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Knowledge of Nurses About Commonly Used medications in Coronary Care Unit at Basrah Hospitals

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Abstract

Objectives*:** to assess nurses' knowledge about commonly used medications in coronary care units in Al-Basra hospitals, and to identify the relation between the knowledge of nurses and their demographic variables of age group, sex, total years of professional experience in CCU, level of education, etc.Methodology*:** A descriptive cross-sectional study has been randomly carried out in Basrah hospitals (Al-Jamhory teaching hospital, AL-Sadr Teaching Hospital, and Basrah oil Hospital), A purposive sample consist of (30) nurses who have been working in coronary care units, The study started from 27th of November, 2020 to 18th of June, 2021. The instrument of the present study contains two parts, first part: It is concerned with the nurse's demographic data, second part: it is composed of (20) MCQs for nurses' knowledge about commonly administrated medications. The validity of the instrument had been achieved by 7 experts from different scientific branches. The reliability of the research instrument had been evaluated by Cronbach's Alpha value (0.78). Statistical programs such as SPSS version 20 were utilized for analyzing the data.***Result*:** This study showed that majority of the study sample are females, and 43.3% of them at age group (20-29) years, and the total level of nurse knowledge about commonly administrated medications in coronary care unit has poor level of knowledge at total means of score (0.46).*Conclusion*: there was a significant relationship between nurse's knowledge about commonly used medications in coronary care unit and their total years of professional experience in CCU at a $p<0.05$ level ***Recommendation*:** Nurses who work in coronary care units must be given an educational program on the most prevalent drugs used in these units.

***Keywords*:** knowledge, nurses, medications, Coronary Care Unit.

Introduction

The World Health Organization (WHO) stated that the cardiovascular disease (CVD) is the major cause of morbidity and mortality in various nations, responsible for 29% of all mortalities in the year 2005. In 2015, mortalities from CVD reached 20 million per year [1,8].

The world's risk factors for CVD are increasing, and India, already the world's diabetes capital with 32 million diabetics, is forecast to have 69.8 million by 2025. The number of "hypertensive" people is estimated to increase from 118 million in 2000 to 214 million in 2025 [2].

The WHO program on CVD is focused on global prevention, care, and surveillance of CVD. Medication safety is a global issue and serious concern associated with the safety and quality of patient care. Main treatments involve the administration of medications which alter the function of the heart and blood vessels [3,12].

Various suggested techniques for reducing medication errors were offered, such as avoiding mistakes through keeping high-alert drugs in specified ways. Teaching and a theory-practice gap in nursing education cause nurses to commit administrative errors [4,10].

When comparing CCU to non-CCU, the rate of potential and preventable adverse medication events is higher; it is estimated that over one million medical errors occur yearly. Patients in the CCU are given twice as many medications as those who are not in the CCU. Medication is responsible for 78% of significant errors in CCU patients, according to the critical care safety study. Approximately two-thirds of medication in the CCU is administered through IV, increasing the potential of errors owing to dose miscalculations and incorrect medication delivery [5,14].

Cardiac nurses are in charge of administering and producing potent medications which have an impact on a patient's cardiovascular function. All nurses must be informed of medication indications, contraindications, actions, side effects, and interactions [6,4].

Nurses are supposed to be in charge of managing patient care services efficiently and effectively. Nurses play a critical role in patient care in the health-care team. Also, they are known as frontline case managers because they are the first to respond to any emergencies that occur in their units. It is critical that they are familiar with the medications on the crash cart [7,13,15].

Medication errors might be caused by a lack of medication expertise. Nurses must be able to determine when a medication's prescription dose is too low or high, in spite of what is ordered. Nurses are responsible for identifying what probable side effects need to be monitored with each medicine administration. When compared to non-CCUs, the risk of probable and preventable adverse drug events is higher in CCUs [8,11].

In the case when anaphylaxis occurs, nurses must have the knowledge and abilities to identify it and respond effectively. According to studies, an educational program might help nurses become more aware of medication errors and other medication-associated safety concerns [1,9,15].

Material and method

Design of the Study

A descriptive cross-sectional study was carried out at coronary care unit of Basrah Hospitals to assess nurse's knowledge about commonly used medications in coronary care units. The study started from 27th of November, 2020 to 18th of June, 2021.

