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KNOWLEDGE OF ONCOLOGY NURSES REGARDING EXTRAVASATION RELATED CHEMOTHERAPY MANAEGEMENT

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Abstract

Aim. *The aim of the study was to assess the Knowledge of oncology nurses regarding extravasation related chemotherapy management.*

Methodology. *A descriptive cross-sectional research study design was used. Study used purposive sampling technique. The study population was staff nurses and sample size was 140.*

Results. *The study was descriptive cross-sectional so descriptive statistics was applied, frequency distribution was calculated, data normality was checked. The study reported that the knowledge participants with poor knowledge were 62 (42.8%), the participants with moderate knowledge were 33 (22.8%) and participants with good knowledge were 45(31.0%).*

Conclusion. *The study concluded that the majority of nurses having poor knowledge regarding extravasation related chemotherapy management.*

INTRODUCTION

Chemotherapy's role in the treatment of cancer is growing, particularly in conjunction with local therapy. Chemotherapy is also increasingly being used to alleviate cancer-related symptoms and extend life in advanced disease, where the tumor has spread from its original location. Therefore, despite its drawbacks, chemotherapy is an important treatment option in oncology and will probably remain so for some time.(Nygren, 2001). Chemotherapy drugs are categorized as vesicants or irritants. Vesicant drugs are considered more harmful because they have the potential to cause damage of vein and skin leading to tissue necrosis and blister formation. Regardless the powerful effect on chemotherapy treatment, it may cause many side effects that might affect the treatment plan, prognosis, and response to the treatment such as chemotherapy related-extravasation. {Hassan, 2022 #218}

Worldwide, it is estimated that 12.4 million new cases of cancer were reported in 2008, and 7.6 million people died from the disease. In developing nations, the incidence of cancer is steadily rising. These nations were responsible for approximately 60% of cancer-related deaths and more than half of new cases. By 2030, it is anticipated that cancer will be the cause of approximately 20 million new cases and 12.9 million deaths. In less developed nations, 75% of cancers will be common, according to estimates. The prevalence of various cancers varies significantly from region to region around the

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world.(Khan, Khowaja, & Ali, 2012). More than 6 million people worldwide die from cancer each year, making it the leading cause of death worldwide. Pakistan's disease rate is significantly higher than that of developing nations. Existing data on cancer incidence are unavailable because Pakistan does not have a daily cancer registry program at the national level; be that as it may, as indicated by the latest accessible appraisals from 2010, the frequency rate including all problems is 132.4/100,000 of guys and 133.0/100,000 for females. Pakistan lacks the physical and financial resources necessary to treat cancer, particularly in its advanced stages. A patient-to-nurse ratio of 1:113 is the result of a shortage of nurses, particularly oncology registered nurses, when patient volume rises. As a result, nurses are overworked and do not have enough opportunities to expand their knowledge and expertise due to limited funding.(Muhammad Ali, Pareveen, Hussain, Afzal, & Shaheen, 2021),

Extravasation refers to the unintended leakage of chemotherapy drugs into the surrounding tissue during intravenous infusion. If left untreated, extravasation can cause tissue damage, nerve damage, pain, and even disability.(Sharour, 2020a) Because of shortage in reporting and registration of chemotherapy extravasation events; the incidence of extravasation varies. It ranges from 1% to 6% worldwide {Sharour, 2020 #213.

Signs and symptoms associated with chemotherapy extravasation such as redness, swelling, pain, necrosis, burning sensation, and discomfort. In addition, resistance during drug infusion, slow infusion, and decrease blood return may be considered as predictors for extravasation.{Abd El-Salaheen, 2018 #217}

Several risk factors are associated with chemotherapy related - extravasation. Patient related factors such as age, fragile vein, obesity, lymphedema, peripheral vascular dieses, diabetes mellitus, and impaired sensory perception. Type of chemotherapy drug, device-related factors such as metal needles, large gage catheter, location of insertion, and health professional –related factors such as cannulation technique, lack of experience, lack of knowledge, lack of training, and nonadherence to the guidelines of chemotherapy administrations .{Abd El-Salaheen, 2018 #216}

The role of the Oncology Nurse in managing extravasation starts with the prevention of extravasation during chemotherapy administration. This is achieved through the use of appropriate insertion techniques, including the use of an appropriate vein.(Kreidieh, Moukadem, & El Saghir, 2016) Avoiding veins in the areas of joints and flexion points, and ensuring proper placement of the catheter(Eichenlaub, Eichenlaub, Shuck, & Paxton, 2021).

The nurse's knowledge is crucial for managing chemotherapy-related extravasation. The prevention of extravasation should be a priority for oncology nurses. This is achieved through proper training, the use of appropriate insertion techniques, and careful monitoring during infusion.(Nickel, 2019). In order to prevent, early detect, and minimize the chemotherapy related-extravasation; all oncology nurses (as bedside care providers) should be knowledgeable about extravasation risk factors, managements, and preventive measures. Moreover, continuous training of oncology nurses about recent evidence-based guidelines regarding chemotherapy handling is recommended..(Ghanem et al., 2015)Stop Infusion Immediately: Stopping the infusion immediately is the first step in managing extravasation. This can prevent further leakage of the drug into the surrounding tissue.(Kostogloudis et al., 2015). The nurses are still facing this issues of extravasation due to this issues increase the risk of health of the patient.

