

“A study to assess the effectiveness of planned teaching programme on knowledge regarding safe handling of cytotoxic drugs among the nurses of selected hospitals of Sangli, Miraj, Kupwad Corporation area”.

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ABSTRACT

Background of the study: Protection of health care workers (HCWs) who are exposed to cytotoxic drugs is a global concern. Working in a chemotherapy unit increases the exposure of health care workers, especially nurses, to numerous hazardous materials if they do not protect themselves according to standard guidelines.

Objectives of study: To assess the knowledge of Nurses regarding safe handling of cytotoxic drugs and to assess the post-test knowledge of Nurses regarding safe handling of cytotoxic drugs. **Research Methodology:** The quantitative research approach used for study. A final study carried out on 60 samples from selected sample cancer hospital of sangli, miraj kupwad corporation area. In this study research design is one group pre-test and post-test design. The sampling method used was non- probability convenient sampling technique. The structured questionnaires were prepared for assessing the knowledge of nurses. The reliability of the tool was done by test retest method and the tool was found to be reliable. **Result and conclusion:** Result Showed that existing knowledge among nurses related to handling of cytotoxic drugs in hospital was 13.3% nurses with very poor knowledge, 46.7% nurses with poor knowledge, 30% nurses with good knowledge, 6.7% nurses have very good knowledge and 3.3% nurses have excellent knowledge, and after giving plan teaching programme to the nurses regarding safe handling of cytotoxic drugs the score of post-test was 83.22%. it concludes that planned teaching program was effective.

Key words: Effectiveness, Planned Teaching Programme, Safe Handling Of Cytotoxic Drugs, Nurses.

Introduction:

Cancer is second largest killer of the diseases next to the heart disease. The worldwide estimated at seven million with an annual mortality about five millions. It is projected that by the year 2020, two third of all cancer cases may occur in the developing countries .Cancer is a group of more than 200 disease characterized by uncontrolled and unregulated growth of the cells. It is major health problem occurs in people of all the

ethnicities. Although cancer is often considered as a disease of aging, majorities of cases (76%) diagnosed in those over the age of 55yrs .It occurs in people of all ages.

A new study was revealed that 17% of oncology nurses who work in outpatient chemotherapy infusion centres have had their skin or eyes exposed to the hazardous drugs they handle. Exposure to "second-hand chemo" can confer significant health risks, such as immediate nervous system effects, acute and long-term reproductive effects (e.g. infertility and miscarriage), and a subsequent risk for hematologic malignancies Evidence-based safe handling guidelines are critical to protect healthcare professionals who handle these drugs.

Evidence of the adverse effects of HD (hazardous drug) exposure has been available since the 1970's. Several chemotherapy agents were linked to secondary leukaemia and other cancers in patients who received antineoplastic agents for primary; un-related malignancies. This information was soon followed by concern that the risk might extend to healthcare workers exposed to the drugs in the course of their work.

Nurses must be aware of the safe handling of the chemotherapeutics, its classification, its action on cells and the safe handling and disposal to prevent the hazards. They must be conscious about their health.

Although there has been an increased awareness and concern regarding the issue of safe handling of CDs (cytotoxic drugs), many nurses still do not follow the guidelines and procedures in the hospital settings and are not using the recommended safety equipment.

Need for the Study:

Protection of health care workers (HCWs) who are exposed to cytotoxic drugs is a global concern. Working in a chemotherapy unit increases the exposure of health care workers, especially nurses, to numerous hazardous materials if they do not protect themselves according to standard guidelines. Occupational exposure may occur directly through preparation, administration and handling of drugs or indirectly through contact with contaminated surfaces and patients' secretions (e.g., urine, vomits, etc). Absorption of a cytotoxic drug may occur via the skin, mucous membrane or through the inhalation of drug particles. The exposed health care workers may suffer from nausea, vomiting, headache, vertigo, hair loss, abdominal pain, and skin and allergic reactions. Pregnant staffs run the risk of developing more serious complications including abortion, congenital anomalies and premature births. Carcinogenicity is the most serious side effect of cytotoxic drugs that would affect health care workers after long-term exposure to them even at miniscule doses.

Over the past decades, several standards, regulations and guidelines have been proposed to control occupational exposure to cytotoxic drugs those cover all aspects including administrative control, engineering control and personal protective equipment. impair the reproductive system and bring an increased risk of developing blood cancers in the future. These exposures are as dangerous to a nurse's health as being accidentally stuck with a needle. "Now a day's needle stick incidents have minimized so they are rare events that elicit a robust response from administrators Nurses must be aware of the safe handling of chemotherapeutic drugs,

Therefore, the occupational safety requirements in the management of cancer have motivated the researcher to conduct a study to determine the effectiveness of nurses administering chemotherapy through intravenous administration by providing them sufficient knowledge in the practice of chemotherapy.

