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Assessment Nurses Knowledge toward Anticoagulation Therapy for Patients at Blood Disease Ward in Teaching Hospital in Baghdad city

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Abstract: *Cardiovascular diseases are a group of diseases that affect the cardiovascular system, specifically the heart and blood vessels. Their consequences are often sudden and unexpected, sometimes culminating in the death of the person.*

Objectives*: to assess of nurses knowledge toward anticoagulation therapy for patient at blood disease ward and to find out a relationship between nurses knowledge and some variables such as (educational level, year of experience, training course).*

Methodology*: A cross-sectional design study utilizing a stratified random sampling method. The sample consisted of (100) nurses who were systematically selected one by one. The data collected for each nurse during the period between February 7th to the 9th April 2017 .A questionnaire was developed and distributed to the respondents involved. The data collected was analyzed using SPSS version 17.0.*

Results: *the majority of the study were male who accounted for (57%) of the total participants while female constituted (43%). Most of the study participants (39%) were age over (26-30) years old. (44%) of the nurses were institutes graduate. Fifty eight percent of the nurses were married and fourthly seven percent were barely sufficient. Majority (68%) of nurses had training course.*

Conclusions: *findings of study demonstrate that, nurses have good knowledge about anticoagulation therapy domains.*

Keywords: *Knowledge, Nurses, Anticoagulation therapy, Blood disease*

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I. Introduction

Cardiovascular diseases are a group of diseases that affect the cardiovascular system, specifically the heart and blood vessels. Their consequences are often sudden and unpredictable, sometimes culminating in a person's death. The control of risk factors and effective management of the treatment regimen may contribute to reducing fatal and non-fatal complications of cardiovascular diseases [1]. Intravenous anticoagulants therapy are used under primary and secondary prevention of thromboembolic events, so there are a large number of patients using this type of medication prescribed for long periods of time. Effective management of the treatment system is important, where the condition is satisfactory , there is often a need to change lifestyles, which is not always accepted by patients, resulting in risks to health and the prevention of complications; at the same time, determining the appropriate therapeutic dose of these drugs is also complex [2]. Heparin is a naturally occurring anticoagulant produced by basal cells and mast cells. Heparin works as an anticoagulant, preventing the formation of clots and extension of existing clots within the blood. While heparin does not break down clots that have already formed (unlike the tissue stimulated by plasmogen), it allows the body to decompose natural mechanisms that function normally to break the clots formed [3] . Warfarin is used to prevent dangerous blood clots that can lead to heart attacks, strokes or even death. Warfarin is a major contributor to drug-related morbidity and mortality. Many of the clinical and healthcare system-related problems encountered during routine warfarin management are amplified in the period following a patient's discharge from hospital, further increasing the risk of adverse outcomes [4]. Heparin-induced thrombocytopenia is variable and is influenced by heparin synthesis and the clinical context in which heparin is administered. Future studies have documented an incidence of heparin induced thrombocytopenia among patients treated with unfractionated heparin that was 10 times the rate of infection among that receiving low molecular weight heparin [5]. Nurses need to be taught how to evaluate all sources of knowledge and must learn how to become critical thinkers, as this will increase the quantity and quality of nursing knowledge. Nurses also need, perhaps, to think about the elements of practice and learning from experience. It seems that reflective practice in vogue [6].