Setting of the Study

The research has been carried out in the coronary care units of Basrah Hospitals that selected randomly (Al-Jamhory teaching hospital, AL- Sadr Teaching Hospital, and Basrah oil Hospital) and it is located in AL-Basra governorate.

Sample of the Study

A purposive sample consist of (30) nurses who have been working in coronary care units.Sample of the Study. The samples have been selected based on the following criteria:

- Those who have been working in coronary care units.
- Those that should have more than one year of experience in coronary care units.
- Those who are (20) years of age and older.

Study Instrument

The instrument of the present study has been carried out for reaching the goal of the work and the questionnaire was derived previous studies, they detail the following: First part: It is concerned with the nurse's demographic data which are sex, age, level of education, Total years of professional experience in CCU, and Training program about cardiac medications. Second part: it is composed of (20) MCQs for nurse's knowledge about commonly administrated medications which are rated according to correct (1), not correct (0) score, related to the nurse's knowledge.

Validity of the instrument

The validity of the instrument had been achieved by 7 experts from different scientific branches from faculty of nursing, university of basrah having at least 6 years of experience in their field of work. Minor changes have been performed on few items; such as change demographic data, and nurse's knowledge commonly administrated medications.

Reliability of the Instrument

The reliability of the research instrument had been evaluated through the SPSS program by applying Cronbach's Alpha for (10) items.

Table (1) Reliability of research instrument

Methods of reliability	Criteria of the study	Actual values	No. of Items	Asses
Cronbach's Alpha	**Nurses knowledge**	**0.78**	**20**	**Accep**

The results of table (1) show that the research instrument is acceptable and sufficient to evaluate the sample according to Cronbach's Alpha value (0.78). Therefore, the instrument is reliable to test research phenomenon.

Results:

Table 2: **Distribution of the study sample by socio-demographic characteristics**

Variables	Classification	Frequency	Percentage (%)
Sex	Male	12	40.0
	Female	18	60.0
	Total	**30**	**100.0**
Age group	20-29 year	13	43.3
	30-39 year	12	40.0

	40 year and above	5	16.7
	Total	**30**	**100.0**
Level of education	Nursing school	13	43.3
	Nursing institute	6	20.0
	Bachelors in nursing	9	30.0
	Master in nursing	2	6.7
	Total	**30**	**100.0**
Total years of professional experience in CCU	Less than 5 years	15	50.0
	5-10 years	8	26.7
	More than 10 years	7	23.3
	Total	**30**	**100.0**
Training program about cardiac medications	No	28	93.3
	Yes	2	6.7
	Total	**30**	**100.0**

Table (2): represents that the high percent (60 %) of the study sample are female, 43.3% of them at age group (20-29) years, 43.3% graduated from Nursing school, 50 % total years of professional experience in CCU were arranged between (Less than 5 years), and most of them (93.3%) don't have training program about cardiac medications.

Table 3: Assessment of the nurse's knowledge about commonly administrated medications in coronary care unit

No.	Items of nurse's knowledge	Responses	Statistical parameters		Mean
			F	%	
1	A client on Warfarin sodium (Coumadin) is being cared for by the nurse. Which test is now utilized to calculate the anticoagulant's daily dosage?	**Incorrect**	**19**	**63.3**	**0.37**
		Correct	**11**	**36.7**	
2	The client's heart rate lowers to 36 beats per minute during cardioversion. What medication does the nurse anticipate the doctor prescribing?	**Incorrect**	**15**	**50.0**	**0.50**
		Correct	**15**	**50.0**	
3	Hyperkalemia can be treated using which of the next options?	**Incorrect**	**20**	**66.7**	**0.33**
		Correct	**10**	**33.3**	
4	Actilyse is utilized for treating a variety of conditions that are caused by blood clots developing within blood vessels, such as.....?	**Incorrect**	**16**	**53.3**	**0.47**
		Correct	**14**	**46.7**	
5	Tab.Lasix (20mg) is given two times a day to a client. What is the anticipated time for the medication to start working when it is taken orally?	**Incorrect**	**19**	**63.3**	**0.37**
		Correct	**11**	**36.7**	
6	A nurse looks after a client with atrial fibrillation who has been given verapamil injections for rate control. What must the nurse look out for in terms of adverse effects?	**Incorrect**	**15**	**50.0**	**0.50**
		Correct	**15**	**50.0**	
7	Actilyse must not be given to patients suffering from because of the risks of bleeding.	**Incorrect**	**20**	**66.7**	**0.33**
		Correct	**10**	**33.3**	