Research Problem Statement:

“A study to assess the effectiveness of planned teaching programme on knowledge regarding safe handling of cytotoxic drugs among the nurses of selected hospitals of Sangli, Miraj, Kupwad Corporation area”.

Research Objectives:

1. To assess the knowledge of Nurses regarding safe handling of cytotoxic drugs.
2. To assess the post-test knowledge of Nurses regarding safe handling of cytotoxic drugs.

Operational Definition:

1. Assess

In the study it means response to the knowledge about the tool related to safe handling of cytotoxic drugs among the nurses in selected hospital.

2. Effectiveness

It refers to the extent to which the planned teaching programme has achieved the desired outcome as measured by gain in knowledge scores.

3. Planned Teaching Programme:

It refers to the set of teaching material prepared in English regarding safe handling of cytotoxic drug administration, developed by investigator and validated by the experts.

4. Knowledge:

It refers to the appropriate response by the staff nurses on knowledge regarding on safe handling of cytotoxic drug administration through structured interview schedule.

- 5. Safe handling:** It refers to the process in which health care workers to significantly reduce occupational exposure to hazardous drugs.

HYPOTHESES:

H₀- There will be no significant differences between the pre-tests and post-test knowledge score of staff Nurse regarding handling of cytotoxic drugs.

RESEARCH METHODOLOGY

Research approach:-

In the present study quantitative research approach is used to assess the effectiveness of plan teaching programme on knowledge regarding safe handling of cytotoxic drugs among the nurses of selected hospitals of sangli, miraj, kupwad corporation area.

Research Design:-

In the present study aim was to assess the effectiveness of plan teaching programme on knowledge regarding safe handling of cytotoxic drugs among the nurses of selected hospitals.

Keeping in view the objectives of the study the researcher selected one group pre-test post-test design for the study.

Variables:-

Based on the objectives of the study the variables were identified as

1. Independent variables:-

In the study independent variable is plan teaching programme.

2. Dependent variable:-

In this study the dependent variable is knowledge.

Study Setting: The present study settings were selected as per the need and criteria. The settings were the selected hospital of Sangli, Miraj and Kupwad corporation area from which for pilot study. Siddhivinayak Cancer Hospital and for main study, Horizon Hospital of Sangli.

Population:- The population for the present study comprises of nurses in selected hospitals.

Sample technique:- A study samples of nurses in selected hospitals that fulfil the criteria.

Non probability purposive sampling technique.

Sample size:-The Sample size was calculated by using power analysis. The present study consisted of 60 samples.

Sampling criteria:-

a) Inclusive criteria:-

1. Nurses who are available at the data collection.
2. Nurses who are willing to participate in study.

3. Nurses who understand English.

b) Exclusive criteria:-

1. Nurses who are participated in the similar type of the study.

Sampling Method:-

The sampling method used in the study is non- probability convenient study.

Data Collection Technique and Tool:

Description of tool: - The tool consists of two sections: Section 1) Demographic data Section 2) Questionnaire

Validity:

There are 13 experts did they contain validity of the tool the experts were selected from various fields based on the topics that is seven from medical surgical nursing one from psychiatric nursing two from gynaecology and obstruct nursing three from paediatric nursing.

After obtain they are guidance suggestions and the tool was modified whenever necessary after permission of the guide.

Ethical consideration:

Research proposal with data collection tool was presented in front of the ethical committee. After approval of the ethical committee pilot study and final study was conducted, where it was promised that there will be no discomfort or risk to the participants and the received informed consent and data will be kept confidential. The participates were voluntary participates can skip the study any period.

The prior permission from consultant authority was taken and inform written consent from each participates was taken. Procedure for data collection. A prior permission was taken from consultant authorities of selected hospitals of Sangli, Miraj Kupwad corporation area. Researchers visited the hospital and selected the samples as per criteria. Inform consent was taken from sample after explaining purpose and objective of the study. Pre-test was taken first then plan teaching programme done after seven days of plan teaching programme post test was conducted.

Plan for data analysis:

Based on the objectives of the study mean, SD was calculated to get pre-test and the post-test knowledge score. Paired t-test was used to pre and post-test knowledge score.

Reliability:

The reliability of the tool was determined by administrating the structured questionnaires to six samples by test, retest, and method with four days interval. Karl Pearson correlation coefficient formula was used for the estimation of reliability. The reliability coefficient 'r' of the questionnaires was 0.8 which is more than, 0.7 hence, it was found to be reliable

Pilot study:

The pilot study was conducted on six samples. The investigator approached the sample informed regarding the objectives of the study and obtained the consent after assuring about the confidentiality of data. The formal permission was obtained from the administrative head of the selective hospitals. Subjects were selected based on inclusion criteria. Pre-test was done then followed by planned. Teaching and post-test after seven days of plan teaching was done. Analysis done by using descriptive statistics and inferential statistics t-test in pilot study t value was -3.45 and p value was 0.04 which is less than 0.05 hence the tool was found feasible, and gave better insight to the investigator.

