Critical Care Nurses' Knowledge RegardingManagement of Patients WithAtrial Fibrillation at Baghdad City

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Abstract:

background: atrial fibrillation is most common arrhythmia in which patients suffer from palpitation as most common symptoms or patients presented as a symptomatic they need careful and concise diagnosis and treatment for their disease nurses have important role toward them through assessing ,monitoring and managing them so nurses must have full knowledge especially nursing management during occurrence these patients at critical care units.

Methods:Descriptive analytic design study was conducted using questionnaire to collect required data. The study focused on the knowledge of the nurses regarding managing the atrial fibrillation at Baghdad cardiac centers.The study starting from May 2nd 2015 to the 28th June 2015.questionnaire built based on comprehensive literature review which consists (34) of items arranged as multiple choice questions scored by (1) for correct answer and (0) for false one to assess their knowledge for each domain as follows: anatomy and physiology for heart domain (6 items) this domain assessed to three levels disease-related knowledge domain (9 items) assessed treatment related knowledge domain (10 items) and nursing management domain (9 items).Data were collected by self-report method. Descriptive and inferential data analyses were done to analyze data.

Results:the study showed that high percentage (54.7) of studied sample has moderate level regarding their knowledge relating to management of patients with atrial fibrillation according to studied questionnaire. Also there is association found between educational level and studied sample knowledge at p value 0.05.

Conclusions andRecommendations: The study concluded that critical care nurses' knowledge regarding management of patients with atrial fibrillation was inadequate and we recommend to engage nurses in continuing education programs to strengthen their knowledge and Also the study recommends to increase number of nurses with high educational level at critical care units.

Keywords: Atrial fibrillation, Critical care nurses, Knowledge, Management, and patients

I.   Introduction

Atrial fibrillation (AF) the most common chronic cardiac arrhythmia which is frequently associated with advanced age, structural cardiac dysfunction and preexisting comorbidities appeared mainly by totally chaotic atrial activity caused by simultaneous discharge of multiple atrial foci .The prevalence of atrial fibrillation increases with age from 2% in the general population to 5% in patients older than 60 years. It's estimated that between 2.7 and 6.1 million Americans currently live with this condition, with nearly 75% of cases reportedly occurring in people over 65 years of age. According to results from the Framingham Heart Study the lifetime risk of developing atrial fibrillation is one in four. (1, 2).atrial fibrillation the most common arrhythmia in clinical practice accounting for approximately one third of hospitalizations for cardiac rhythm disturbancesestimated2.3millionpeopleinNorthAmericaand.4.5millionintheEuropeanUnionhaveparoxysmalorper sistentAFduringthelast20yearshospital.admissionsforAFhaveincreasedby66%duetotheagingofthepopulationarisi ngprevalenceofchronic heart.(3)The most causative factors for this disorder as follows: myocardial infarction coronary   artery   disease(CAD),heart   valve   disorder,thyrotoxicosis,hypertension,pulmonary   embolism, pericarditis,myocarditis,andalcohol abuse.the patient with atrial fibrillation clinically presented with palpitation which is considered most common symptom for this disease and some patents may be presented with fatigue, dizziness, and lightheadedness and a few of them have no symptoms clinically.(1) AF can be classified as paroxysmal (intermittent, self-terminating episodes),persistent (prolonged episodes that can be terminated by electrical or chemical cardioversion) or permanent. Management of patients with AF requires knowledge of its pattern.of.presentation.(paroxysmal,.persistent,.or.permanent).underlying.conditions.and.decisions.about.restorat ion.and.maintenance.of.sinus.rhythm,.control.of.the.ventricular rate and antithrombotic therapy (3) effective treatment of the primary disorder will often restore sinus rhythm. Otherwise,the main objectives are to restore sinus rhythm as soon as possible, prevent recurrent episodes of AF, optimize the heart rate during periods of AF minimizes the risk of thromboembolism and treat any underlying disease.(4) critical care nurses have vital and essential roles towards patients with atrial fibrillation who are admitted to coronary care unit, intensive care unit and other critical care units, especially nurses working at cardiac specialty hospitals and centers through assessing hemodynamic status, knowing clinical presentation for patients and how to progress after management

through given specifically drugs used that drugs how to act, route of administration, mode of action and side effect of them until patients fully recovered from their disease. The following study aims to assess critical care nurses knowledge concerning management of patients with atrial fibrillation and finds out relationship with their demographic characteristics.

