Nurses' Knowledge Concerning Early Interventions for Patients with Ventricular Tachycardia at Baghdad Teaching Hospitals

معارف الممرضين حول التداخلات المبكرة لمرضى تسارع نبض القلب البطيني في مستشفيات بغداد التعليمية

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الخلاصة

الهدف: تهدف الدراسة الى تقييم معارف الممرضين حول التداخلات المبكرة لمرضى تسارع نبض القلب البطيني وايجاد العلاقة بين الصفات الديموغرافية.

المنهجية: أجريت دراسة وصفية في مستشفيات بغداد التعليمية للفترة من تشرين الثاني 2015 إلى نهاية نيسان 2016 لتقييم معارف الممرضين بخصوص التداخلات المبكرة لمرضى تسارع نبض القلب البطيني تم تصميم استمارة استبانية تتكون من جزأين: الجزء الأول يتكون من الصفات الديموغرافية والتي تتكون من (9) فقرات والجزء الثاني يتكون من (23) فقرة لتقييم معارف الممرضين بخصوص التداخلات المبكرة لمرضى تسارع نبض القلب البطيني وتم تصميم الاستمارة من خلال مراجعة الادبيات السابقة ذات العلاقة بموضوع الدراسة, بعد التأكد من مصداقية واعتمادية الاستبانة من خلال توزيعها على الخبراء و قياس مستوى التناسق الداخلي للاستبانة والذي كان 0.803 باستخدام مقياس كرون باخ الفا.تم جمع عينة غير احتمالية(غرضية) تتكون من (50) ممرض من العاملين في مستشفيات بغداد التعليمية. بعد ذلك تم تحليل البيانات من خلال تطبيق التحليل الوصفي والتحليل الاستدلالي بواسطة استخدام برنامج spss version 20.

النتائج: اشارت النتائج بأن التقييم العام لمعارف العينة المشمولة بالدراسة ذو مستوى واطىء. اضافة الى ذلك هناك علاقة مؤثرة بين معارف عينة الدراسة حول التداخل المبكر لتسارع النبض البطيني والفئات العمرية و الحالة الاجتماعية وسنوات الخبرة في مهنة التمريض.

الاستنتاج: كان التقييم الشامل لمعارف الممرضين منخفض.

التوصيات: تشجيع الملاك التمريضي للمشاركة في دورات التعليم المستمر داخل وخارج القطر لرفع مستوى المعرفة لديهم. بالإضافة الى ذلك وضع منشورات في وحدات العناية الحرجة توضح المخطط او العلاج الذي يشير الى التداخل المبكر لمرضى تسارع النبض البطيني.

Abstract:

Objectives: The study aims to assess nurses' knowledge regarding early intervention for patient with ventricular tachycardia and finds out association with their demographic characteristics.

Methodology: Descriptive design has been conducted on 50 samples of nurses. The study was carried out to identify nurses' knowledge concerning early intervention for patients with ventricular tachycardia at Baghdad teaching hospitals. In order to obtain comprehensive data a specifically a questionnaire is constructed by the researchers according to reviewing literatures related to the topic of the study. It is consist of two parts the first part consists of socio-demographic characteristic consist of (9) items, and second Part two consists of (23) items to measures nurses knowledge concerning early intervention for patient with ventricular tachycardia. In order to determine the face validity, copies of the questionnaire was presented to panel of experts and reliability of the questionnaire was obtained through measuring internal consistency of questionnaire items which are (23 items) where result was (0.803) by Cronbach s' Coefficient alpha. A non-probability (purposive) sample of 50 nurse taken from above –mentioned hospitals. Statistical Analysis has been applied through using statistical package for social sciences (spss version 20) by utilizing descriptive and inferential analysis.

Results: The overall assessment of the studied sample's knowledge was low. There were statistically significant association between studied sample's knowledge and marital status, age groups, and Experience years at nursing profession.

