Quality of Pre-Cardiac Catheterization Nursing Care at the Surgical Specialty Hospital - Cardiac Center in Erbil City

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ABSTRACT

Background and objectives: Cardiac catheterization is an invasive procedure, also is a diagnostic and therapeutic procedure of the heart and blood vessel. A major role of nurses is to provide care to the patients before procedure. The aim of the study is to assess the quality of nursing care for patients undergoing cardiac catheterization in cardiac center in Erbil city.

Methods: This descriptive study was conducted on all nurses who perform pre cardiac catheterization nursing care in the Surgical Specialty Hospital - Cardiac Centre in Erbil City. A questionnaire and checklist was designed for the purpose of the study. Data were collected through the part one interview with nurses and part two was checklist observation of nursing care. Frequency and Kendall test was used for data analysis.

Result: The mean ± SD of age was 25.36 ±2.16 years. Gender was more than half of the nurses were female, were male (45.5 %), single (63.6%), most (90.9) of them were nurses graduated from Hawler Medical Technical Institute, the length of experience in nursing (63.6%) had experience of 1-5 years, duration of work for nurses (72.7%) in cardiac catheterization worked for 1-5 years, and none of them attended any training program on cardiac catheterization in the Kurdistan region or abroad.

In general, there was no significant association between the quality of pre cardiac catheterization nursing care and their socio-demographic characteristics of the nurses.

Conclusion: Nursing care had sometimes to never level, but need continuous knowledge and training course regarding nursing care. Future research is required to affirm these determinations.

Keywords: Cardiac catheterization; Nursing care; Quality.

INTRODUCTION

Coronary heart disease is the single leading cause of death worldwide. According to the World Health Organization (WHO), 16.7 million people worldwide die of cardiovascular diseases (CVD) each year. By 2020, the WHO estimates 25 million CVD deaths globally [1].Cardiac catheterization is one of the most common invasive procedures. It is a test that produces detailed pictures of the heart. Cardiac catheterization is considered the gold standard for the diagnosis, evaluation and treatment of cardiac diseases [2].According to the statistical data from the cardiac center in Erbil the number of cardiac catheterizations has doubled from 2008 to 2015 (1521, 3750 respectively) [3]. Over an 8,000 million cardiac cath procedures are performed annually in the United States, and it has established itself as the most common hospital procedure in senior Americans over the age of 65 years [4].In Western counties it is used approximately six thousand procedures per one million inhabitants, per year [5].Although the cardiac catheterization has reduced morbidity and mortality for cardiovascular disease, this invasive procedure is not free

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of complications. However, it is very safe when performed by an experienced team [6].In addition nurses knowledge in this area was in adequate indicated in study done by [7].Therefore, this study was conducted to assess the socio demographic data of the nurses working in the Cardiac center and quality of the nursing care regarding patient preparation for cardiac catheterization.

METHODS

This study was conducted from the 15th July to the 23rd August 2018 on all nurses who perform pre cardiac catheterization nursing care in the Surgical Specialty Hospital - Cardiac Centre in Erbil City of Kurdistan Region-Iraq. The sample was selected according to the following criterion: All nurses in Catheterization Unit. A questionnaire and checklist format was developed for purpose of data collection; It contained of two parts; Part one (questionnaire) consisted of socio-demographic characteristics of the nurses, and part two (checklist) consisted of observation of nursing care which includes 29 items and each item has 3 responses that are ranked from 3 to 1 and the researcher selects one response that is more suitable with his nursing care. It also observes nursing care level as the following: 3 always, 2 sometimes, 1 never. The ethical approvals for conducting this study were obtained from ethical committee in College of Nursing / Hawler Medical University. The researcher observed each nurses three times (three observations) in one day. The researcher observed each nurse while taking care of the patients without their orientation. Later the researcher filled up the checklist. In order to analysis the results of the study data were entered in SPSS (version 23) frequency, percentage and Kendall test (it used to test for associations in hypothesis testing, the purpose is to investigate the possible

association in the underlying variables when sample size is small) was used for analyzing of data.