II.   Methods

Descriptive analyticdesign study was conducted using questionnaire to collect required data. The study focused on the knowledge of the nurses regarding managing the atrial fibrillation at Baghdad cardiac centers. The study starting from May2nd 2015 to the 28th June 2015. An official request was submitted to seek permission for data collection of the current study.

In order to assess Critical care nurses knowledge concerning atrial fibrillation specified designed questionnaire based on comprehensive literaturereview which consists (34) of items arranged as multiple choice questions scored by (1) for correct answer and (0) for false answer to assess their knowledge for each domain as follows:anatomy and physiology for heart domain (6 items) this domain assessed to three levels as follows (1-2=unacceptable,3-4=moderate and 5-6=high),disease-related knowledge domain (9 items)assessed as follows: (1-3=unacceptable,4-6=moderate and 7-9=high), treatment related knowledge domain (10 items) assessed as follows: (1-3=unacceptable,4-6=moderate and ≥7=high), and nursing management domain (9 items) assessed as follows: (1-3=unacceptable,4-6=moderate and 7-9=high) and overall assessment of studied questionnaire as follows: (9-15=unacceptable,16-22=moderate and23-29 =high)

Validity of questionnaire was done through panel of experts (10).pilot study is carried out on May3rd 2015 to 18 May 2015 on five samples of nurses working in intensive care unit at Iraqi center for heart disease to measure timed required for data collection for each sample, to identify any misunderstanding and difficulties in study instrument and to measure reliability of instrument where the researcher used test-retest reliability on two occasions to confirm stability of questionnaire by calculating the Pearson correlation coefficient which was (0.83) at p value 0.01 after deletion and modifying items in some items of questionnaire.

The settings of the present study are used in which cardiac disease treated only are: Ibn-Albetar center for heart surgery, Ibn-Alnafees center for cardiothoracic surgery and Iraqi center for heart diseases in Baghdad city.Data were collected by self-report method each sample spent 20-30 minutes to complete the questionnaire.(Non-probability)Convenient sample of 64 nurses working at centers mentioned above.

Descriptive Data analysis was through frequency, andpercentage and inferential data analysis were by use of independent two sample t test and one- way analysis of variance (ANOVA) by using statistical package for social sciences (spss) version 20.

III.   Results
Table (1): frequencies and percentages of demographic characteristics of studied sample

| Variables	Groups	F.	Percentage
Gender	Male	29	45.3
	Female	35	54.7
	Total	64	100.0
Age groups	19-28	27	42.2
	29-38	27	42.2
	39-48	6	9.4
	49-58	4	6.3
	Total	64	100.0
Marital status	Married	38	59.4
	Single	24	37.5
	Divorced	1	1.6
	Widow	1	1.6
	Total	64	100.0
Educational level	Nursing secondary graduate	---	--------
	Institute graduate	18	28.1
	Bachelor graduate	14	21.9
	Nursing Diploma	30	46.9
	Postgraduate	2	3.1
	Total	64	100.0
Training Sessions inside and outside country	Yes	46	71.9
	No	18	28.1
	Total	64	100.0
Years of experience	1-10	48	75.0
	11-20	12	18.8
	21-30	4	6.3
	Total	64	100.0

This table shows more than half of the studies sample was female (54.7%), less than half of them within age groups(19-28,29-38 years) high percentage of them was married (59.4%), less than half of them had diploma degree in nursing (46.9 %), roughly two thirds of them had training sessions (71.9%) and finally regarding years of experience (75 %)three quarters of them are within (1-10) years .