Conclusion: the overall assessment of samples knowledge was low

Recommendations: the study recommends to encourage nurses to participate in sessions inside or outside the country to improve their knowledge and In addition to Place an Educational posters in the critical care units include an outline concerning early interventions or treatment for this disorder may be more beneficial for nurses

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INTRODUCTION

Ventricular tachycardia (VT) is a state in which the heartbeat is quite rapid, if rapid enough ,ventricular tachycardia will not allow the hearts chambers to fill with enough blood between beats to produce blood flow sufficient to meet the body's needs [1]. VT is a type of dysrhythmia which clinically presented with severe cardiac disease where it can give rise for vast heart ventricular rate[2] "Causes of ventricular tachycardia areAcute myocardial infarction, Hypertensive heart disease, Cardiomyopathy, Severe infections, and Myocarditis". [3]Where the bifurcation of the bundle in the specialized conduction system of the heart, is the location of ventricular tachycardia disorder, it occurred when electrical impulse is made not well or conducting it improperly as major pathophysiological phenomenon [4]. Jain, et al., (2009) observed that "three or more extra systoles are termed ventricular tachycardia, Sustained VT (more than about 30 beats) often degenerates into ventricular fibrillation, resulting in death"[5] After resolution of VT, Antiarrhythmic medications, implantable cardioverter-defibrillator (ICD),and Catheter ablation are the options for management but depends on the severity of symptoms and degree of structural heart these treatments used when organic heart illness at current time. The focus converts to how to manage the implicit causes for VT in terms of determining the severity of heart disease, how to prognose, and setting a plan for long time management. early intervention suggested for VT require urgent treatment start cardiopulmonary resuscitation if pulseless, if unconscious and hypotensive DC cardioversion followed by IV lignocaine and DC 200-300 joules monophasic shock, If conscious and hemodynamically unstable DC under short general anesthesia, if hemodynamically stable IV lignocaine 100 mg bolus over 2 min followed by 4 mg/min initially, then reduced slowly over 36 hr, correct hypokalemia, hypomagnesaemia and acidosis[6]. Nurses should have knowledge, experience and information toward patient with arrhythmia and specifically with VT because the patient is usually (although not always) unresponsive and pulseless and need critical care that provided by skilled work team [7].

Nursing responsibility regarding VTwhich can be listed as follows:

- Provide quiet and calm environment. Review reasons for limitation of activities during acute phase.
- Demonstrate and encourage use of stress management behaviors,: relaxation techniques, guided imagery, slow/deep breathing

- Investigate reports of chest pain, documenting location, duration, intensity (0–10 scale), and relieving or aggravating factors. Note nonverbal pain cues: facial grimacing, crying, and changes in BP/heart rate.
- Be prepared to initiate cardio-pulmonary resuscitation (CPR) as indicated
- Monitor laboratory studies, Electrolytes, Drug levels.
- Administer supplemental oxygen as indicated
- Administer medications as indicated(Potassium, Antidysrhythmics, cardiac glycosides)
- Prepare and assist with elective cardioversion
- Insert and maintain IV access.
- Prepare for invasive diagnostic procedures and surgery as indicated.

Prepare for implantation of cardioverter or defibrillator (ICD) when indicated [8].

OBJECTIVES

The study aims to assess nurses' knowledge regarding early intervention for patient with ventricular tachycardia and finds out association with their demographic characteristics.

METHODOLOGY:

Descriptive design has been done on 50 samples from nurses. The study was carried out to identify nurses' knowledge concerning early intervention for patients with ventricular tachycardia in Baghdad teaching hospitals.Baghdad teaching hospital/ medical city directorate and Ghazi Al-Hareeri for specialized surgeries hospital/medical city directorate at critical care units (including emergency care units, intensive care units, and coronary care units).

In order to obtain comprehensive data a specifically a questionnaire is constructed by the researchers according to reviewing literatures related to the topic of the study. It is consist of two parts**:**

Part I: consists of socio-demographic characteristic consist of (9) items

Part II: consists of (23) items to measures nurses knowledge concerning early intervention for patient with ventricular tachycardia.

