Quality of nursing care for patients with acute myocardial infarction at coronary units of Erbil city hospitals

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Abstract

Background and objective: Acute myocardial infarction is the death of myocardial tissue as a result of prolonged lack of blood and oxygen. The aim of this study was to assess the quality of nursing care for patients with acute myocardial infarction in the coronary units in Erbil city hospitals.

Methods: This descriptive study was conducted on a non probability, purposive sample of 70 nurses selected from coronary care units of four hospitals (Hawler Teaching Hospital, Rizgari Teaching Hospital, Cardiac Centre and Rojhalat Emergency Hospital) in Erbil City. A questionnaire containing two parts was used for data collection. Part I of the questionnaire included demographic characteristics and part II contained three observational checklists: immediate nursing care for patients with acute myocardial infarction, nursing care for patients during coronary care units and teaching the patient and family before discharge. The number of items of the assessment sheet was 78.

Results: The mean age of the participants was 30 years. Majority of the samples were male, graduated from nursing institute, having 1-8 years of nursing experience, having 1-5 years experience in coronary care units and have not participated in previous trainings. The highest percentage (75.7%) of nurses provided fair levels of quality of nursing care. Age group 22-28 years, male gender, nursing experience from1-8 years and nursing experience in coronary care unit from 1-5 years were significantly associated with provision of high quality of nursing care. Highly significant factors associated with provision of high quality of nursing care included the higher levels of education, and participation in training regarding nursing care in coronary care unit.

Conclusion: Concerning the levels of quality of nursing care, the study shows that the majority of nurses provided fair levels of quality of nursing care

Keywords: Quality of nursing care, Coronary unit, Acute myocardial infarction, Patient.

Introduction

The heart like any other muscle requires oxygen and nutrient-rich blood to function. The coronary arteries that supply blood to the heart muscle spread across the surface of the heart, beginning at the base of the aorta and branching out to all areas of the heart muscle.[1] Coronary artery disease is a term applied to obstructed blood flow through the coronary arteries to the heart muscle. The primary cause of coronary artery disease is atherosclerosis. If blood flow reduction resulting from coronary artery disease is severe and prolonged, acute myocardial infarction can occur, causing irreversible damage.[2] Quality nursing care is the degree of health outcomes by delivery of efficient, effective and beneficial health services to people. Nurses are one of the largest groups of health-care professionals and are morally responsible for taking proper care of their patients.[3] Acute myocardial infarction (AMI), commonly known as a "heart attack", results in the death of the heart muscle. Acute myocardial infarction occurs from a partial or complete blockage of a coronary artery, which decreases the blood supply to the cells of the heart supplied by the blocked coronary artery. The extent of

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the cardiac damage varies depending on the location and amount of blockage in the coronary artery.[4] Risk factors that may contribute to a heart attack include aging more than 40 years, thrombo-embolism completely or partially obstructed vessel, diabetes mellitus, high levels of cholesterol, hypertension, a diet high in fat or salt, high homocysteine, elevated C-reactive protein, smoking, obesity, or a previous history or family history of cardiovascular disease.[5] A heart attack results in an area of the heart being permanently damaged. Making lifestyle changes can improve many of the risk factors for heart disease. Cardiac rehabilitation programs generally involve teaching the patient about diet, physical activity, and relaxation techniques. To decrease the risk factors, the patient will need to follow the healthy habits taught in cardiac rehabilitation, such as exercise and eating properly for the rest of the life.[6] In the developing countries like India, myocardial infarction is one of the leading causes of death. The prevalence of myocardial infarction has increased from 40 per 1000 in 1968 to nearly 110 per 1000 in 2001. In the year 2005, it was estimated that 30% of deaths in India were due to the coronary syndrome.[7]The aim of this study was to assess the quality of nursing care for myocardial patients.

Methods

The study was conducted at four governmental hospitals in Erbil city. These hospitals are only those that have coronary care units (CCUs), having facilities in which cardiac nursing care can be provided to patients with AMI. These hospitals included Hawler Teaching Hospital, Rizgari Teaching Hospital, Cardiac Centre and Rojhalat Emergency Hospital. This study was carried out from December 17th, 2012 to September 30th, 2013. The population of the study consisted of 70 nurses who worked at CCU in Erbil city hospitals. A tool was prepared by the researchers as a check-list. A purposive sample of all nurses attended at coronary care unit at the same

time of data collection in three shifts and of both genders was selected. Each nurse was assessed by observation individually without being informed and the researcher spent 20-30 minutes with each nurse during the period of observation. For measuring and assessing the quality of nursing care, it was considered to be as poor=72-120, fair=121-168 and good=169-216, scored and rated on three levels according to the Likert scale which measured as total numbers out of demographic (6) items= 72x3 categories=216 then 216-72=144. Then this number was divided by 3=48 then +72=120. This is mean that poor=72-120, for fair level 121+48=168 it mean that fair=121-168 and good level=169-216.[8] Statistical package for social science (SPSS, version 19) was used for data entry and analysis P-value ≤0.05 was considered statistically significant. Percentage, frequency and Chi-square test were used for interpretation.