8	A 25-year-old male has been diagnosed with cardiac shock. When a low-dose dopamine infusion is given, which of the next is most likely to happen?	**Incorrect**	**16**	**53.3**	**0.47**
		Correct	**14**	**46.7**	
9	Which adverse effect can a nurse notice in a patient taking amiodarone for 6 months?	**Incorrect**	**22**	**73.3**	**0.27**
		Correct	**8**	**26.7**	
10	Which of the next must be disclosed as a possible side effect of ACE inhibitor in the case when it is being taught to a client about the possible side effects of this medicine when it is used for treating hypertension?	**Incorrect**	**15**	**50.0**	**0.50**
		Correct	**15**	**50.0**	
11	Which one of the next medications might lead to Tinnitus	**Incorrect**	**21**	**70.0**	**0.30**
		Correct	**9**	**30.0**	
12	Which one of the next is considered as a false statement?	**Incorrect**	**8**	**26.7**	**0.73**
		Correct	**22**	**73.3**	
13	LASIX is indicated in adults' patients for the treatment of……?	**Incorrect**	**19**	**63.3**	**0.37**
		Correct	**11**	**36.7**	
14	Angised 0.5mg Tablet helps in prevention as well as treatment of	**Incorrect**	**15**	**50.0**	**0.50**
		Correct	**15**	**50.0**	
15	The most common side effect of angised is a ……..which may be severe:	**Incorrect**	**5**	**16.7**	**0.83**
		Correct	**25**	**83.3**	
16	What is the best opioid of choice for treat moderate to severe pain in patient suffer from myocardial infarction?	**Incorrect**	**15**	**50.0**	**0.50**
		Correct	**15**	**50.0**	
17	Losartan (Cozaar) is an ACE inhibitor utilized for the treatment of Congestive Heart Failure and hypertension in the long term.	**Incorrect**	**19**	**63.3**	**0.37**
		Correct	**11**	**36.7**	
18	Bronchospasm, unstable heart failure, and severe bradycardia are all contraindications to using beta-blockers for the treatment of CHF.	**Incorrect**	**15**	**50.0**	**0.50**
		Correct	**15**	**50.0**	
19	One of the next is an example of an adverse effect related with the usage of amiodarone:	**Incorrect**	**21**	**70.0**	**0.30**
		Correct	**9**	**30.0**	
20	A 45-year-old male had just begun hypertension treatment when he developed a chronic, dry cough. Which medicine is most possible to blame for this complication?	**Incorrect**	**4**	**13.3**	**0.87**
		Correct	**26**	**86.7**	
	Total				**0.46**

Table (3): this table shows the assessment of the nurse's knowledge about commonly administrated medications in coronary care unit which indicate that sample responses are fail at (1,3,4,5,7,8,9,11,13,17,and 19) items and passes at the items number (2, 6, 10,12,14,15,16,18, and 20) and as the total assessment of knowledge the table show that sample also fail at the total mean (0.46).

Table 4: Relationship between the nurse's knowledge about commonly administrated medications and their demographic variables as a sex, age group, level of education, total years of professional experience in CCU, and training program about cardiac medications.

Nurse's knowledge Variables	Pearson Chi-Square	
	P-Value	Sig.
Sex	0.567	NS
Age group	0.069	NS
Level of education	0.165	NS
Total years of professional experience in CCU	0.028	S
Training program about cardiac medications	0.301	NS

*****Correlation is significant at the p<0.05 level.

Table (4): presented that there was a significant relationship between nurse's knowledge about commonly administrated medications in coronary care unit and their total years of professional experience in CCU at a p<0.05 level. And there was no relationship between nurse's knowledge about commonly administrated medications in coronary care unit and their demographic variables as a sex, age group, level of education and training program about cardiac medications.