An official requestare issued and submitted through the college of nursing /University of Baghdadto obtain permission for data collection to Baghdad teaching hospitals.

Validity of questionnaire determined through panels of experts and Reliability of the questionnaires was determined by internal consistency through calculating Cronbach s' Coefficient alpha = 0.803

A non- probability (purposive) sample of 50 nurse taken from above –mentioned hospitals. The data collection phase took two months from the first January 2016 to the end of March 2016.data was collected by using Self report method.

Descriptive data analysis was done through (frequency, percentage, mean, standard deviation and cut-off point was as follows and inferential data analysis was done by Mann-Whitney testand Kruskal-Wallis test) through application by SPSS version 20.

RESULTS:

Table(1): frequencies and percentages of demographic characteristics for studied sample

Variables	Groups	F.*	%
1. Gender	Male	32	64.0
	Female	18	36.0
	Total	50	100.0
2. Age groups	21-24	13	26.0
	25-28	24	48.0
	29-32	6	12.0
	33-36	5	10.0
	≥ 37	2	4.0
	Total	50	100.0
Mean and SD 26.96±4.242			
3. Marital status	Single	31	62.0
	Married	18	36.0
	Divorced	1	2.0
	Widow	---------	---------
	Total	50	100.0
4. Educational level	Secondary nursing graduate	5	10.0
	Institute graduate	14	28.0
	Bachelor graduate	31	62.0
	Total	50	100.0
5. Work place at hospital	Emergency department	15	30.0
	Coronary care unit	6	12.0
	Intensive care unit	24	48.0
	Respiratory care unit	5	10.0
	Total	50	100.0
6. Years of experience at above-mentioned work place	1-3 years	40	80.0
	4-6 years	5	10.0
	7-9 years	4	8.0
	≥ 10 years	1	2.0
	Total	50	100.0
7. Years of experience at nursing profession	1-4 years	38	76.0
	5-8 years	5	10.0
	9-12 years	3	6.0
	≥ 13 years	4	8.0
	Total	50	100.0
8. Training sessions inside	Yes	37	74.0
	No	13	26.0
	Total	50	100.0
9. Training sessions outside	Yes	7	14.0
	No	43	86.0
	Total	50	100.0

F= frequency   %=percentage

This table shows nearly two thirds (64.0%) of studied sample were males (64.0%), roughly half (48.0 %) of them were within age group (25-28),high percentage of studied sample were married (62%), also high percentage of them was graduated bachelor degree (62.0 %), less than half of them were at intensive care unit (48.0 %), the vast majority (80.0%) of the present sample was within   (1-3) as experience at above mentioned workplace, three quarters (76.0%) of studied sample have experience within (1-4years) category, also three quarters of them have training inside country (74.0%), and high percentage (86.0%). of current studied sample have no training sessions outside country .