Table (2): Descriptive analysis of studied sample knowledge (N=64)

Domains of questionnaire	F.	%
Anatomy and physiology Domain		
Unacceptable	5	7.8
Moderate	24	37.5
High	35	54.7
Total	64	100.0
Disease related knowledge domain		
Unacceptable	28	43.8
Moderate	33	51.6
High	3	4.7
Total	64	100.0
Treatment related knowledge domain		
Unacceptable	28	43.8
Moderate	33	51.6
High	3	4.7
Total	64	100.0
Nursing management knowledge domain		
Unacceptable	8	12.5
Moderate	31	48.4
High	25	39.1
Total	64	100.0

This table illustrates frequencies and percentages for domains of studied sample knowledge questionnaire, as regarding to anatomy and physiology domain where (54.7) high percentage of studied sample had high level, related to Disease related knowledge domain (51.6)nearly half of them have moderate level, concerning Treatment related knowledge domain (51.6)roughly half of them have moderate level and finally regarding Nursing management knowledge domain of studied sample(48.4) vast majority of them had moderate level.

Fig (1): Descriptive analysis of overall studied sample knowledge (N=64)
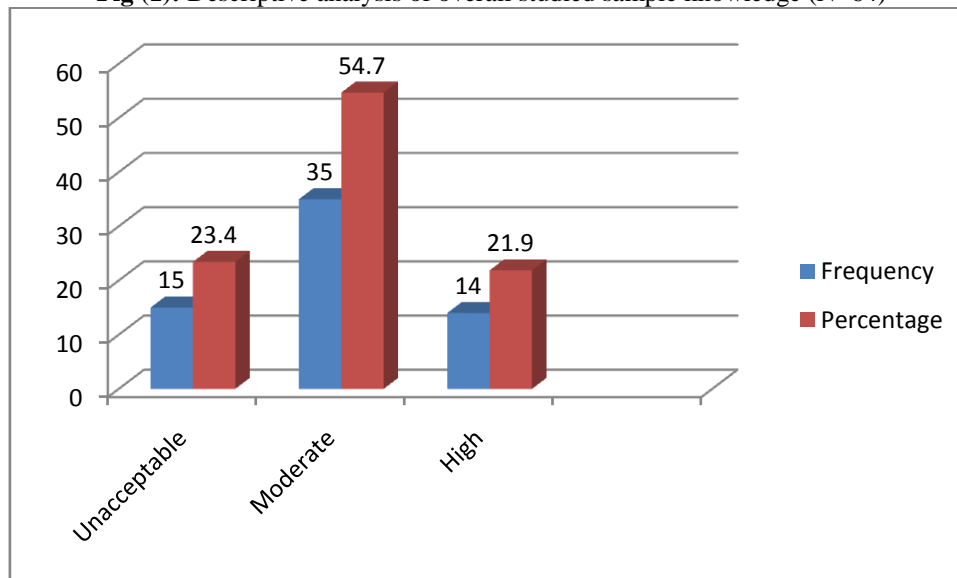
This figure shows that high percentage (54.7) of studied sample has moderate level regarding their knowledge relating to management of patients with atrial fibrillation according to studied questionnaire.

Table (3): Association between demographic characteristics (gender and Training sessions) and studied sample knowledge scores (N=64)

Demographic Variables		F.*	Mean	t value	df	Sig(two-tailed)
Gender	Male	29	22.4828	-.512-	62	.610
	Female	35	23.1429			
Training sessions	yes	46	22.3478	-1.248-	62	.217
	no	18	24.1111			

This table shows that no association found between demographic variables (gender and training sessions) and studied sample knowledge at p value>0.05.

