



Evaluation of Nurses Practices Toward Safety of Patients Undergoing Coronary Angiograph

تقويم مستوى أداء الممرضين حول سلامة المرضى الخاضعين لتصوير الأوعية التاجية

Khulood Abdulmahdi Maktoof, MScN^{1,*} | Rajaa Ibrahim Abed, PhD²

¹PhD student, Adult Nursing Department, College of Nursing, University of Baghdad

E: mail:

Khuloodiq26@gmail.com

²PhD, Professor, Fundamentals of Nursing Department, College of Nursing, University of Baghdad

dr.rajaaia@conursing.uobaghdad.edu.iq

*Corresponding author:



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Abstract

Background : Nurses play an important role in providing safety to patients who undergo coronary angiography . Patient safety in minimizing complications is essential in practices of coronary care unit. Every individual have the right for safe and effective quality healthcare.

Objective: The descriptive study was used to evaluate of nurses' practices related to safety of patients undergoing coronary angiography, To identify the association between nurses socio-demographic characteristics and their practices related to safety of patients undergoing coronary angiography

Methodology: A descriptive study was carried out between June 4th to September 25th 2023. The study was conducted at (internal ward), Al-Nasiriyah Heart Center, a government hospital in Thi-Qar, Iraq. A non-probability sampling of (25) cardiac nurse were selected . The instrument consisted of two major parts was based on the review of literature. The first part was concerned with determination of the demographic characteristics of these nurses through designated sheet which included (6) items, and the second part was an observational tool (checklist) which includes (36) items concern nurses' practice related to safety of patients undergoing coronary angiography. Data were analyzed using IBM SPSS version 26. Descriptive and inferential data analysis were utilized to analyze the data. Reliability of instrument was determined through a pilot study and the instrument validity was determined through a panel of experts.

Results: The study indicated that the overall evaluation of nurse's practices show poor level of practices (60%).

Conclusion: The study concluded that there was poor level of practices related to safety of patients undergoing coronary angiography.

Recommendation: The study recommended that establishing an educational program for nurses to improve their practices related to safety of patients undergoing coronary angiography.

Keywords: Nurses , Practices, Safety , Patient, Coronary Angiography

Introduction:

Coronary artery diseases (CAD), additionally known as coronary heart disease (CHD) or heart disease (HD).⁽¹⁾ CAD is the most common type of cardiovascular disorder (CVD)⁽²⁾. Coronary artery disease (CAD) represents to be first as a cause of death worldwide⁽³⁾. It's caused mainly by the deposition of fatty substances on walls of arteries leading to hardness of arterial wall which is called atherosclerosis⁽⁴⁾. Atherosclerosis is a systemic disease that often affects multiple vascular distributions in a single patient⁽⁵⁾. One of the most common and the best way to diagnose coronary artery diseases is Coronary Angiography (C.A), It's take a wide range and its advantages for short time⁽⁶⁾ coronary angiography is a diagnostic and interventional tool available to the cardiologist today. It's useful to define the presence, Anatomical characteristics, and functional significance of Coronary artery disease⁽⁷⁾. It may lead to several minor and more serious complications which may contribute to morbidity and mortality. The responsibility of the cardiac catheterization team is ensuring good patient care, safety without accidental harm as a result of a health care encounter⁽⁸⁾. Patients with renal failure who were older than 70 years old, female, and at increased risk for vascular problem⁽⁹⁾. The major vascular complications include Retroperitoneal hematoma, Loss of distal (pedal) pulse and Arterial perforation while the minor complications include Bruises, Pseudo aneurysm, AV fistulas, Hematoma and Infection (abscess)⁽¹⁰⁾. Nurses practice is so critical in order to reduce the risk and prevent complications that may be associated with this procedure⁽¹¹⁾. The importance of patient safety is growing worldwide and improving safe care of patients has recently evoked national attention⁽¹²⁾. Cardiac nurses are responsible for providing patient's safety and minimizing vascular complications after cardiac catheterization procedures. They should be aware about the guidelines for providing safety for the patient. Each nurse should know the high risk patient, safe practices for handling and maintenance of homeostasis⁽¹³⁾. Nurses have a main roles in educating the patients to prevent the complications

and managing the patient undergoing CA So that nurses need the proper knowledge and skills to care for patients undergoing CA As advocates for patients and primary care providers standardized education must be provided for nurses to prevent complications and smooth and easy recovery and to reduce hospital stay in patients⁽¹⁴⁾.

