Nurses knowledge about Management Extravasation Intravenous Cytotoxic Medication At Amal National Hospital in Baghdad City

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Abstract

Background: Extravasation, the unintentional leak of an anticancer agent from a vessel into the close tissues, is an uninvited and difficult problem that can lead to permanent local harms and severe disability.

Objectives: To assess nurse's knowledge about management extravasation vesicant intravenous cytotoxic medication.

Methodology: Descriptive design using a self-administered questionnaire was employed. At al-Amal national hospital for tumor treatment in Baghdad city from 2nd December 2018 to 10th February 2019). Random sampling method. The sample size was 45 nurses completed a questionnaire about management extravasation vesicant intravenous chemotherapy. Instruments**:** developed by the researcher consist of three sections the first section to assess the demographic data. And the second section questionnaire consists of 20 items divided into two parts to measure the information of team nurses on vesicant drug and management extravasation Vesicant intravenous chemotherapy. Data analysis by using the Statistical Package for Social Sciences version (SPSS) 23.0 included. (Frequency, percentage, Kruskal Wallis H test, Chi-square test, and Mann-Whitney U test). The level of significance was the threshold at $p<0.05$.

Results: shows that the high percentage (42.2%) of oncology nurses ages (30-39 years old). Most of them (57.8 %) were female. The education level represents (42.2%) of nurses were from nursing institute graduates, the high percentage (46.7%) of them their experience in oncology unite were (5-9) years. Mostly no training session. Inferential there are statistically significant between education levels groups the nursing college showed a higher mean knowledge score than other levels. also, a higher significantly difference was observed between mean knowledge and participate with Training courses by mean (36.40) The researcher decide that nurse's knowledge is the poor component about vesicant cytotoxic and management extravasation according to of assessment result

Conclusion: there is a need for structuring a permanent education program due to the poor scientific of nurse's knowledge about the vesicant and management of extravasation by chemotherapeutic drugs. Therefore, the issue of training courses should be highlighted for it is an effective role in improving the performance of nurses.

Keywords: *Nurses, knowledge Vesicant, Cytotoxic, Management Extravasation*

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Introduction

Broad chemotherapy works an essential part in curative therapy for patients with hematological

neoplasms and numerous categories of advanced fixed tumors. Most anticancer agents are managed intravenously. Extravasation, the unintentional leak of an anticancer agent from a vessel into the close tissues, is an uninvited and difficult problem that can lead to permanent local harms and severe disability [1, 2].Extravasation follows when a vesicant chemotherapeutic agent that has a possibility to cause burning leaks external the vein into the around tissues. This leakage could lead to management delays Finish of chemotherapy, tissue necrosis, a loss of Extremity deep tissue toxicities, and maybe a loss [3]. The rate of extravasation in adults is approximate to be in the range from 0. l to 6 % [4]. Then few findings report the prevalence on the origin of fixed data with an overall number of patients who received chemotherapy [5]. Extravasation can reason a diversity of non-specific symptoms, the severity of which can vary broadly. Any delays in discovering and treating extravasation may raise the chance of developing tissue harm and necrosis [6,7]. The extravasation as indicated by Erythema, swelling or hardening, the absence of blood return, increased resistance when managing a bolus, a decline in the infusion rate and Ulceration Vesicants can cause pain, edema, and erythema and potentially lead to blister and tissue necrosis when injected outside the vein or into the tissue. [7,8,9] .Classification of Anti-cancer drugs is grouped into three classifications according to their capability to cause tissue harm after being extravasated vesicants, irritants, and non-irritants [l0] .