Table (4): Association between rest of demographicvariables and studied sample knowledge scores (N=64)

Demographic Variables		Sum of Squares	df*	Mean Square	F	Sig.
Age groups	Between Groups	117.697	3	39.232	1.546	.212
	Within Groups	1522.741	60	25.379		
	Total	1640.437	63			
Marital status	Between Groups	31.716	3	10.572	.394	.758
	Within Groups	1608.721	60	26.812		
	Total	1640.438	63			
Level of education	Between Groups	224.812	3	74.937	3.176	**.030**
	Within Groups	1415.625	60	23.594		
	Total	1640.437	63			
Categories of experience	Between Groups	53.708	2	26.854	1.032	.362
	Within Groups	1586.729	61	26.012		
	Total	1640.438	63			

This table show that significant association found between educational level and studied sample knowledge at p value 0.05 and also illustrate that no significant relationship foundbetween studied sample knowledgeand rest of studied variables which are (age groups, marital status and categories of experience) at p value> 0.05.

IV. Discussion

With respect to critical care nurses knowledge for anatomy and physiology domain their assessment was high, this finding supported by American association of critical care nurses which stated that Critical care nurses cannot care for critically ill patients unless nurse has organized body of knowledge.(5)Canadian association of critical care nurses set standards for critical care nursing practice which confirmed that Critical care nurses use advanced skills and specialized knowledge to continuously assess, monitor and manage patients for the promotion of optimal physiological balance this standard(6) disagrees with current finding obtainedregarding disease related knowledge and treatment related knowledge domainsfor the studied samplewhich havemoderate level for nearly half (51.6%) of sample and lowest percentage (4.7%) has high level at both domains discussed above which is considered reduced level as assessment for critical care nurses working at critical place to provide care for patients with atrial fibrillation. It is completely sure that nurses with high and perfect knowledge regarding atrial fibrillation will provide excellent management. specifically this group of patients need careful and concise care regarding management, ,like side effects of drugs ,correct dosages regarding medications, performing cardiovesion procedure also need skilled knowledge; With respect to nursing management related knowledge domain the present study showed high percentage (48.4%) of studied sample has moderate level while lowest percentage of it has unacceptable level (12.5%) , this finding in disagreement with conclusion obtained from following study which reported that Nurse-led care of patients with AF is superior to usual care provided by a cardiologist in terms of cardiovascular hospitalizations and cardiovascular mortality (7) where this study stated that nurses have critical role in managing patients with atrial fibrillation so nurses must have excellent level of knowledge to reach for optimal care for atrial fibrillation patients. The present also explores that high percentage (54.7) of studied sample has moderate level and lowest percentage (21.9) of them has high level related to overall assessment of management of atrial fibrillation knowledge; this finding in disagreement with ; the nurses have responsibilities concerning care of patients with

atrial fibrillation they should perform assessment of patients for hemodynamic status in addition to they must have information toward devices, medications, and procedures necessary to provide management for them.(8) this finding agree with qualitative study done to identify and describe critical care nurses' perception of arrhythmia knowledge. This study revealed a deficit in nurses' ability to recognize and identify specific arrhythmias including tachyarrhythmia (9)this finding in agreement with study conductedto assess cardiac nurses' knowledge regarding threatening arrhythmia in India on 45 samples where their assessment were fair .(10)

Concerning relationship between demographic variables and studied sample knowledge scores, the present study reported that there is significant association between educational level and studied sample knowledge at p value 0.05. this finding in disagreement with quantitative descriptive design study conducted at american association of critical-care nurses' 19 geographic regions of the united states To describe pediatric critical care nurses' knowledge of dysrhythmias in critically ill pediatric patients and relate this knowledge level to certain demographic variables including educational level the study reported that no statistical significant association found between pediatric critical care nurses' knowledge of dysrhythmia and educational level (11). The finding of the current study consistent with result of quantitative study proceeded to assess critical care nurses' knowledge regarding Administration of selected positive inotropics at Cairo university hospitals (12).

V.   Conclusions

The study concluded that critical care nurses' knowledge regarding management of patients with atrial fibrillation according to study findings have inadequate and there is association between educational level and studied sample knowledge at p value 0.05.We recommend to engage nurses in continuing education programs to strengthen their knowledge and also the study recommends to increase number of nurses with high educational level at critical care units.

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