Methodology:

A descriptive study was carried out between June 4th to September 25th 2023. The study was conducted at cardiac care units, Al-Nasiriyah Heart Center, a government hospital in Thi-Qar, Iraq.

A non-probability sampling of (25) cardiac nurse were selected. The ethical approval was obtained from the Scientific Research Ethical Committee at College of Nursing-University of Baghdad. The study's overall purpose were explained to the participants and the researcher confirmed that the data would be kept private and safe during and post their participation in the study.

The instrument consisted of two major parts was based on the review of literature. The first part was concerned with determination of the demographic characteristics of these nurses through designated sheet which included (6) items, which include age, sex, marital status, level of education, years of experience and workplace. and the second part was an observational tool (checklist) which includes (36) items concerning practice that should be provided for patient undergoing coronary angiography which are divided into (2) section: The first section: It is concerned with pre-coronary angiography which consist from (18 items). The second section: It is concerned with post coronary angiography which consist from (18 items).

The content validity of the instrument was obtained through panel of (14) experts who had more than (10) years of experience in the field and the internal consistency reliability of the instrument was determined through collecting data from (5) nurses at Al-Nasiriyah Heart Center.

The data were analyzed through the application of the statistical analysis system (SPSS) version 26, and the descriptive and inferential statistical data

analysis approach were used, which include descriptive data analysis (frequencies and percentage, mean and standard deviation and

inferential data analysis of independent sample t-test and multiple linear regression.

Results:

Table (1): Distribution of Nurses According to Their Socio-demographic Characteristics

No.	Characteristics		Study group	
			F	%
1	Age (Years)	22 – less than 26	13	52
		26 – less than 30	7	28
		30 – less than 34	4	16
		34 – less than 38	0	0
		38 and more	1	4
		Total	25	100
		M±SD	27.08 ± 3.9	
2	Sex	Male	7	28
		Female	18	72
		Total	25	100
3	Marital status	Unmarried	7	28
		Married	18	72
		Total	25	100
4	Level of education	Nursing school	4	16
		Diploma	8	32
		Bachelor	13	52
		Total	25	100
5	Years of experience	1 – less than 6	19	76
		6 – less than 11	4	16
		11 or more	2	8
		Total	25	100
		M±SD	4.76 ± 3.6	
6	Workplace	CCU	10	40
		Cardiac ward	15	60
		Total	25	100

Table1: presents the distribution of nurses according to their socio-demographic characteristics ,the table shows that average age for nurses (52%) in the study group was between (22-25) years old. Regarding sex of nurses (72%) of the sample are female nurses; Concerning the

marital status (72%) of of nurses are married. The level of education refers to “bachelor degree” were (52%) of nurses.The average(76%) years of experience refers to less than 5 years of experience. Regarding workplace, (60%) of them working in the cardiac wards.

Table (2): Overall Evaluation of Nurses' Practices about Safety of Patients Undergoing Coronary Angiography

Levels of Practices	(N= 25)			
	F	%	M	SD
Poor	15	60	37.36	9.433
Fair	10	40		
Good	0	0		
Total	25	100		

f: Frequency, %: Percentage, M: Mean of total score, SD Standard deviation

Poor= 0 - 36, Fair= 36.1 – 72, Good= 72.1 – 108

Table 2: presents the overall evaluation of nurse's practices; the findings reveals that (60%) of nurses in the study group show poor level of

practices related to safety of patients undergoing coronary angiography.