RESULTS

Table 1 show that the majority of the age (81.8) was in the age group 23-26 years old, the mean age and SD of the participants was 25.36 ±2.16 years. Gender (54.5) was more than half of the nurses were female, single (63.6), most (90.9) of them were nurses graduated from Hawler Medical Technical Institute, the length of experience in nursing (63.6) had experience of 1-5 years, duration of work for nurses (72.7) in cardiac catheterization worked for 1-5 years, and none of them attended any training course program on cardiac catheterization in the Kurdistan region or abroad. Table 2 shows the nursing care before cardiac catheterization. The highest mean scores (3.0) were allocated to the following activities items such as: Check the patient medical record, Administers the prescribed medication, Shave and clean the area before the catheter insertion site, Instruct the patient to warning the hospital gown, Check and record blood pressure, applying ECG to the patient, and Keep the patient privacy. This means that all the nurses did carry out those activities in patient. (Higher mean higher quality patient care), the lowest mean score (1.0) allocated to the activity items such as: Check the patient height and weight, and Administrative the mild sedative. Table 3 shows the level of overall quality of nursing care for patient's undergoing pre cardiac catheterization. The highest percentage of the level of the nursing care (81.8) was at the fair level, and the lowest percentage (18.2) of nursing care was good level, while the mean score of overall quality of care was 2.18, which indicated that the quality of care of all nurses is fair.

Table 4 shows the following results: the relationship between the age and overall quality of pre cardiac catheterization nursing care. The highest percentages (81.8) were in the age group 23-26 years old, while the lowest percentage (18.2) of the nurses' age group was for above 27 years old. Moreover, there were more nurses with score fair than nurses with the good score. Finding of the study indicated that there was a non-significant relationship between age and overall quality of nursing care (p = .350).

The relationship between the gender and overall quality of pre cardiac catheterization nursing care: The higher percentages of nurses (54.5) were female, and lowest percentages (45.5) were male, the numbers of nurses with fair score were more in comparing with the good score of the nurses. There was a significant relationship between gender and overall quality of nursing care (p = 0.085).

The relationship between the qualification and overall of pre cardiac catheterization nursing care: The data indicated that the highest percentages of nurses (90.9) were in nursing institute, just one nurses (9.1) was graduated from college of nursing, all of them with fair score just one of them with good score. The result of the study shows that there was a Non-significant relationship between marital status and overall quality of nursing care (p = 0.247).

The relationship between the marital status and overall of pre cardiac catheterization nursing care: The data indicated that the highest percentages of nurses (63.6) were single, while the lowest percentages (36.4) were married, also it mean the numbers of the nurses with fair score were more than the good score when comparing between them. The result of the study shows that there was a Non-significant relationship between marital status and overall quality of nursing care (p = 0.674).

The relationship between the length of experience in nursing and overall quality of pre cardiac catheterization nursing care: The highest percentages of the nurses (63.6) had 1 – 5 years of experiences in nursing care, while the none (0.0) of the nurses had >10 years of experiences in nursing care that means the numbers of nurses with fair score were more in comparing with good score of the nurses. The result of the study showed that there was a Non-significant relationship between length of experience in nursing and overall quality of nursing care (p = 0.108), because most of them were appointed recently.

The relationship between the duration of work in this unit and overall quality of pre cardiac catheterization nursing care: The highest percentage of the nurses (72.7) had 1 – 5 years of work in this area of patient care, while the none (0.0) of the nurse over 6 years of work in the cardiac catheterization unit. Moreover, the numbers of the nurses with fair score were more in comparing with good score of the nurses. The result of the study showed that there was a Non- significant relationship between duration of work in this unit and overall quality of nursing care (p = 0.145).