Material and Method

A descriptive design study was conducted to measure staff nurse's information about management extravasation vesicant intravenous cytotoxic medications. At. Al-Amal National Hospital for tumors treatment in Baghdad city from 2nd December 20l8 to l0th February 20l9. Purposive sampling technique will be used in this study. Consist, 45 nurses, Moral issues: An agreement for research procedure was achieved from the Al-Amal National Hospital for the treatment of tumors, Health Department of the Medical City. Before data collection. The privacy of participants' information was confident, and the access to the information taken from the participants was controlled and not revealed outside the research panel. A questionnaire was established. To evaluate the information of team nurses concerning management extravasation vesicant intravenous cytotoxic medication, by using the broad publication of the literature. A scientific source was directed by using the search of the scholar, ''PubMed and the Cochrane library database'' for published clinical articles in professional and academic journals, including literature reviews, Systematic Reviews inclusively Only literature published in English was considered from The period covered was from 20 September to (lst November 20l8). The instrument used in the current study involves three sections. The primary section is socio-demographic variables involving nurse's gender, age, level of learning, Number of years working in oncology units and participated in a training course related to chemotherapy. And the second section is related to knowledge consists tow axis each axis consist of l0 items which covering knowledge about. Vesicant cytotoxic medication and management extravasation. The participants are requested to select one the following answer (correct, incorrect, or I don't know) and recoding answer, the true answer in the information axis taken (2) point while incorrect was (0) and don't know carried (l) mark. This gave a total score range of 0 - 40 for information questioners. The Validity was an evaluation by a panel of (l0) Experts they are (5 faculty members from the College of Nursing University of Baghdad, (4) experts from Al- Amal National Hospital, and (l) expert from College of Medicine University of Baghdad. The reliability was (.8l9) assure through the pilot study by Cronbach's alpha test. For analysis of data, Statistical Package for Social Sciences software, version 23.0 (SPSS) was used. Initially, all information gathered via questionnaire was Coded into variables and answers coded were incorrect (0) don know (l) correct (2). The normality of data was tested using the Kolmogorov-Smirnov test. Descriptive used Frequency, mean, Sander deviation and percentage .and inferential statistics involving Chi-square test, Mann-Whitney U test, Kruskal Wallis H test,

Results

The outcomes descriptive statistics for each demographic data were shows that the high percentage (42.2%) of oncology nurses ages (30-39 years old). Most of them (57.8 %) were female. The education level represents (42.2%) of nurses were from nursing institute graduates, the high percentage (46.7%) of them their experience in oncology unite were (5-9) years. The table also shows most of the nurses had no training session by (77.8%).

Table (1): Nurses' Knowledge and Management about Vesicant Cytotoxic Drugs.

Axis one	No	Questions	Correct F %	Incorrect F %	Don't know F %
Knowledge about vesicant cytotoxic drugs	l	Vesicant drug uses to treat different type of, cancer	9 (20.0%)	8 (l7.8%)	28 (62.2%)
	2	vesicant cytotoxic is a drug that causes ulceration and necrosis of tissues when they leak out of the vein	9 (20.0%)	l4 (3l.l%)	22 (48.9%)
	3	vesicant anticancer can be divided according to binding to DNA	l8 (40.0%)	l4 (3l.l%)	l3 (28.9%)
	4	Cisplatin is considered to be a vesicant when its concentration is more than 4%.	4 (8.9%)	l6 (35.6%)	25 (55.6%)
	5	When doxorubicin leaks out of the blood vessel, permanent deformation may occur	5 (ll.l%)	27 (60.0%)	l3 (28.8%)
	6	doxorubicin type drugs that cause problems and complications of cardiac toxicity	6 (l3.3%)	l4(3l.l%)	25 (55.6%)
	7	Dose Anthrax cline vesicant chemotherapy group is DNA Binding drugs	l4 (3l.l%)	l5 (33.3%)	l6 (35.6%)
	8	Dose (Dactinomycin, mitomycin mitoxantrone) is type of anthrax cline group	l3 (28.9%)	l3 (28.9%)	l9 (42.1%)
	9	Dose of Plant alkaloids group include(vincristine (VCR) Vindesine (VDS)	l6 (35.6%)	l9 (42.2%)	l0 (22.2%)
	l0	Docetaxel paclitaxel is a type Non-DNA Binding	2l (46.7%)	l0 (22.2%)	l4 (3l.l%)
		Average (F & %)	ll.5(25.58)	l5(33.33)	l8.5(4l.l2)