Table (3): Relationship between Nurses' Practices and their socio-demographic characteristics

Age	Practices	Correlation
22 – less than 26		p-value = .960 rs = .010 Sig = N.S
26 – less than 30		
30 – less than 34		
34 – less than 38		
38 and more		
Total		
Sex	Practices	
Male		p-value= .498 r * = .142 Sig = N.S
Female		
Total		
Marital status	Practices	
Unmarried		p-value = .223 r * = .253 Sig = N.S
Married		
Total		
Level of education	Practices	
Nursing school		p-value = .896 rs = .028 Sig = N.S
Diploma		
Bachelor		
Total		
Years of experience	Practices	
1 – less than 6		p-value = .314 rs = .210 Sig = N.S
6 – less than 11		
11 or more		
Total		
Workplace	Practices	

CCU	p-value = .216 r * = .494 Sig = N.S
Cardiac ward	
Total	

r_s = Spearman correlation coefficient, r^* = point biserial correlation coefficient, P= Probability, Sig= Significance, N.S= Not significant, S= Significant, H.S= High significant

Table 3: indicates that there are no significant relationships found among nurses' practices with regard to their socio-demographic variables in the study group.

Discussion:

Cardiac nurses are in charge of ensuring patient safety and minimizing vascular problems. The rules for ensuring the patient's safety should be known to them. Every nurse should be familiar with handling high-risk patients safely and maintaining homeostasis. ⁽¹⁵⁾

a descriptive study was conducted on nurses at Al-Nasiriyah Heart Center to evaluate of nurses' practices related to safety of patients undergoing coronary angiography.

Regarding distribution of nurses' socio-demographic characteristics showed that the majority of the participants' age ranged between (22-25) years-old, . This finding is congruent with that of (Skal.2021) who reported that majority of the sample were in the age group of (22-25) years-old ⁽¹⁶⁾

As regards to marital status and gender, the current study results revealed that more than half of studied nurses were females and married. This result agrees with (Abdulrdha.2018) who showed that the highest percentage of the studied nurses were females and married ⁽¹⁷⁾

Concerning the years of experience in nursing, most had experience ranged between (1-5) years. This finding is supported by (Dawood. 2018) who found that the most of the staff had (1-5) years of experience ⁽¹⁸⁾

Most of them Graduate B.Sc. of Nursing . This finding supported by a study conducted in Mosul Hospital. who found more than half of the sample had bachelor degree of nursing ⁽¹⁹⁾

The current study revealed that "demographical characteristics and some related variables", had

no significant relationship with an overall assessment of (Nurses' Practices about Safety of Patients Undergoing Coronary Angiography). Also , the finding was supported by study conducted in Iraq by (Baiez .2015) , who revealed that no significant relationship with an overall assessment of (evaluation of nursing staffs performance in Cardiac Care Units)⁽²⁰⁾

majority of studied nurses show poor level of practices (60%). The current study agreed with a study conducted in Eygpt by (Hamed *et al.*2023) who show that (97.5%) of studied nurses had unsatisfactory performance level regarding nursing intervention for patients undergoing cardiac catheterization . ⁽²¹⁾

Another study conducted by (El Sayed *et al.*2022) at Benha University Hospital , who revealed that the majority of studied nurses more than half (60%) had unsatisfactory level of total practice about safety measures before , during and after cardiac catheterization procedure⁽²²⁾.

Conclusion:

According to the study findings, the study concluded the following:

1. The study concluded that there was poor level of practices related to safety of patients undergoing coronary angiography.
2. The study revealed that no significant relationship between nurses socio-demographic characteristics and their practices related to safety of patients undergoing coronary angiography.

Recommendations:

The study recommended that establishing an educational program for nurses to improve their practices related to safety of patients undergoing coronary angiography

Funding

The authors declare that throughout the time of writing this article, they did not receive any funding, grants, or other types of support while preparing this article.

Conflict of interest

None declared

Acknowledgments

The authors much appreciated for the hospital and all study participants for their assistance in completing this research.

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