II. Methods

A cross-sectional descriptive and analytical study: to assess of nurses knowledge toward anticoagulation therapy for patient at blood disease in Teaching Hospitals. This study was conducted at Bagdad Teaching Hospital between December 8th 2016 up to the end of 5th March 2017. A tool of knowledge questionnaire was developed and distributed to the participants in this study. The sample consisted of (100) nurses at Baghdad Teaching Hospitals (Ghazi al-Hariri Teaching Hospital, Baghdad Teaching Hospital, AL. Kindly Teaching Hospital and Ibn al-Haytham Teaching Hospital). A questionnaire- interview format was designed and developed by the researcher for the purpose of the study; such development was employed through the available literature, clinical background and interview with nurses. All the items were measured on scale of (2) indicates that the two answer yes= 1, false answer= 0. The questionnaire consisted of (2) parts. Part I: Demographic information Sheet. Part II : Anticoagulation Therapy domain Which include: Heparin , Aspirin domain and Warfarin domain.. The content validity of the instrument was established through a panel of (10) experts. Test-retest reliability was determined through a computation of Pearson correlations for the scales. Coefficients for the (42) items of Anticoagulation Therapy were (r= 0.971) for the total score of Anticoagulation Therapy. The data were collected by using the questionnaire structured format through interview technique. Each nurse was interviewed personally by the researcher. Throughout each interview explanation of the study was held up with nurses in order to accept participation. Each interview took approximately from (20-30) minute and initiated at the waiting room. Data were collected between 8.30 am to 1.30 pm..The data were analyzed through descriptive data analysis and inferential data analysis the data were analysed through the use of Statistical Package of Social Sciences (SPSS) version 17.0.

III. Results

Table (1): Distribution of the Studied Sample According to Socio-Demographical Characteristics Variables n=100 nurses.

Variable	Groups	Frequency	Percent	Cumulative%
Gender	Male	57	57.0	57.0
	Female	43	43.0	100.0
	Total	100	100.0	
Age Groups	20 – 25	22	22.0	22.0
(Years)	26 – 30	39	39.0	61.0
	31-35	20	20.0	81.0
	36-40	9	9.0	90.0
	>41	10	10.0	
	Total	100	100.0	
Monthly income	sufficient	25	25.0	25.0
	Barely sufficient	47	47.0	72.0
	Not sufficient	28	28.0	100.0
	Total	100	100.0	
Level of Education	Nursing high school graduate	25	25.0	25.0
	Institute graduate	44	44.0	69.0
	College of Nursing	31	31.0	74.0
	Total	100	100.0	
Marital Status	Single	34	34.0	34.0
	Married	59	59.0	93.0
	Divorced	2	2.0	95.0
	Absolute	5	5.0	100.0
	Total	100	100.0	
Experience years in hospitals	1-5	55	55.0	55.0
	6-10	27	27.0	82.0
	11-15	11	11.0	93.0
	>16	7	7.0	100.0
	Total	100	100.0	
Experience years in word	1-5	79	79.0	79.0
	6-10	15	15.0	94.0
	11-15	2	2.0	96.0
	>16	4	4.0	100.0
	Total	100	100.0	
Training course	Yes	68.0	68.0	68.0
	No	32.0	32.0	100.0
	Total	100	100.0	
Number of training	No courses	32	32.0	32.0
	1-5 courses	50	50.0	82.0
	6-10 courses	17	17.0	99.0
	11-15 courses	1	1.0	100.0
	Total	100	100.0	

Frequency, Percent, Cumulative percent

This table revealed the majority of the study 57% of the study samples were male, at age (26-30) years old, high percentage of them were Institute graduate, 47% have barely sufficient income and 59% have married nurses. (55%) of nurses had Experience years in hospital, (79%) of nurses had Experience years in word, (68%) have training and (50%) had number of courses in nursing.

Table (2) The Mean of Score of Heparin and Aspirin domain concerning of Anticoagulant therapy.

