A STUDY TO EVALUATE THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING OCCUPATIONAL HEALTH HAZARDS AND ITS PREVENTIVE MEASURES DURING ADMINISTRATION OF CHEMOTHERAPY AMONG NURSES WORKING IN NM HOSPITAL AT COIMBATORE

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ABSTRACT

Aim and objectives: To evaluate the effectiveness of the structured teaching programme on knowledge regarding occupational health hazards and its preventive measures during administration of chemotherapy of nurses working in NM hospital, Coimbatore. **Materials and methods:** Pre experimental one group pretest posttest design was used in this study. Non-probability purposive sampling technique was used. The sample size was 50. Self administered questionnaire regarding occupational health hazards and its preventive measures during administration of chemotherapy was used to evaluate the effectiveness of structured teaching programme on knowledge regarding occupational health hazards and its preventive measures during administration of chemotherapy among nurses. **Results:** This study revealed that the obtained 't' value was 20.8 was more than the table value (2.008) at 0.005 level of significance. Hence the stated hypothesis was accepted and it was inferred that the structured teaching programme was effective in improving the knowledge level of occupational health hazards and its preventive measures during administration of chemotherapy. There was a significant association between pretest level of knowledge score with selected demographic variables.

KEYWORDS

Evaluate, Structured teaching programme, Occupational health hazards and Chemotherapy.

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INTRODUCTION

Cancer is the uncontrolled growth of abnormal cells in body. The treatment of cancer with chemotherapeutic drugs started in early 20th century[1]. Chemotherapy (often abbreviated to chemo and sometimes CTX or CTx) is a category of cancer treatment that uses one or more anti-cancer drugs (chemotherapeutic drugs) as part of a standardized

chemotherapy regimen. Chemotherapy may be given with a curative intent (which almost always involves combinations of drugs), or it may aim to prolong life or to reduce symptoms (palliative chemotherapy). Chemotherapy is one of the major categories of the medical discipline specifically devoted to pharmacotherapy for cancer, which is called medicaloncology[2].

The term chemotherapy has come to connote non-specific usage of intracellular poisons to inhibit mitosis, or cell division. The connotation excludes more selective agents that block extracellular signals (signal transduction)[3]. The development of therapies with specific molecular or genetic targets, which inhibit growth-promoting signals from classic endocrine hormones (primarily estrogens for breast cancer and androgens for prostate cancer) are now called hormonal therapies. By contrast, other inhibitions of growth-signals like those associated with receptor tyrosine kinesis are referred to as targeted therapy.

Importantly, the use of drugs (whether chemotherapy, hormonal therapy or targeted therapy) constitutes systemic therapy for cancer in that they are introduced into the blood stream and are therefore in principle able to address cancer at any anatomic location in the body[4]. Systemic therapy is often used in conjunction with other modalities that constitute local therapy (i.e. treatments whose efficacy is confined to the anatomic area where they are applied) for cancer such as radiation therapy, surgery or hyperthermia therapy.

Traditional chemotherapeutic agents are cytotoxicby means of interfering with cell division (mitosis) but cancer cells vary widely in their susceptibility to these agents[5]. To a large extent, chemotherapy can be thought of as away to damage or stress cells, which may then lead to cell death if apoptosis is initiated. Many of the side effects of chemotherapy can be traced to damage to normal cells that divide rapidly and are thus sensitive to anti-mitotic drugs: cells in the bone marrow, digestive tract and hair follicles. This results in the most common side-effects of chemotherapy: myelosuppression (decreased production of blood cells, hence also immunosuppression), mucositis (inflammation of the lining of the digestive tract), and alopecia (hair loss). Because of the effect on immune cells (especially lymphocytes), chemotherapy drugs often find use in a host of diseases that result from harmful over activity of the immune system against self (so-called auto-immunity). These include rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis, vasculitisandmanyothers[6].

Statement of the problem

A study to evaluate the effectiveness of structured teaching programme on knowledge regarding occupational health hazards and its preventive measures during administration of chemotherapy among nurses working in NM hospital at Coimbatore.

Objectives

To assess the knowledge regarding occupational health hazards and its preventive measures during administration of chemotherapy among nurses on the basis of pretest and post-test score.

To evaluate the effectiveness of the structured teaching programme on knowledge regarding occupational health hazards and its preventive measures during administration of chemotherapy among nurses working in NM hospital, Coimbatore.

To find an association between pre-test knowledge level regarding occupational health hazards and its preventive measures during administration of chemotherapy of nurses with their selected demographic variables like age, education, occupation, working experience, awareness about adverse effects, following any preventive measures, following any protocols for using protective equipments.

Hypothesis

H1

There will be a significant difference between pre and post-test level of knowledge regarding occupational health hazards and its preventive measures during administration of chemotherapy among nurses.