Discussion

The Socio-Demographic Characteristics of sample in the present study was (60%) of them were females, this result agrees with Vazin & Delfani (2012) that stated observational study has been carried out in internal ICU of university hospital in Shiraz were 52.6% % of participants were females. High percent of the study sample which is included in the present study was (43.3%) of them at age group (20-29 year) years, this result confirmed with study [8] show in their study which was carried out for assessing the knowledge level regarding high alert medications among (280) nurses in government hospitals in West Bank, Palestine. were (43.2) % at age (25-30) years. Concerning to the educational levels, the present study was (43.3%) graduated from school of nursing, this result disagrees with study [8,9] show in their study which was conducted for assessing the knowledge level regarding high alert medications among (280) nurses in government hospitals in West Bank, Palestine. presented that (57.5%) of sample were graduated from college of nursing. Total years of professional experience in CCU of the present sample in the present study is (50 %) of them were arranged between 5-10 years, this finding agrees with the result obtain from the study [6] stated in their study on 25 nurse who work in n Cardiac Surgical intensive care unit for identifying knowledge related to frequently administered medications in Cardiac Surgical ICU among Cardiac Nurses, this study shows Years of experience was (0- 10) years and present (86.7%) from their study. According to training program about cardiac medications most of them (93.3%) don't have previous training, and this result is compatible with findings of study [6] stated in their study on 25 nurse who work in n Cardiac Surgical intensive care unit for identifying knowledge related to the frequently administered medications in Cardiac

Surgical ICU among Cardiac Nurses, this study shows (66.7%) not completion infection control course.

The result of this study shows that the assessment of the nurse's knowledge about commonly administrated medications in coronary care unit which indicate that sample responses are fail at the following studied items(1,3,4,5,7,8,9,11,13,17,and 19) and passed at the items number (2, 6, 10,12,14,15,16,18, and 20) and as the total assessment of knowledge the table show that sample also fail at the total mean (0.46) The researchers believe that because of poor of training education program in many of teaching hospitals to the nursing staff.These findings are not compatible with [10] who evaluated 108 critical care nurses in among five critical care nurses for assessing the knowledge related to critical care nurses on cardiac medications as well as finding the relation between the clinical experience, qualification, and the previous experience of attending cardiac emergencies which revealed that most of nurse 47 (43.5%) of the participants have equally shared good and average knowledge on cardiac medications, which is in agreement with another work [6] stating in their research on 25 nurse who work in n Cardiac Surgical ICU for identifying knowledge regarding the typically administered medications in Cardiac Surgical ICY among Cardiac Nurses. The results showed that most of cardiac nurses fail to the knowledge about typically administered medications in Cardiac Surgical ICU.

The finding of the present study represented that there was a significant relationship between nurse's knowledge about commonly administrated medications in coronary care unit and their total years of professional experience in CCU at a $p<0.05$ level. and there was no relationship between nurse's knowledge about commonly administrated medications in coronary care unit and their demographic variables as a sex, age group, level of education and training program about cardiac medications, this finding is disagreement to result of study [10] that evaluated 108 critical care nurses in among five critical care nurses to assess the knowledge of critical care nurses on cardiac medications. which showed it was found that there was no significant association between the knowledge of critical care nurses on cardiac medications and education. These study in same line with [9] which represented that there was no statistically significant difference when comparing the mean knowledge score with age, professional qualification, year of experience and CPCR training programmed attended. There was statistically significant higher knowledge score in nurses with years works in ICU experience.

Conclusion

This study concluded that majority of the study sample are females, and 43.3% of them at age group (20-29) years.The total level of nurse knowledge about commonly administrated medications in coronary care unit has fail of knowledge at total means of score (0.46).there was a significant relationship between nurse's knowledge about commonly administrated medications in coronary care unit and their total years of professional experience in CCU at a $p<0.05$ level. And there was no relationship between nurse's knowledge about commonly administrated medications in coronary care unit and their demographic variables as a sex, age group, level of education and training program about cardiac medications.

Recommendations

the following recommendations were made for future research:

1.Nurses working at the coronary care units should be provided by educational program regarding common medications used in coronary care unit.

2.Routinely evaluating nurse's knowledge and to assess the level of nurses about medications.

3.The coronary care unit manger must need to be emphasized in the plan as an ongoing activity in the Continuing Nursing Education Program.

Ethical Considerations

Permission has been obtained from the College of Nursing/ university of Basra and Ministry of Health, Health Department of Basra, Training and Human Development Center to Basra teaching hospital, before conducting the study.

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