

Assessment of Nurse's Knowledge Concerning nursing care of the patients receiving thrombolytic therapy with Acute Myocardial Infraction at Coronary Care Unit in Al-Diwaniya Teaching Hospital

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ABSTRACT

Background: Cardiovascular disease is a group of disorders that occur in the heart and blood vessels. Coronary artery disease is a condition that develops due to the accumulation of atherosclerotic plaque in the pericardial coronary arteries leading to myocardial ischemia. Acute myocardial infarction is a severe type

الخلاصة:

خليفة البحث: أمراض القلب والأوعية الدموية هي مجموعة من اضطرابات التي تحدث في القلب والأوعية الدموية. مرض الشريان التاجي هو حالة تتطور بسبب تراكم اللويحات المتصلبة في الشرايين التاجية مما يؤدي إلى نقص تروية عضلة القلب. احتشاء عضلة القلب الحاد هو نوع حاد من أمراض الشرايين التاجية يحدث من انسداد الشرايين في القلب ، ويزداد حدوث الإصابة بالاحتشاء عضلة القلب بشكل كبير بسبب زيادة تناول الكحول والسجائر بالإضافة إلى الإجهاد. طرق التشخيص لاكتشاف المرضى الذين يعانون من احتشاء عضلة القلب الحاد هي مخطط كهربية القلب وعلامات احتشاء عضلة القلب الحاد، وإعادة ارواء عضلة القلب لتقليل معدل الوفيات عن طريق العلاج المميع للتخثر أو التدخل التاجي عن طريق الجلد. يتم استخدام العلاج المميع للتخثر في معالجة احتشاء عضلة القلب الحاد، وهو إذابة تجلط الأوعية الدموية للقلب عن طريق تحويل البلازما من جزيئات إلى بلازما. يكون أكثر فعالية إذا تم تسليمه خلال ثلاث ساعات من ظهور الأعراض.

الهدف: لتقييم معارف الممرضين فيما يتعلق بالرعاية التمريضية للعلاج بالمميعات للمرضى الذين يعانون من احتشاء عضلة القلب الحاد في وحدة العناية التاجية.

المنهجية: تصميم دراسة مقطعية وصفي كمي للحصول على أهداف الدراسة حول معارف الممرضين فيما يتعلق بالرعاية التمريضية للمرضى الذين يتلقون علاج المميع للتخثر مع احتشاء عضلة القلب الحاد في وحدة العناية التاجية في مستشفى الديوانية التعليمي. تبدأ مدة الدراسة في الفترة من 17 / ايلول / 2020 إلى 4 / ايار / 2021 على عينة تتكون من (40 ممرضة) يعملون في وحدة العناية التاجية.

النتائج: أظهرت نتائج هذه الدراسة أن معارف الممرضين حول الرعاية التمريضية للعلاج بالمميعات للمرضى الذين يعانون من الإصابة باحتشاء عضلة القلب الحاد كانت منخفضة بمتوسط الدرجة (1.26). لا يوجد ارتباط كبير بين معارف الممرضين وخصائصهم الديموغرافية ($p > 0.05$).

الاستنتاجات: أن معارف الممرضين كانت ضعيفة فيما يتعلق بالرعاية التمريضية للعلاج بالمميعات للخثرة في وحدة العناية التاجية.

الكلمات المفتاحية: معارف الممرضين، احتشاء عضلة القلب الحاد، العلاج المميع للتخثر.

of coronary artery disease that occurs from blocked of arteries in the heart, and occurrence of acute myocardial infarction is growing steadily due to increased alcohol and cigarettes, stress. Diagnostic methods for discovery the patients with acute myocardial infarction are electrocardiogram and markers of the heart muscle necrosis, and myocardial perfusion to reduce mortality by thrombolytic therapy or percutaneous coronary intervention. Thrombolytic

therapy is used to treat acute myocardial infarction, which is the dissolution of a blood vessel clot of the heart by converting plasminogen into plasmin. It is most effective if it is delivered within three hours of the onset of symptoms.

Objective: to assess of nurses' knowledge about nursing care of patients receiving thrombolytic therapy with Acute Myocardial Infarction at Coronary Care Unit.

Methodology: A quantitative descriptive cross-sectional design was used in order to achieve objectives of this study was carried out at AL-in Al-Diwaniya Teaching Hospital for the period from (17th September, 2020 to 4th April, 2021) on a total population sample consisting of (40 nurses) working in Coronary Care Unit.