Table (2): Descriptive analysis for studied sample's knowledge responses

Questionnaire items	Incorrect Answer		correct answer		M.S.	S.D.	Level
	F*	%	F	%			
What is the ventricles	30	60.0	20	40.0	1.40	0.495	Low
Characteristics of VT	28	56.0	22	44.0	1.44	0.501	Low
Pulse rate of VT	26	52.0	24	48.0	1.48	0.505	Low
sites defect in VT	39	78.0	11	22.0	1.22	0.418	Low
VT arise from (Pathophysiology)	18	36.0	32	64.0	1.64	0.485	Middle
Influence of VT on BP	45	90.0	5	10.0	1.10	0.303	Low
Most complication of VT	38	76.0	12	24.0	1.24	0.431	Low
Relationship between VT and PVC	34	68.0	16	32.0	1.32	0.471	Low
Causes of polymorphic VT	33	66.0	17	34.0	1.34	0.479	Low
Cause of monomorphic VT	35	70.0	15	30.0	1.30	0.463	Low
Detection of VT on ECG	39	78.0	11	22.0	1.22	0.418	Low
Most clinical feature of VT	13	26.0	37	74.0	1.74	0.443	Middle
First intervention of VT	34	68.0	16	32.0	1.32	0.471	Low
How to Diagnosis the VT	14	28.0	36	72.0	1.72	0.454	Middle
Drugs used to treat VT	18	36.0	32	64.0	1.64	0.485	Middle
Intervene with DC shock	16	32.0	34	68.0	1.68	0.471	Middle
How to prevent VF	27	54.0	23	46.0	1.46	0.503	Low
Device most used with VT	40	80.0	10	20.0	1.20	0.404	Low
Detection of monomorphic VT on ECG	35	70.0	15	30.0	1.30	0.463	Low
Detection of VF on ECG	34	68.0	16	32.0	1.32	0.471	Low
Detection of polymorphic VT on ECG	22	44.0	28	56.0	1.56	0.501	Middle
Early intervention for pulseless VT	21	42.0	29	58.0	1.58	0.499	Middle
Early intervention for pulse VT	24	48.0	26	52.0	1.52	0.505	Middle
Overall assessment of sample's knowledge					1.42	0.184	Low

F=frequency, % = percentage   M.S.= mean of score , SD = standard deviation

This table describes that assessment level according to mean of score for items of questionnaire as follows: following items(5,12,14,15,16,21,22,23) was within middle level, while low level was for following items (1,2,3,4,5,6,7,8,9,10,11,13,17,18,19,20) which are respectively (what is ventricles, Characteristics of VT, Pulse rate of VT, sites defect in VT, Influence of VT   on BP,Most complication of VT,Relationship between VT   and PVC,Causes of polymorphic VT,Cause of monomorphic VT,Detection of VT on ECG,First intervention of VT,How to prevent VF,Device most used with VT,Device most used with VT, Detection of monomorphic VT on ECG, and Detection of VF on ECG. In addition to, this table illustrates that overall assessment for the studied sample's knowledge regarding ventricular fibrillation was within low level.

Table (3): descriptive analysis for studied sample's knowledge levels

Level of knowledge	F.	%
Low	33	66.0
Middle	17	34.0
Total	50	100.0

F= frequency   %=percentage

This table shows that nurses knowledge related to early intervention was low level on one hand, that assessment level was low for two thirds of studied sample (66.0%), on the other hand rest of them have middle level according to their responses.

Table (4): Mann-Whitney Test for relationship between socio-demographic dichotomous variables and sample's knowledge scores (N=50)

Variables		F*	Mean	SD	Statistic Value	Sig.
Gender	Male	32	32.81	3.50	285.000	.941
	Female	18	32.61	2.72		NS
Age	≤27	35	33.28	3.13	182.500	.020
	≥28	15	31.46	3.13		S
Sessions inside	Yes	37	32.67	3.14	207.500	.440
	No	13	32.92	3.54		NS
Sessions outside	Yes	7	32.5	2.07	127.500	.496
	No	43	32.76	3.38		NS

F. = frequency   SD = standard deviation   sig. = significance level

It can be seen clearly from this table that there is statistically significant association between studied sample's knowledge scores and age groups at significance level (0.05). Also this table shows that there is no statistically significant relationship between other dichotomous demographic variables otherwise age groups which are (gender, training sessions inside, and training Sessions outside) at significance level (0.05).