Axis tow	No.	Questions	Correct F %	Incorrect F %	Don't know F %
Knowledge about the management of vesicant extravasation	l	First step management is stop the infusion, but leave cannula in place	ll (24.4%)	7 (l5.6%)	27 (60.0%)
	2	Use of warm compresses in the case of extravasation vincristine	l4 (3l.l%)	l0 (22.2%)	2l (46.7%)
	3	Use of cold or warm compresses when extravasation depends on the type of vesicant chemotherapy drug.	l2 (26.7%)	l5 (33.3%)	l8 (40.0%)
	4	The nurse must guide the patient to exposure to the sun and avoid lifting the affected party after .vesicant chemotherapy extravasation	l6 (35.6%)	22 (48.9%)	7 (l5.6%)
	5	Before you starting vesicant chemotherapy IV infusion most	l4 (3l.l%)	l5 (33.3%)	l6 (35.6%)
	6	Forearm is the suitable place for insertion of peripheral cannula	l6 (35.6%)	9 (20.0%)	20 (44.4%)
	7	Successful cannulation at the primary stab decrease the chance of extravasation	l2 (26.7%)	l7 (37.8%)	l6 (35.6%)
	8	patients with diabetic are a famous chance than others to formed extravasation	l0 (22.2%)	l8 (40.0%)	l7 (37.8%)
	9	Patients ought to instructed to directly notify the staff	l4 (3l.l%)	8 (l7.8) %)	23 (5l.l%)
	l0	give antidote with needle size 25 or 27around extravasation around the e area subcutaneous at an angle 45c	l5 (33.3%)	l2 (26.7%)	l8 (40.0%)
		Average F& (%)	l3.4(29.78)	l3.3(29.56)	l8.3(40.68)

S. D= standard deviation: F = frequency: % = percent

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Table (2): Chi-square test Distribution and the associated level of nurse's knowledge and their demographic data

Variables		Level of knowledge		c2-value	P-value
		Poor no.	Good no.		
Gender	Male	7	l2	l.9l0	0.l6 NS
	Female	l5	ll		
Age	20-29	4	6	l.43l	0.69 NS
	30-39	9	l0		
	40-49	6	6		
	50-More	3	l		
Level education	Intermediate school	4	0	9.389	0.02**HS
	Secondary nursing school	8	4		
	Nursing institute	8	ll		
	Nursing college	2	8		
Years' work in oncology units	Less Than 5 Years	6	8	3.055	0.2l NS
	5 To 9 Years	l3	8		
	l0 And More	3	7		
Training courses	No	2l	l4	7.782	0.00**HS
	Yes	l	9		

: Highly Sig. at P<0.0l; S: Sig. at P<0.05; NS: Non Sig. at P>0.05; Testing based on a chi-square test Assessments Intervals Scales: poor = (0– 20) good = (2l – 40) p= probability value □2 = chi-square test

Table (3) Mean of score of Nurses' knowledge with Respect to Demographic Data

Variables	Categories	K. score M± SD l9.24±7.202	P-value
		Mean Rank	
Gender	Male	26.03	.l85 NS
	Female	20.79	
Age	20-29	2l.20	.766 NS
	30-39	25.03	
	40-49	22.83	
	50-More	l8.38	
Level education	Intermediate school	6.00	.00l** HS
	Secondary nursing school	l6.83	
	Nursing institute	24.79	
	Nursing college	33.80	
Years' work in oncology units	Less Than 5 Years	20.93	.l08 NS
	5 To 9 Years	20.7l	
	l0 And More	30.70	
Training courses	No	l9.l7	.000 **HS
	Yes	36.40	

(** HS) = Highly Significance. At P<0.0l, S= Sig. at P<0.05, NS= Non-Significance. At P>0.05, Testing based on a Mann-Whitney test and Kruskal Wallis H test. p= probability value, K-score = average knowledge score, M=mean, SD =stander deviation