H2

There will be a significant association between pre-test level of knowledge score with their selected demographicvariable.

MATERIAL AND METHODS
It was an evaluative study. Pre experimental one group pretest post test design was used in this study. Non-probability purposive sampling technique was used. The sample size was 50. Self administered questionnaire regarding occupational health hazards and its preventive measures during administration of chemotherapy was used to evaluate the effectiveness of structured teaching programme on knowledge regarding occupational health hazards and its preventive measures during administration of chemotherapy among nurses. The samples were selected by using non probability purposive sampling technique on the basis of selection criteria. Informed consent was taken from the respondent. On the same day by using self administered knowledge questionnaire, the pretest knowledge was assessed. The second day intervention was given by the researcher in which the investigator developed interventional strategy like structured teaching programme on Knowledge regarding occupational health hazards and its preventive measures during administration of chemotherapy among nurses which will be given for 45 minutes for one day. Post test was done on 7[th]day by using same tool to assess the knowledge level of the subjects. According to the objectives, the data were represented under the following section.

Section I
Data on distribution of demographic variables of nurses

Section II
Data on level of knowledge regarding occupational health hazards and its preventive measures during administration of chemotherapy among nurses

Section III
Data on effectiveness of structured teaching programme on occupational health hazards and its preventive measures during administration of chemotherapy among nurses working in NM hospital, Coimbatore.

Section IV
Data on association between the pre-test level of knowledge regarding occupational health hazards and its preventive measures during administration of chemotherapy among nurses with their selected demographic variables.

This study revealed that the obtained 't' value was 20.8 was more than the table value (2.008) at 0.005 level of significance. Hence the stated hypothesis was accepted and it was inferred that the structured teaching programme was effective in improving the knowledge level of occupational health hazards and its preventive measures during administration of chemotherapy. There was a significant association between pretest level of knowledge score with selected demographic variables.

Tables No.1 shows that, majority of the samples 44(88%) had in adequate knowledge, 5(10%) had moderate knowledge and 1(2) had adequate knowledge during pre test. But after the structured teaching programme, Majority of the samples 31(62%) had adequate knowledge 19(38%) had moderate knowledge and none of them have in adequate knowledge. The result revealed that after structured teaching programme, the level of knowledge was increased which has evidenced by improved post test level of knowledge score.

Ethical consideration
Research was conducted after the approval of research committee and hospital. The nature and purpose of the study was explained to the authorities of NM hospital, Coimbatore. Oral consent was obtained from the participants. Assurance was given to the study samples that the anonymity of each individual would be maintained strictly.

Statistical analysis
Frequency and percentage will be used for the distribution of samples based on their knowledge on occupational health hazards and its preventive measures during administration of chemotherapy among nurses. Mean and standard derivation will be used to assess pre and post-test knowledge regarding occupational health hazards and its preventive measures during administration of chemotherapy among nurses. Chi-square test will be used to find an association between pre-test on knowledge regarding occupational health hazards and its preventive measures during administration of chemotherapy among nurses with their selected demographic variables.

RESULTS AND DISCUSSION

Majority of the nurses 30(60%) comes under the age of 20-25 years. More than half of the samples 23(46%) were graduate nurse. Majority of the nurses 30(60%) were having 1-3 years of experience. More than half of the nurses 46(92%) were no taw are about health hazards and its preventive measures during administration of chemotherapy. Among the samples 47(94%) were not following preventive measures during administration of chemotherapy. Among the samples 45(90%) were not following protocols for using protective equipments during administration of chemotherapy.

This study shows that the obtained 't' value was 20.8 was more than the table value (2.008) and significant at p<0.05 level. Hence the stated hypothesis was accepted and it was inferred the structured teaching programme was effective in improving the knowledge level of occupational health hazards and its preventive measures during administration of chemotherapy.

Discussion

The study revealed that, regarding the knowledge the pre-test mean and standard deviation of the samples were (21.6) and the standard deviation of (2.8) respectively and Post-test mean was (34.7) and with the standard deviation of(4.3) the mean different was (13.1.).

This study showed that the obtained 't' value was 20.8 was more than the table value (2.008) at 0.005 level of significance. Hence the stated hypothesis was accepted and it was inferred the structured teaching programme was effective in improving the knowledge level of occupational health hazards and its preventive measures during administration of chemotherapy.