Results

Table 1 shows the demographic characteristics of the sample. Regarding the age, the highest percentage of sample (48.6%) was 22-28 years old. The majority (61.4%) of nurses were male. The levels of education indicated that the highest percentage (78.6%) was educated of the diploma in nursing level. Concerning to the duration of experience in nursing, the highest percentage of the sample (77.1%) worked between 1-8 years in nursing, With regards to duration of experience in CCU, the highest percentage of the sample (77.1%) was in CCU for 1-5 years. With regards to the participation in training regarding nursing care in CCU, the majority (78.6%) of the nurses had no training, and (21.4%) of the nurses had training only once. Table 2 shows significant association between age, gender, nursing experience, and nursing experience in coronary care unit and highly significant association with levels of education and participation in training

regarding nursing care in coronary care unit. Table 2 shows that the levels of nursing care in coronary care unit among 70 nurses and the highest percentage (75.7%) of nurses had fair level of quality of nursing care.

Table 1: Demographic characteristics of the study sample.

Demographic characteristics	Frequency (F)	Percentage (%)
1. Age (years)		
22-28	34	48.6
29-35	28	40
36-42	8	11.4
Total	**70**	**100**
2. Gender		
Male	43	61.4
Female	27	38.6
Total	**70**	**100**
3. Levels of education		
College of nursing	7	10
Institute of nursing	55	78.6
Preparatory of nursing	8	11.4
Total	**70**	**100**
4. Duration of experience in nursing (years)		
1-8	54	77.1
9-16	14	20
17-24	2	2.9
Total	**70**	**100**
5. Duration of experience in CCU (years)		
1-5	54	77.1
6-10	12	17.1
11-15	4	5.8
Total	**70**	**100**
6. Did you participate in any training regarding nursing care in CCU		
Yes	15	21.4
No	55	78.6
Total	**70**	**100**

Table 2: Levels of quality of nursing care in coronary care unit.

Level of quality of nursing care	F	%
Good	17	24.3
Fair	53	75.7
Poor	0	0
Total	70	100

Table 3 shows significant association with quality of nursing care within age group 29-35 years and it was fair level. Table 4 shows the association between the levels of quality of nursing care and nurse's gender. There was a significant association between the levels of quality of nursing care and male nurse within fair level.

Table 5 shows the association between the levels of quality of nursing care and levels of nurse's education. There was a very highly significant association between the levels of quality of nursing care and levels of nurse's education that they graduated from nursing institute and it was fair level.

Table 3: Association between levels of quality of nursing care and nurse's age.

| | Level of quality of nursing care | | | | | | | | |
| | Good | | Fair | | Poor | | Total (n=70) | | p |
Age	F	%	F	%	F	%	F	%	
22-28	14	41.2	20	58.8	0	0	34	100	
									0.005
29-35	3	10.7	25	89.3	0	0	28	100	
36-42	0	0	8	100	0	0	8	100	

Table 4: Association between levels of quality of nursing care and nurse's gender.

| | Level of quality of nursing care | | | | | | | | |
| | Good | | Fair | | Poor | | Total (n=70) | | p |
Gender	F	%	F	%	F	%	F	%	
Male	7	16.3	36	83.7	0	0	43	100	0.049
Female	10	37	17	63	0	0	27	100	

Table 5: Association between levels of quality of nursing care and levels of nurse's education.

| Quality of nursing care | Levels | | | | | | | | |
| | Good | | Fair | | Poor | | Total (n=70) | | p |
Levels of education	F	%	F	%	F	%	F	%	
College of nursing	7	100	0	0	0	0	7	100	
									<0.001
Institute of nursing	10	18.2	45	81.8	0	0	55	100	
Preparatory of nursing	0	0	8	100	0	0	8	100	

Table 6 shows the association between the levels of quality of nursing care and nursing experience. There was a significant association between the level of quality of nursing care and nursing experience as around one third of those with 1-8 years of experience scored good, while none of those with experience of more than 8 years scored good (P =0.036). Table 7 shows the association between the levels of quality of nursing care and nurse's experience in CCU. There was a significant association between the levels of quality of nursing care and nurse's experience in CCU who had 1-5 years with less years of experience it was scored better. Table 8 shows the association between the levels of quality of nursing care and participation and number in training regarding nursing care in CCU. There was a very highly significant association between the levels of quality of nursing care with participation and number in training regarding nursing care in CCU and it was fair level.

Table 6: Association between levels of quality of nursing care and nursing experience.

Quality of nursing care	Level of quality of nursing care								
	Good		Fair		Poor		Total (n=70)		p
Nursing experience	F	%	F	%	F	%	F	%	
1-8 years	17	31.5	37	68.5	0	0	54	100	
9-16 years	0	0	14	100	0	0	14	100	0.036
17-24 years	0	0	2	100	0	0	2	100	

Table 7: Association between levels of quality of nursing care and nurse's experience in CCU.

