
- 2) Assess the skill among nurses administering intravenous chemotherapy.
- 3) Evaluate the effectiveness of structured teaching program on knowledge and skill among nurses administering intravenous chemotherapy.
- 4) Find an association between pretest evaluation of nurses regarding administration of intravenous chemotherapy and their selected demographic variables. .

Hypothesis

H1: There will be a significant improvement in the level of knowledge of the nurses administering intravenous chemotherapy before and after the implementation of the structured teaching program.

H2: There will be a significant improvement in the skills of the nurses administering intravenous chemotherapy after the implementation of the structured teaching program.

H3: There will be a significant association between pre - test knowledge and skills of the nurses with their selected demographic variables.

H4: There will be a significant relationship between knowledge and skills of the nurses on intravenous administration of chemotherapy in pre and post - test. .

2. Methodology

The research design selected for this study was one group pre and post- test design; it is a type of quasi experimental design. The study was conducted among nurses posted in medical, surgical, oncology and special ward, of Sassoon General Hospital, Pune. The staff nurses working in medical, surgical, oncology and special ward of Sassoon general Hospital were selected for study. Purposive sampling technique was used. Free sampling method was adopted for selecting the sample.

The instrument used for the collection of data was structured knowledge questionnaire and check list. The validity of the tool has been determined by expert opinion from different fields along with the objectives of the study. Data collection

was done from 22 - 11 - 2018 to 26 - 11 - 2018. The samples were selected from medical, surgical, oncology and special ward in Sassoon General Hospital, Pune. Data was collected using structured questionnaire and check list.

The data collected was analyzed in terms of frequency, percentages, paired 't' test and co - efficient of correlation and presented in the form of table and graph.

3. Results

Table 4.1: Frequency and percentage distribution of nurses according to their demographic data, n=30

Demographic data	Frequency	Percentage (%)
Age (in years)		
a) 21 - 30	08	26.66
b) 31 - 40	19	63.33
c) 41 - 55	03	10
Gender		
a) Female	30	100
b) Male	-	0
Educational status		
a) ANM	-	0
b) GNM	26	86.66
c) B. BSc. Nsg	03	10
d) M. Sc. Nsg	01	3.33
Years of experience		
a) Less than 2 years	01	3.33
b) 2 - 5 years	07	23.33
c) Above 5 years	22	73.33
Enrollment in Chemotherapy training program		
a) Yes	-	0
b) No	30	100

The above table 4.1 shows 30 nurses were selected for the study, among them 08 (26.66%) members were between the age 21 - 30 years, 19 (63.33%) of them were 31 - 40 years of age and 03 (10%) of them were 41 - 55 years of age. .30 (100%) of them are female nurses, among them 26 (86.66%) nurses have a diploma in GNM 03 (10%) nurses have a degree in B. B. Sc. Nursing and the remaining 01 (3.33%) have a post - graduation degree in M. Sc. Nursing.01 (3.33%) staff nurses have less than2 years of experience, 07 (23.33%) of them having 2 - 5 years and the remaining 22 (73.33%) members have above 5years of experience. All nurses have not attended any training program regarding intravenous administration of chemotherapy.

Table 4.4: Area wise pre and post - test knowledge scores of Nurses' on intravenous administration of chemotherapy, n = 30

Areas	Max. Score	Pre - test			Post - test			Difference in mean percentage
		Mean	SD	Mean (%)	Mean	SD	Mean (%)	
Knowledge on Chemotherapy	07	3.5	1.04	50	4.96	0.88	70.85	20.85
Chemotherapy Drugs	08	3.5	1.11	50	4.77	1.25	59.62	9.62
Safe handling of drugs	03	1.8	0.67	60	2.56	0.50	85.33	25.33
Drug Administration	07	2.07	0.78	29.50	3.67	1.15	52.42	22.92
Management of chemotherapy Complications	05	2.13	0.97	42.60	2.97	1.07	59.4	16.80
Overall score	30	13	1.04	43.33	18.93	1.51	63.10	19.77

Area wise pre and post - test knowledge scores of the nurses' on intravenous administration of chemotherapy tabulated above, shows that out of 30 (maximum obtainable score), the mean score was 12.63 ± 2.65 which is around 42.10% of the total score, implying a moderately adequate

knowledge for the nurses in pre - test where as the post - test results show a mean score of 19.70 ± 7.21 which is around 65.67% of the total score. The overall difference in mean percentage is 23.57%, which is a significant improvement

Table 4.5: Area wise pre and post - test skill scores of nurses regarding intravenous administration of chemotherapy, n = 30

Areas	Max. score	Pre - test			Post - test			Difference in mean percentage
		Mean	SD	Mean (%)	Mean	SD	Mean (%)	
Preparation of Drugs	20	8.23	1.38	41.15	18.43	0.90	92.15	51
Administration of drugs	20	6.37	1.03	31.85	19.47	0.68	97.35	65.5
Overall score	40	14.6	1.91	36.5	37.90	1.15	94.75	58.25

Area wise pre and post - test skill scores of nurse' on intravenous administration of chemotherapy shows that out of 40 (maximum obtainable score), the mean score was 14.6 ± 1.91 which is 36.5% of the total score, shows a moderately skilled by the nurses in pre - test where as in post - test the mean score was 37.9 ± 1.15 which is 94.75% of the total score which shows highly skilled. The overall mean difference in percentage is 58.25%.

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4. Recommendations

The present study recommends the following.

- A similar study can be replicated on a larger sample size.
- A comparative study can be undertaken the control group and the experimental group.
- A comparative study can be done among staff nurses administering intravenous chemotherapy from selected hospitals.

5. Conclusion

This study finding showed that structured teaching program was helpful in improving knowledge and skill among nurses preparing and administering intravenous chemotherapy.

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