Table (5): Kruskal-Wallis test for relationship between demographic characteristics and studied sample knowledge scores (N=50)

Variable	Variable Groups	Mean	SD	Statistic Value	df*	Sig.
Educational level	Nursing secondary graduate	32.60	2.07	1.663	2	0.435 NS
	Institute graduate	31.85	3.27			
	Bachelor graduate	33.16	3.33			
Marital status	Single	33.38	3.20	6.135	2	0.047 S
	Married	31.55	3.07			
	Divorced	34.00	0			
	Emergency department	32.86	2.94	2.616		0.455

Work place at hospital	Coronary care unit	32.33	3.38		3	NS
	Intensive care unit	32.50	3.63			
	Respiratory care unit	34.00	1.87			
Experience years at above-mentioned workplace at hospital	1-3 years	32.87	3.33	1.587	3	0.662 NS
	4-6 years	31.80	3.42			
	7-9 years	32.00	2.16			
	≥ 10 years	35.00	0			
Experience years at Nursing profession	1-3	1.45	0.13	5.207	2	0.040 S
	4-6	1.37	0.130			
	≥ 7	1.33	0.12			

F. = frequency   SD = standard deviation   df= degree of freedom   sig. = significance level

It can be shown markedly from this table that there is statistically significant relationship between marital status, and experience at nursing profession with sample's knowledge scores at significance value (0.05). As well as, this table shows that there is no statistically significant association between following demographic variable (educational level, workplace at hospital, and experience years at above-mentioned workplace at hospital) and knowledge scores for studied sample at significance value (0.05).

DISCUSSION:

Throughout the course of the data analysis of present study, the findings show that nearly two thirds of studied sample were males (64.0%), related to age group(48.0 %) of them were within age group (25-28), concerning the marital status more than half of them were married (62%), as regards to educational level high percentage of them was graduated bachelor degree (62.0 %), nearly half of them were at intensive care unit (48.0 %), and the vast majority (80.0%) of the present sample was within (1-3) as experience at above mentioned workplace, three quarters (76.0%) of them have experience within (1-4years) category, also three quarters of them have training inside country (74.0%), and high percentage (86.0%). of current studied sample have no training sessions outside country.

As regards to data analysis, the present study illustrated that the overall assessment of nurses knowledge about VT was low, the high percentage 66.0% of nurses their knowledge less than 50%;This finding disagreed with the study result submitted by (Mohan Sanacy,2010) who found that 88.88% of nurses have above average level of knowledge regarding interpretation of life threatening arrhythmias and its emergency management[9] .While it's reinforced by Raines and Keller (2005) who conducted a study to identify critical nurses' perception of arrhythmia knowledge that there is a deficit in nurses' ability to recognize and identify specific arrhythmia[10].

Our findings explore that there's significant relationship between marital status of the studied samples and their knowledge scores at p value 0.05 in addition to if we see that most of studied samples are single. This can be attributed to that single persons have less responsibility in their life and have more time and they can continue reading articles, scientific facts and more curious than others ,thus they have more knowledge.

This study demonstrated that there is statistically significant association between studied sample's knowledge scores and age groups at significance level (0.05).), this agreed with a study done to identify Impact of a designed teaching protocol about Advanced Cardiac Life Support (ACLs) On critical care nurse's knowledge and practices, The study showed a positive correlation between knowledge, practice and age with a highly statistical

significant[11] .Also our present studyhas found a statistically significant association between studied sample's knowledge scores and experience at nursing profession that supported by following studies that confirm years of experience at clinical practice has impact on nurses' knowledge ,skills ,and experience [12-13].

CONCLUSIONS

The nurses' knowledge showed low level regarding anatomy and physiology items according to studied sample questionnaire. Also there was a poor knowledge regarding disease related items according to studied sample questionnaire. There was a deficient knowledge regarding detection of disease items according to sample questionnaire. The sample knowledge was low regarding nursing management items according to studied sample questionnaire. In general the overall assessment of samples knowledge was low. There was strong relationship between studied sample's knowledge scores and age groups, marital status, and experience years at nursing profession while there is poor relationship between other demographic variables like (gender, training sessions inside, and training Sessions outside) and sample's knowledge scores

RECOMMENDATIONS:

1. Encourage nurses to participate in sessions inside or outside the country to improve their knowledge.
2. Paying more attention to such disorders in nursing educational institutions.
3. Place an Educational posters in the critical care units include an outline concerning early interventions or treatment for this disorder may be more beneficial for nurses.

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