No	Items	True	False	SD	MS	A.D
A	Heparin					
1	works to inhibit the anti-thrombin	81	19	.394	.81	Good
2	prevents the conversion of prothrombin to leaven	69	31	.694	.46	poor
3	given under the skin every (8-12) hour.	95	5	.219	.95	Good
4	given intravenously with saline solution	34	66	.476	.34	poor
5	causes bleeding in the gums	69	31	.465	.69	Good
6	cause blood in urine and stool	61	39	.490	.61	Good
7	causes skin rash or itching	61	39	.490	.61	Good
8	causes red spots or blue under the skin	78	22	.416	.78	Good
9	total affects the nature of menstruation in women	82	18	.386	.82	Good
10	treatment is given in subcutaneous adipose tissue	89	11	.314	.89	Good
11	do not press the glaucoma for 15 minutes to prevent bleeding	42	58	.496	.42	poor
12	perform daily exercise can prevent cvd time should be monitored by ptt	80	20	.402	.80	Good
13	always verify compatibility with other drugs given	32	18	.386	.82	Good
14	use of a special syringe of heparin (syringe	78	22	.416	.78	Good
15	stop use is consulted	35	65	.479	.35	poor
	total	986	464	.434	.67	Good
B	Aspirin	**True**	**False**	**SD**	**MS**	**A.D**
1	Works to reduce pain	78	22	.416	.78	Good
2	Works to decrease blood clotting time	81	19	.394	.81	Good
3	Given oral treatment	84	15	.360	.85	Good
4	Is given by injection therapy muscle	36	64	.482	.36	poor
5	Causes headache in the head	53	47	.502	.36	poor
6	Bloody blood with coughing or vomiting is like coffee	57	43	.498	.57	Good
7	Causes severe nausea and vomiting	60	40	.492	.60	Good
8	Causes fever lasts more than 3 days	52	48	.502	.52	Good
9	Causes swelling in the limbs or enduring for several days	48	52	.502	.48	poor
10	Evaluate the pain before the treatment of one hour	79	21	.409	.79	Good
11	Should monitor kidney and liver deposits	87	13	.338	.87	Good
12	The patient is advised not to take the treatment on an empty stomach	88	12	.327	.88	Good
13	The date of production and completion must be followed before use	92	8	.273	.92	Good
14	Prevents the use of children under the age of 15 years	73	27	.446	.73	Good
	Total	968	431	.424	.69	Good

A.D.): Assessment Degree, M.s=mean of score [(0 - .49) = poor (F); (0.5 – 1)= good(P)]

This table shows the total nurses ' knowledge concerning anticoagulant therapy for blood diseases, which indicated that nurses had good knowledge concerning anticoagulant therapy, with respect to the total mean of score (MS) which was (.67) for heparin domain and (.69) for aspirin domain**.**

Table (3) The Mean of Score of Warfarin domain concerning of Anticoagulant therapy.

No	Items	True	False	SD	MS	A.D
	Warfarin					
1	Works to inhibit the mechanism of blood clotting	87	13	.328	.88	Good
2	Works to inhibit the work of vitamin K	69	31	.465	.69	Good
3	Given oral therapy (tablets)	80	20	.402	.80	Good
4	Injection therapy is given	44	56	.499	.44	poor
5	Causes pain in the abdomen	60	40	.492	.60	Good
	Cause hair loss.	41	59	.494	.41	poor
6	Causes swelling of the abdomen (gases)	48	52	.505	.48	poor
7	Causes the feeling of cold or chills	57	43	.498	.57	Good
8	Prevents the treatment of the patient by the muscle	75	25	.431	.76	Good
9	Monitoring the ratio of (PT) blood clotting time	83	17	.878	.83	Good
10	Causing pain in the intestines	48	52	.505	.48	poor
11	Not taking the treatment on an empty stomach	87	13	.338	.87	Good
12	Used medicine if the patient (pregnant woman)	39	61	.490	.39	poor
	Total	818	482	.447	.63	Good

A.D.): Assessment Degree, M.s=mean of score [(0 - .49) = poor (F); (0.5 – 1)= good(G)]

This table shows the total nurses ' knowledge concerning anticoagulant therapy for blood diseases, which indicated that nurses had good knowledge concerning anticoagulant therapy, with respect to the total mean of score (MS) which was (.63) for warfarin domain.

Table (4): Association between (Level of Education, Experience of nursing in hospitals, training course) and Nurses knowledge domain.

Nurses knowledge / Level of education	Poor	Good	Total	χ^2-obs.	Sig.
Nursing high school graduate	5	20	25	.519[a]	NS
Institute graduate	7	37	44		
College of Nursing	4	27	31		
Total	16	84	100		
χ^2criti.=5.99 df=2 $p \leq 0.05$					
Nurses knowledge / Experience of nursing	Poor	Good	Total	χ^2-obs.	Sig.
1-5	9	46	55	5.886[a]	NS
6-10	4	23	27		
11-15	0	11	11		
>16	3	4	7		
Total	16	84	100		
χ^2criti.=7.815 df=3 $p \leq 0.05$					
Nurses knowledge / Training course	Poor	Good	Total	χ^2-obs.	Sig.
Yes	0	1	1	1.300[a]	H.S
No	6	43	49		
Total	10	40	50		
χ^2criti.=5.991 df=2 $p \leq 0.05$					

***: P ≤ 0.05; **: P ≤ 0.01,** χ^2,t-test

This table indicates that there is no significant association between nurses knowledge score and (Level of education, Experience of nursing) but there is significant association between nurses knowledge score and training course.