Quality of nursing care	Level of quality of nursing care								
Nurse's experience in CCU	Good		Fair		Poor		Total (n=70)		p
	F	%	F	%	F	%	F	%	
1-5	17	31.5	37	68.5	0	0	54	100	
6-10	0	0	12	100	0	0	12	100	0.036
11-15	0	0	4	100	0	0	4	100	

Table 8: Association between levels of quality of nursing care and participation and number of training regarding nursing care in CCU.

Quality of nursing care	Level of quality of nursing care								
Participation in training regarding nursing care in CCU	Good		Fair		Poor		Total (n=70)		Chi- Square P-Value
	F	%	F	%	F	%	F	%	
Yes	10	66.7	5	33.3	0	0	15	100	<0.001
No	7	2.7	48	87.3	0	0	55	100	

Discussion

The study showed that the majority of the samples were 22-28 years old (48.6%) and the mean age was 30 years old. From the result we can conclude that the majority the nurses who have worked in the CCUs were junior because CCUs needed more activity. This result is supported by another study that indicated that the age of nurses who worked in CCU was 26-30 years and accounted for (26.32%).[9] Another study also indicated that the age of nurses who worked in CCU in Duhok City was 21-25 years which accounted for (52.9%).[10] With regards to the gender, the majority of the nurses (61.4%) were male. This result meant that males have more attitudes for nursing occupation than female, and the researcher suggests that this result is normally in eastern countries because the male get nursing job more than females. This result is also similar to another study that indicated that the majority of the nurses in CCU were males (70%).[11] This result is also similar to another study which indicated that the majority of the nurses were male (63.16%).[12] The majority of the subjects graduated from institute of nursing (78.6%). This reflects that most of the nurses had not good opportunity to continue their education. The coronary care unit needs high qualified nurses who graduate from college of nursing. This result is similar to the study that indicated that most of the nurses graduated from the institute of nursing.[13] Data analysis revealed that the majority of nurses had 1-8 years of \nursing experience (77.1%). This result reflects that most of nurses who worked in CCU were junior which supported the first result. Another study indicated that the majority of the study sample had over five years experience in nursing.[14] Majority of nurses had 1-5 years of employment (77.1%). This result shows that most of the nurses who worked in CCU were junior which support the first result. This result is in agreement with the result of another study which found that most of the nurses (50.8%) had experience of 1-5

years at CCU.[15] It also shows that the majority (78.6%) of the nurses had no training, while (21.4%) of the nurses had trained only once. A study on cardiac care in Baghdad showed that a high percentage (71.2%) of nurses didn't have training regarding CCU.[16] This study showed that the highest percentage of nurses had fair levels of quality of nursing care. This study indicated that there was a significant association between the levels of quality of nursing care and the nurse's age. The present study results agree with a study that revealed a significant relationship between the levels of quality of nursing care and nurse's age.[17] Regarding the levels of quality of nursing care and nurse's gender, there was a significant association between the levels of quality of nursing care and nurse's gender. The present study results are supported by a study which indicated that there was a significant relationship between the levels of quality of nursing care and gender of nurses.[18] There was a very highly significant association between the levels of quality of nursing care and levels of nurse's education. We can conclude that the education especially in college has high effectiveness on the levels of quality of nursing care, and the nurses must continue their study in nursing college to increase the levels of education and to apply good nursing care and practices. A study showed that the nurses with Baccalaureate degree in nursing performed better than others.[19] There was a significant association between the levels of quality of nursing care and the nursing experience. These results are supported by a study which indicated that there was a significant relationship between the levels of quality of nursing care and duration of experience in nursing.[20] There was a significant association between the levels of quality of nursing care and nurse's experience in CCU. The present study results are supported by a study which indicated that there was a significant relationship between the levels of quality of nursing care and the duration of

experience in CCU.[21] The present study revealed that there was a very highly significant association between the levels of quality of nursing care with participation and number in training regarding nursing care in CCU. This finding agrees with a study which found that there was a significant relationship between the levels of quality of nursing care and training sessions, and demonstrated that the training course was effective for every levels of education status and the training course was very important to enhance new information for the nurse.[22]

Conclusion

The majority of the samples were within young age group and male, most of them graduated from institute of nursing, the majority of them were in low experience in CCU, the majority of the nurses have not participated in training regarding nursing care in CCU, and small numbers of the nurses had trained only once. There was a significant relationship between the quality of care and age, gender, duration of experience in nursing and in CCU. A very highly significant relationship was found with levels of education of nurses, participation and time in training regarding nursing care in CCU.It is recommended to increase the number of nurses with high qualification in the coronary care unit to improve nurse's practices, Provide continuous training sessions and education in Kurdistan or by WHO. Further studies should be done for better assessment of the nurse's practices and distribute booklets, pamphlets and posters to all nurses in order to improve their knowledge.

Conflicts of interest

The authors report no conflicts of interest.

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