Dissection

The total outcome of the study indicated that the participants have poor information; this paper is the initiative to evaluate the information concerning vesicant cytotoxic drugs extravasation between nurses. But there is one search for the general cytotoxic extravasation the current study differs from previously conducted studies in certain respects. First, knowledge specific for vesicant cytotoxic drugs. Secondly, a scoring system was developed and scores of participants for each domain were analyzed and correlated with various demographic factors This finding is risk for quality nursing care to patients cancer because if oncology nurses did not have logical knowledge and not capable in their skills will be reflected as unsafe nursing care to patients with cancer and chances for practical errors can be high as various studies in past already highlighted these points Nurses' awareness and information about the management vesicant of cytotoxic drugs remains a concern linked to improvement in safety standards. On the other hand, the result of the study indicated the ineffective function of continuing education in the hospital and the lack of interest in updates with scientific developments.

From result of present study, the characteristics of the demographic variables described that the participants were, mostly participation female (57.8%), and male (42.2) it disagree with study was all participation female [1] .with high percentage level 30-39 (42.2%) .The level of education included in the present study was (42.2%) of study group graduated from nursing institute included in their study which was conducted on l6 nursing team professionals who work in a hospital in the interior of the state of, Brazil hospital conduct to measure information of the nursing team about the prevention and management of extravasation of chemotherapy. it study different by classified sample according to Professional category. There are Nursing assistants (6.25%), Nursing Technician (3l.2%) and Nurse (62.5%). The present study has the Years of working in the oncology unit high present(46.7%) which is of (5-9) years due to the new appointment in the nursing career of nurses who participated in the study sample. [1] in this study, the majority of the study sample have (0-l0) years of experience Time of work in oncology. While another study was (7l.7%) 20–25 years of age group [2] . Concerning participation in training courses in the field of chemotherapy treatment, showed Low percentage of the group study which selected from Al-Amal center who participated in training courses is (22.2%). This result agrees with point of view who presented that (56.2%) of nurses had no participation in training courses with chemotherapeutic agents. This may be indicated lacking the role of continuing education units in center and some of the nurses do not interest to participate in training courses in their center [1]. Regarding Association of The Nurses Information and their Demographic Data, The outcome showed that there was no statistical significant associated between Nurses' Knowledge and their demographic data (age-gender Number of years working in oncology wards) at p-value > 0.05, thus Demographic variables have no influence on the level of knowledge of the staff nurses on management of extravasation this result is supported by [2] who assess the existing knowledge and practice of staff nurses on prevention and management of extravasation among Infant receiving I.V. Therapy, at hospital in India He found that there was no statistical significant associated between nurses Information and their demographic data (age gender and years' working in oncology wards)at p-value .0.05.

About demographic variables (level education and training courses) there are high statistical significant education level and training courses and nurses knowledge about management extravasation intravenous .it because of attending continuous nursing education courses and training have the advantages of preservation nurses up-to-date and refining their knowledge in oncology wards.

The total result of the current study shown that the participants have deficient knowledge, this result supported by [1]. Point of view that lack of technical and scientific knowledge about the prevention, identification, and treatment of extravasation by cytotoxic drugs. And study [3] conduct of the nursing staff in Barisal hospital. The review results show an information insufficiency, on the other hand, disagree with study [2] the study conducted in India to assess staff nurses of information and Practice on avoidance and treat of extravasation among Infant receiving I.V.

Conclusion

The present study indirect that the majority of the nurses need essential information about extravasations of non-cytotoxic drugs. This study prescribes that nurse's attendants need to take an interest in the additional inside and out instructive projects, given that learning lessons that can assist nurses to completely comprehend

distinguish the danger, avoid in addition manage the extravasations of no cytotoxic drugs.

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Conflict of Interest: None declared.

Ethical approval: The study was approved by the Institutional Ethics Committee.

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