IV. Discussion

Through the course of the data analysis of the present study the finding showed that the majority (57%) of the study were male while the remaining were female. The highest percentage of age group in present study (39%) were (26-30) years old and lowest percentage(9%) were (36- 40) years old .Concerning Marital status and level of education, (59%) from the sample were married, most of them are (44%) institute graduate. monthly income for study sample were (47%) barely sufficient income.

These results are disagreement with the findings obtained from other study, who reported that nurses working in aged care (all female 11%), representing each of the main nursing services participated in the study. This study agrees with age that shows their mean age was 42.5 (+/-10.4) years (range 25-54 years) [7]. The findings of study is the same line with other researcher which stated that (32%) of bachelor degree, 5%) master's and PhD degrees respectively [8].

Regarding to experience years, Fifty five of them had (1-5) years' experience in hospitals and seventy seven of them had (1-5) years' experience in word, sixty eight of them have training and fifty of them had (1-5) years number of courses in nursing. These results are in accordance with the findings obtained from other study, shows that twenty four of them had 1 -10 years of experience, eight of them had 11 - 20 year experience and eight of them had 21 - 30 year of experience [9].

The result of current study that show heparin domain in table(2) for nurses knowledge is poor knowledge in item (Given intravenously with saline solution),(Do not press the glaucoma for 15 minutes to prevent bleeding)and(.Stop use is consulted).The mean of score is good at all heparin domains.

The findings of the study disagree with result obtained from other study who reported that a total of 30 cardiac nursing staff responded to the survey. The data given that 3% of the sample had poor knowledge, 23% had average knowledge, 57% had fair knowledge and 17% had good knowledge about commonly administered drugs in cardiac surgery Intensive Care Unit [10]. The result of current study that show of aspirin domain in table (2) for nurses knowledge are poor in items(Is given by injection therapy muscle) and(Causes swelling in the limbs or enduring for several days).The mean of score is good at all aspirin domains.

This finding was similar to a study conducted by other researcher stated that the cardiac nurses knowledge on selected cardiovascular drugs is above average.(l0.75/15) [9]. The finding of the study demonstrated the mean of score of warfarin in table (3) for nurses knowledge is poor in item (Injection therapy is given),(Cause hair loss),(Causes swelling of the abdomen (gases),(Causing pain in the intestines)and(Used medicine if the patient pregnant woman). The mean of score is good at all warfarin domains.

This finding was good agreement done by other researchers who reported that the most common minor side effects of warfarin therapy experienced by patients were nausea/stomach-ache, easy bruising, gum bleeding, and occasional nose bleeding and menstrual bleeding (52.2%, 39.1%, 34.8%, 28.3% and 28.3%)

respectively compared to (43.5%,15.2%, 10.5%, 10.5% and 17.4%,) respectively after one week of the program, [1 a relatively consistent results showed after one month assessment (13%, 17.4%,10.9%, 6.5.9% and 15.2) respectively [11].

Level of education ,experience of nursing in hospitals and training course with comparison of the respondent's total nurses knowledge domain in table (4) ,there was non-significant between level of education (χ^2 obs=.519[a], df=2, $p \leq 0.05$) , experience of nursing in hospitals(χ^2-obs=5.886[a]df=2, $p \leq 0.05$) and training course(χ^2-obs=1.300[a]df=2,$p \leq 0.05$) with nurses knowledge domains. This result of study are good agreements with other studies done by other researchers whose reported that there is no significant differences nurses knowledge with anticoagulation therapy score was found between those who had been practicing nursing or cardiovascular nursing less or more than 10 years. However, the multiple regression analysis showed that there was a consistent decrease of knowledge with increasing level of education [8] .