Table 1: Socio demographic characteristic of cardiac catheterization nurses

Socio demographic of nurses		n = 11 F	(%)
Age (years)	23 -26	9	(81.8)
	27 – 30	2	(18.2)
	M ± SD	**25.36± 2.16**	
Gender	Male	5	(45.5)
	Female	6	(54.5)
Qualification	Nursing institute	10	(90.9)
	Nursing college	1	(9.1)
Marital status	Single	7	(63.6)
	Married	4	(36.4)
Length of experience in nursing	<1	3	(27.3)
(years)	1 – 5	7	(63.6)
	6 – 10	1	(9.1)
Duration of work in the cardiac catheteriza-	<1	3	(27.3)
tion unit(years)	1 – 5	8	(72.7)
Attending training course program in cardiac	Yes	0	(0)
catheterization patient care	No	11	(100)

Table 2: Quality of pre cardiac catheterization nursing care

Items (activities)	Always F	(%)	Sometimes F	(%)	Never F	(%)	
Check the patient medical record	11	(100)	0	(0)	0	(0)	**3**
Ask the patient past or present illnesses and that biographic	0	(0)	6	(54.5)	5	(45.5)	**1.55**
Explain the risk and complication of the procedure	0	(0)	4	(36.4)	7	(63.6)	**1.36**
Check characteristics of pain associated with procedure	0	(0)	1	(9.1)	10	(90.9)	**1.09**
Explain the procedure to the patient	0	(0)	10	(90.9)	1	(9.1)	**1.91**
Asking the patient about allergy	1	(9.1)	7	(63.6)	3	(27.3)	**1.82**
Notify the patient about which drugs should be given before the procedures(e.g. Aspirin, clopedogril)	5	(45.5)	6	(54.5)	0	(0)	**2.45**
Administers the prescribed medication	11	(100)	0	(0)	0	(0)	**3**
Provide psychological support	0	(0)	2	(18.2)	9	(81.8)	**1.18**
Ask the patient to empty bladder	1	(9.1)	7	(63.6)	3	(27.3)	**1.82**
Instruct the patient to NPO(Nothing by mouth)	8	(72.7)	3	(27.3)	0	(0)	**2.73**
Shave and clean the area before the catheter insertion site	11	(100)	0	(0)	0	(0)	**3**
Instruct the patient to warning the hospital gown	11	(100)	0	(0)	0	(0)	**3**
Check and record body temperature	0	(0)	3	(27.3)	8	(72.7)	**1.27**
Check and record blood pressure	11	(100)	0	(0)	0	(0)	**3**
Check and record pulse rate	2	(18.2)	5	(54.5)	4	(36.4)	**1.82**
Check and record respiratory status (depth, rate, sound, and other abnormality)	0	(0)	2	(18.2)	9	(81.8)	**1.18**
Check the patient height and weight	0	(0)	0	(0)	11	(100)	**1**
Check the laboratory test(CBP ,PT, S creatine ,blood sugar, s.electrolytes , chest X- ray, virology screen)	6	(54.5)	5	(45.5)	0	(0)	**2.55**
Remove dentures, hearing aids or glasses of the patient	5	(45.5)	6	(54.5)	0	(0)	**2.45**
Insert IV line	7	(63.6)	4	(36.4)	0	(0)	**2.64**
Obtain formal agreement with signature of patient	11	(100)	0	(0)	0	(0)	**3**
Training the patient for relaxation techniques	0	(0)	1	(9.1)	10	(90.9)	**1.09**
Administrative the mild sedative	0	(0)	0	(0)	11	(100)	**1.0**
Check peripheral pulse	0	(0)	7	(63.6)	4	(36.4)	**1.64**
Appling ECG to the patient	11	(100)	0	(0)	0	(0)	**3**
Checking ECHO	10	(90.9)	1	(9.1)	0	(0)	**2.91**
Notify the patient about which drugs should be stopped before the procedures (e.g. Insulin, Warfare, Daonil)	2	(18.2)	7	(63.6)	2	(18.2)	**2**
Keep the patient privacy	11	(100)	0	(0)	0	(0)	**3**

Table 3: Overall quality of pre cardiac catheterization nursing care

Level of quality of post (PTCA) nursing care	F	(%)
Good (59-87)	2	(18.2)
Fair (30-58)	9	(81.8)
Mean score and standard deviation of overall quality of care		2.18 ± 0.4