Plan for dissemination:

The study finding will be published in the required medical, conference, nursing journal and the dissemination will be planned in order to address the issue related to feasibility and communicate research finding effectively.

Analysis and interpretation of data**The Analysis of Data is Organised and Presented under the Following Headings:**

SECTION I: Description of sample according to demographic characteristics by frequency and percentage.

SECTION II: Analysis of data related to assess the effectiveness of planned teaching programme on knowledge regarding safe handling of cytotoxic drugs among the nurses of selected hospitals of Sangli, Miraj, Kupwad Corporation area.

Sr.No	Study conducted	Pre Test Date	Post Test Date
1.	Pilot Study	12 Jan 2019	19 Jan 2019
2.	Main Study	12 Feb 2019	19 Feb 2019

SECTION I: Description of sample according to demographic characteristics by frequency and percentage.

Table No. 1 n =60

Demographic variables	Frequency	Percentage
1. Age		
• < 25 Years	6	10
• 25-30 Years	10	16
• 30-35 Years	18	30
• 35-40 Years	14	23.3
• > 40 Years	12	20
2. Sex		
• Male	44	73.4
• Female	16	26.7
3. Educational Qualification		
• BSc	18	30
• GNM	28	46.7
• PB.BSc	14	23.3
4. Year of experience		
• 6 Months	18	30
• 6 Months above	24	70

Analysis of Main Study

Distribution according to the samples number mean and standard deviation or pre test and post test score of the nurses regarding the safe handling of cytotoxic drugs.

Table No.2

n = 60

Test	Mean	Standard deviation	Standard error	t-value	P value
Pre Test	6.233	2.7517	0.3552	-17.824	0.000
Post Test	12.483	1.396	0.1802		

The mean knowledge evaluated in pre-test and post test conducted on 60 samples and it showed significant increase in knowledge about safe handling of cytotoxic drugs after conducting plan teaching programme and the nurses have gained knowledge regarding safe handling of cytotoxic drugs.

DISCUSSION CONCLUSION AND RECOMMENDATION

MAJOR FINDINGS OF THE STUDY:-

As per the study aim the result Showed that existing knowledge among nurses related to handling of cytotoxic drugs in hospital was 13.3% nurses with very poor knowledge, 46.7% nurses with poor knowledge, 30% nurses with good knowledge, 6.7% nurses have very good knowledge and 3.3% nurses have excellent knowledge. And after giving plan teaching programme to the nurses regarding safe handling of cytotoxic drugs the score of post-test was 83.22%. Hence the null hypothesis was rejected; therefore: the planned teaching programme was effective.

DISCUSSION:

The findings of the presence study have been discussed as per the objectives of the study, the finding of the study shows that the interventions of the plan teaching programme was significantly effective to improve the knowledge among the nurses of hospital.

When compared together it was significantly found that there is highly significant difference among the pre-test and post test score.

IMPLEMENTATION:-

- **Nursing Education:-** The study reveals that the less educated nurses in not able to score more like less experienced staff or the GNM staff.
- **Community Health Nursing:-** The study can be implicated in various community setting, with different population of nurses, as the population is educated about the safe handling of cytotoxic drugs, thus the awareness of safe handling of the cytotoxic drugs will be created.

- **Child Health Nursing:-** As cancer can also affect in children, the study can be implicated on paediatrics.
- **Nursing Research:-** Nursing research is an essential aspect of nursing as it up lifts the profession, develops the new nursing norms and enhances the body of nursing knowledge the research can help in practising safe handling of cytotoxic drugs among nurses.

RECOMMENDATION:-

The present study reveals that most of the respondents have poor knowledge score regarding safe handling of cytotoxic drugs. The investigator suggest following recommendation for further research.

1. Study can be conducted on handling of drugs, except cytotoxic drugs.
2. The study can be conducted for the, complications of cytotoxic drugs.
3. Study can be conducted on the cancer disease.
4. Study can be conducted in community setting.

CONCLUSION:

Data analysis was done based on the objectives of the study, frequency and percentage score were used to finding the knowledge. This Study suggest that there were 30% from the age group of 30-35, whereas 23.3% were from age group of 35-40 years, 16% were from age group of 25-30 years, and only 10% from the age group of <25 years. From overall sample only 26.7% are males and 73.4% are females. There are 23.3% were P.B.BSc, 30% were BSc, 46.7% had GNM nurses. There were 30% who were below 6 months of experience, and 70% who had experience above 6 months.

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