These result were similar to those result obtained by other researcher who reported that the high experience group had significantly higher mean knowledge (p value=0.63). An unpaired „t" test showed that there is statistically significant higher mean knowledge score in nurses who have attended the CPCR training (p value =0.14) [10].

V. Conclusions

This study demonstrate that, despite good nurses knowledge regarding anticoagulant therapy for blood diseases, as well as study indicated overall nurses have positive correlation anticoagulant therapy and training course. Our study recommended to health education programs about anticoagulation therapy, in order to better understand action, side effect and nursing consideration. The study also recommended to increases training course for nurses inside and outside Iraq that contributed to increases nurses knowledge about anticoagulation therapy**.**

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References

[1]. Ministério da Saúde (PT). Doenças Cardiovasculares [internet]. [publicado em 2009 out 1; acessoem 2011 jul 22]. Disponível em: http://www.min-saude.pt/portal/conteudos/enciclopedia+da+saude/doencas/
[2]. doencas+do+aparelho+circulatorio/doencascardiovasculares.htm.
[3]. Serra, Ribeiro, Lurdes ,et al , Therapeutic management of users with oral anticoagulant therapy, Enfermería Global,vol.41,(2016).pp.32..
[4]. Handoll HHG, Farrar MJ, McBirnie J, et al. "Heparin, low molecular weight heparin and physical methods for preventing deep vein thrombosis and pulmonary embolism following surgery for hip fractures". Cochrane Database Syst Rev.Vol. 4, (4),(2002), p;21 .
[5]. Stafford, L., G. Peterson, L. Bereznicki and S. Jackson, 2011. A role for pharmacists in community-based post-discharge warfarin management: protocol for the 'the role of community pharmacy in post hospital management of patients nitiated on warfarin' study. BMC Health Services Research, 11:16 doi:10.1186/1472-6963-11-16,available at: http:// www.biomedcentral.com/ 1472-6963/11/16.
[6]. Martel N, Lee J, Wells PS. Risk for heparin-induced thrombocytopenia with unfractionated and low-molecular-weight heparin thromboprophylaxis: a meta-analysis. Blood;VO.106,(2005),pp:2710-5.
[7]. Canadian Association of Nephrology Nurses and Technologists. Canadian Association of Nephrology Nurses and Technologist Nephrology Nursing Standards and Practice Recommendations(2008).. Retrieved from http: //www. cannt. ca/en//files/CANNT Nursing Standards_2008.pdf
[8]. Beata,Ines Krass,Susan J,et al. WARFARIN USE IN THE ELDERLY: THE NURSES' PERSPECTIVE, Australian Journal of Advanced Nursing. VO. 23, NO. 3, (2006),pp.20-21.
[9]. Mattie J, David R, Philip, et al. European cardiac nurses' current practice and knowledge on anticoagulation therapy European Journal of Cardiovascular Nursing, Vol. 13,NO.(3),(2014),pp; 261–269
[10]. Anupriya.P.S. A study to assess the knowledge about selected cardiovascular drugs among cardiac nurses. Sree Chitra Tirunal Institute for Medical Science '" and Technology, Trivandrum,No.6080, (2010).
[11]. Suchithra G Nair. A study to assess the knowledge of Cardiac Nurses about commonly administered drugs in Cardiac Surgical ICU in SCTIMST, Thiruvananthapuram, November 2011, No: 6206
[12]. Amel G, Abd El-Naby, Hanaa Y. Hashemand andGehan M. Ismail. Evaluation of a Designed Warfarin Educational Program on Patients' Knowledge and Incidence of Side Effects. Global Journal of Pharmacology ,Vol.8,No, 4, (2014),p; 592-600 .

Saud J. .Mohammed. "Assessment Nurses Knowledge toward Anticoagulation Therapy for Patients at Blood Disease Ward in Teaching Hospital in Baghdad city." IOSR Journal of Nursing and Health Science (IOSR-JNHS) , vol. 6, no. 5, 2017, pp. 58–62.