METHODS

A descriptive cross sectional study design was conducted to assess Knowledge of oncology nurses regarding extravasation related chemotherapy management.The purposive sampling techniques was used. The study population was staff nurses of Medical, surgical and oncology ward of Jinnah hospital Lahore .The setting of the study was jinnah hospital lahore.The duration of this study was 9 months.The study sample was 140 calculated through slovin's formula.

An adapted questionnaire of knowlede was used to gather the information from the study sample.The study was included all the nurses who have at least more than two year experience .Data was gather from all staff nurses working in Medical,surgical and

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oncology department of jiinah hospital. All the students nurses and intership nurses.Those nurses who are new in the job.Head nurses was excluded in the study.Data was collected an adapted questionnaire of Knowledge of oncology nurses regarding extravasation related chemotherapy management. After collecting data, the data was compute analyze by software program (SPSS) version (22).The ethical considrtion was followed which is organize by the superior university department of nursing**.** The participant all the confendentiality was ensure any participant who are not willing to participate can be withdraw from the study at any time. There will be no potential harm and potential benefits for the study.

CHAPTER ANALYSIS

Variable	Category	Frequency%
Age	21-25 years	39 (27.9%)
	26-30 years	53 (37.9%)
	31-35 years	33 (23.6%)
	36-40 years	15 (10.7%)
Gender	Male	8 (5.7%)
	Female	132 (94.3%)
Marital Status	Single	73 (52.1%)
	Married	67 (47.9%)
Experience	1-3 years	30 (21.4%)
	4-6 years	53 (37.9%)
	7-9 years	34 (24.3%)
	10-12 years	23 (16.4%)
Qualification	Diploma in Nursing	54 (38.6%)
	Post RN	50 (35.7%)
	BSN (Generic)	36 (25.7%)
Department	Medical ward	17 (12.1%)
	Surgical ward	55 (39.3%)
	Oncology ward/ OPD	67 (47.9%)

Table no 1. Demographic characteristics

This demographic table shows that majority of age group with 25-30 years. Majority population were female. The Majority with single marital status. Majority of nurses with 4-6 years' experience. Majority with Diploma in Nursing. Majority of nurses working were in OncologyOPD/ward.

Majority of the Participants have good knowledge regarding "**Any liquid that spills into the surrounding tissue**". Majority of the Participants have good knowledge regarding "**Infiltration of chemotherapy into the subcutaneous or subdermal tissues around the intravenous or intra-arterial administration site.**". Majority of the Participants have good knowlede regarding "**After 1–4 weeks, invasive ulceration can develop.**". Majority of the Participants have good knowledge regarding "**Choice of equipment (peripheral catheter choice, size, steel 'Butterfly' needle**". Majority of the Participants have poor knowledge regarding "**Aspire 5–10 ml of blood through the venous catheter to extract the maximum quantity of the extravasated drug.**".

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Table 2: Knowledge questionnaires

Questions	Respond	Frequency %
Any liquid that spills into the surrounding tissue	Correct	140 (100%)
	Incorrect	0 (0%)
Infiltration of chemotherapy into the subcutaneous or subdermal tissues around the intravenous or intra-arterial administration site.	Correct	140 (100%)
	Incorrect	0 (0%)
After 1–4 weeks, invasive ulceration can develop.	Correct	116 (82.9%)
	Incorrect	24 (17.1%)
Choice of equipment (peripheral catheter choice, size, steel 'Butterfly' needle	Yes	130(92.9%)
	No	10 (7.1%)
Aspire 5–10 ml of blood through the venous catheter to extract the maximum quantity of the extravasated drug.	Yes	19 (13.6%)
	No	121(86.4%)

DISCUSSION

Majority of Participants respond to correct option to the question that the "**Any liquid that spills into the surrounding tissue**" were 140(100%). Majority of Participants respond to true option to the question that the Hazards of oxygen therapy oxygen toxicity were 128%(81.5%). Majority of Participants respond to correct option to the question that "**Infiltration of chemotherapy into the subcutaneous or subdermal tissues around the intravenous or intra-arterial administration site".**was 140(100%). Majority of Participants respond to correct option to the question that "**After 1–4 weeks, invasive ulceration can develop".** were 116(82.9%). Majority of Participants respond to yes option to the question that the "**Choice of equipment (peripheral catheter choice, size, steel 'Butterfly' needle**" were 130(92.9%). Majority of Participants respond to no option to the question that the "**Aspire 5–10 ml of blood through the venous catheter to extract the maximum quantity of the extravasated drug.**"were 121(86.4%).

CONCLUSION

The current study concluded that the knowledge of nurses regarding extravasation related chemotherapy management is poor. This is need of the time to educate nurses and bring better knowledge regarding extravasation related chemotherapy management, so the patient care can improve and side effect due to malpractice should be minimize there is intense need to providing education and conduct training programs for enhancing the Knowledge of oncology nurses regarding extravasation related chemotherapy management**.**

LIMITATION

1.The current study used cross- sectional study design to identify Knowledge of oncology nurses regarding extravasation related chemotherapy management**.**

2.The Study is only focus to assess nurse knowledge of oncology nurses regarding extravasation related chemotherapy management.

3.The study sample was too small to generalize the study finding.

RECOMENDATION

- The current study investigate level of knowledge of oncology nurses regarding extravasation related chemotherapy management. The future researcher can work on the enhancement of knowledge to conducted experimental study by which they can assess knowledge to give the intervention for enhancement of knowledge of oncology nurses toward extravasation related chemotherapy management.
- The future researcher can play a part to implement education programs and familiar the nurses regarding the correct dose, duration and different delivery of chemotherapy administration through workshop, training programs, seminar, lecture and research.

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