Table 4: Relationship between Overall Qualities of Pre Cardiac Catheterization Nursing Care and socio-demographic items

Items	P-value of Kendal test	Decision
Age	0.350	NS
Gender	0.085	NS
Qualification	0.247	NS
Marital status	0.674	NS
Length of experience in nursing	0.108	NS
Duration of work in the cardiac catheterization unit	0.145	NS

DISCUSSION

The main important point is assessment of quality of pre nursing care for patient undergoing cardiac catheterization; all nurses participated in this study worked in the catheterization ward in cardiac center and the researcher worked on it. The highest percentage of the study sample's (nurses) age was from 23– 26 years old and their mean age was 25 years. This result agreed with the results of descriptive study done on 11nurses working in cardiac center hospital in Iraq, who found that the majority of nurses age were in 20-23 years [7]. More than half of the study samples were females and the remainder were males. this study agree with the study done By De Vito Dabbs et al. (1999) on twelve nurses working in cardiac catheterization unit in the United states they found all nurses in this unit were female [8]. On the other side, this study against with a quasi-experimental study had done by Hassan and Hassan (2012) on 80 nurses working in cardiac unit Kirkuk teaching hospitals [9]. The result showed that the female nurses more higher than the female; actually6 female to 5 male. The reason for this variation may be the majority of nurses graduated from medical institute and college of nursing was female. Qualification of the nurses working in cardiac catheterization unit, all of them were graduated from Hawler Medical Technical Institute except one of the graduated from college of nursing. Most of them were nurses graduated from Hawler Medical Technical Institute. The present finding supported by the previous descriptive study which done by Omar (2014) in cardiac center/ Erbil city [7]. The result of the current study has founded that the highest percentage of the nurses was single, this result comes along with descriptive study that conducted by Ozdemir (2007) in Turkey, who found that the highest percentage of the study sample was unmarried

[10]. The present study not congruent with the study done by Aziz and Lafi (2011) on 32 nurses in a centre of heart disease in Sulaimani City, they found that the highest percentages of nurses were married [11]. The characteristic of experience in nursing and the duration of work for nurses in this unit revealed that most of nurses were from 1-5 years, The result of the present study was supported by descriptive quantitative study on 38 nurses who are working in Al-Saddar, ALHaqeem and Emergency hospital/Iraq, who found that 57.9 of the nurse's experience was 1-9 years [12]. This study similar to study of Al-Batayneh (2001) who revealed that the most of the nurses working with cardiac patients in Baghdad hospital/Iraq, had same period of experience in CCU because situation of Baghdad forced many nurses to go out of Iraq for finding a job [13]. In regard with training program for nurses in cardiac catheterization unit in Erbil city, the results indicated none of the nurses had been attended to any training courses neither in Erbil nor abroad regarding patient care at this unit. The main reason may be either, the hospital is not giving chance for nurses to improve their skills of patient care or may be nurses are not interested to improve their skills, whether in or out of the country.

CONCLUSION

Most of the study samples were young, single, female nurse, had 1-5 years in nursing of experience in the catheterization unit. All nurses worked in this unit were graduated from Hawler Medical Technical Institute and none of them attended to any training program to improve their nursing care rendering to these patients. In general quality of pre cardiac catheterization nursing care was at fair level according to the results of the mean score. In other word, out of twenty nine activities of patient instruction were seven activities of nurses carried out only. Overall quality of pre cardiac catheterization nursing care 81.8% of the nurses were at fair level compared to 18.2% were at good level. While the mean score of overall quality of care was 2.18 which indicated also fair level of patient care. There was near a significant relationship between overall quality of pre cardiac catheterization nursing care and gender, there was a non-significant relationship between overall quality of pre cardiac catheterization nursing care and sociodemographic characteristics of the nurses (age, marital status, length of experience in nursing, and duration of work in the cardiac catheterization unit).

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CONFLICT OF INTEREST

No potential conflict of interest was reported by the author.

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