Limitations

This study was conducted only in a selected ward which imposed limitations in generalization of findings. It is difficult to gather all the staff nurses at the same time to conduct pre and post-test.
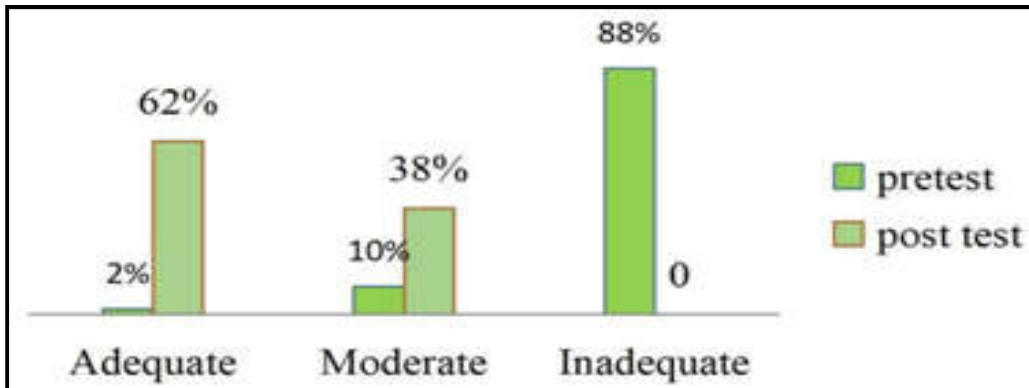
No follow-up was done after the post-test due to time constraint of the participants.

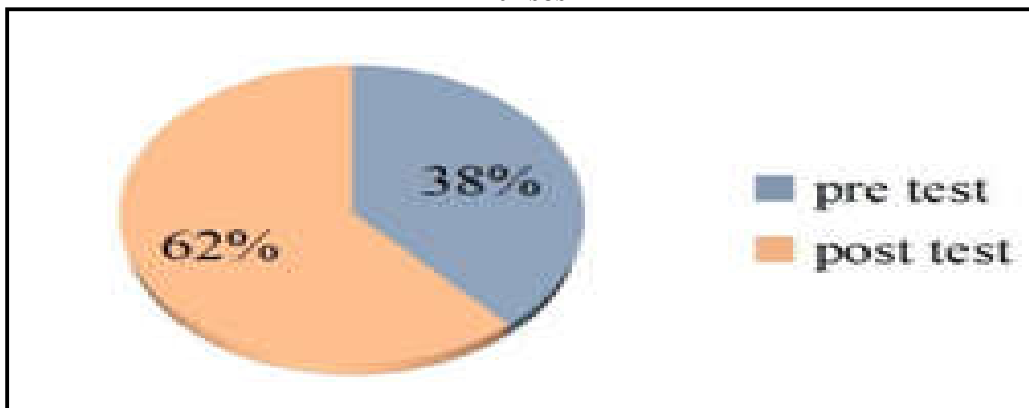**Table No.1: Scoring and interpretation of knowledge**

S.No	Level of knowledge	Pre-test		Post-test	
		Frequency (F)	Percentage (%)	Frequency (F)	Percentage (%)
1	Adequate knowledge	1	2	31	62
2	Moderate knowledge	5	10	19	38
3	Inadequate knowledge	44	88	0	0

Table No.2: Mean, standard deviation, mean difference and t' value of pre-test and post-test level of knowledge score among samples (n=50)

S.No	Variables	Mean	Standard deviation	Mean difference	Tabulated value	Calculated value 't'value
1	Pre-test	21.6	2.8	13.1	2.008	20.8*
2	Post-test	34.7	4.3			

Figure No.1: A cone diagram showing the percentage distribution of samples in terms of pre test and post test level of knowledge score regarding structured teaching programme on knowledge regarding occupational health hazards and its preventive measures during administration of chemotherapy among nurses

Figure No.2: A pie diagram showing the Mean value of pre test and post-test Level of knowledge score regarding structured teaching programme on knowledge regarding occupational health hazards and its preventive measures during administration of chemotherapy among nurses

CONCLUSION

The primary responsibility of a healthcare professional is to create awareness and to provide necessary information through continuous education which will help in developing a positive attitude. In this study, majority of the nurses had moderately adequate knowledge before structured teaching programme and after the structured teaching more than half of the nurses gained adequate knowledge. The study found that structured teaching program on occupational health hazards and its preventive measures during administration of chemotherapy has helped to develop additional knowledge about the same. Hence, structured teaching programme helps the nurses to be aware of the hazardous effects of chemotherapy so they may protect themselves as well as the patients.

SOURCE OF SUPPORT

None

CONTRIBUTORS

RA: Conceptualization of the study, collection, analysis of the data, writing the manuscript, finalized the manuscript and will act as the guarantor of the paper, **KD:** Conceptualization of the study, collection, analysis of the data, writing the manuscript, finalized the manuscript, edited and critically evaluated the manuscript; Edited and critically evaluated the manuscript.

CONFLICT OF INTEREST
None declared.

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