INTRODUCTION

Acute Coronary Syndrome (ACS) which is a name given to three types of CAD that are associated with sudden rupture of plaque inside the coronary artery: Unstable angina (UA), Non-ST segment elevation myocardial infarction (NSTEMI), and ST segment elevation myocardial infarction (STEMI) (Cleveland Clinic Organization, 2017) ⁽¹⁾.

The non-modifiable risk factors for the progress of cardiovascular disease (CVD) male gender, age 55 years and more, a family history of CVD, and race may be identify for situation. The modifiable risks factors include reduce of physical activity, unhealthy diet, smoking, obesity, and diabetes mellitus (DM), high blood pressure, blood lipid disorder, and psychosocial stress. Hyperlipidemia is the main signal of CVD, principally related to high serum levels of low-density lipoproteins (LDL) (Brunori et al., 2014) ⁽²⁾.

The period from onset of symptoms, until the time of restoration of the blood flow has a significant effect on acute myocardial infarction on the rating of death, to decrease death-rate and the complications

Results: The results of this study show that nurses' knowledge for Nursing Management of Thrombolytic Therapy for Patients with Acute Myocardial Infarction domains were low at mean score (1.26) and no significant association between knowledge of nurses and selected variables ($p>0.05$).

Conclusion: The nurses' knowledge had low about Nursing Care of Thrombolytic Therapy at Coronary Care Unit.

Recommendation: The study recommended that can participating all coronary care unit nurses in special educational program and encouraging to improvement knowledge about nursing management of thrombolytic therapy in the Coronary Care Unit.

Keyword: Nurses' knowledge, acute myocardial infarction, thrombolytic therapy.

through the therapy to the reperfusion either thrombolytic therapy or the percutaneous coronary intervention (PCI). Returning the blood flow is implemented in acute myocardial infarction; within 60 minute of manifestation starting high advantage is obtained. If they are administrated more than 3 hours after start the symptom, the advantage from restoring flow of the blood techniques minimize notably , although there are some advantage up to 12 hours following the symptoms beginning ⁽³⁾.

Thrombolytic therapy it is one of the main ingredients of solve of a blood thrombus. It is the most prevalent treatment utilized in acute MI protection ischemic harm by make efficient blood flow through dissolve severe occurring within a blood vessel clots. An essential enzyme that it's dissolves clots in the blood, a fundamental action involving stimulation of the transformation of plasminogen into plasmin ⁽⁴⁾.

It is most effective if delivered during that a three hours of appearance of the symptoms. Advantages are limited if initiated over twelve hours

after the symptoms began, it is dissolve cardiovascular thrombosis by transforming the plasminogen into plasmin, that allows fibrin and fibrinogen to deteriorate, for the several years to come, will continue to play a significant role in managing acute myocardial infarction. If there are no facilities for the primary percutaneous coronary intervention or there will be a long time before the percutaneous coronary intervention can be done, it should be given rapidly ⁽⁵⁾.

Patients have acute myocardial infarction undergoing the thrombolytic medication should give a regular neurological and cardiovascular evaluation with the blood pressure testing every 15 minutes during and after the thrombolytic treatment injection at least to two hours, then half-hourly to the six hours and hourly for the next 16 hours after infusion, rigorous blood pressure control is important for the prevention of the problems, it is with any indications of neurological disorder, must be stopped immediately, the patient must be given an emergency computed tomography (CT). The thrombolytic agents or other anticoagulants should be removed immediately for any a signs of the bleeding problems in a patient. Helpful steps, including the size adjustment and blood transfusion factor, should be implemented over the next measure ⁽⁶⁾.

The main problem in Iraq cardiovascular disease, the Ministry of Health in Iraq has recorded a rise in the number of conditions entered by the patient to coronary care units in Diwaniyah Teaching Hospitals for the treatment of acute MI. The range is variable and an increase would be expected related to decrease services in health, bad lifestyle, reduced patient care in admission, etc. The significance of the study was to find out the shortage in the nurses knowledge about risk factors for bleeding of AMI in patient receiving thrombolytic. The aim of the study was to implement more educational programs to improve knowledge in the nursing community ⁽⁷⁾.

Acute myocardial infarction may be a significant the event, leading to the premature death or the severe blood circulation degradation. The delivery of the thrombolytic therapy, for the patients who are undergoing acute myocardial infarction lowers the relative the death rating by 18% as well as the absolute a death rating by about 2% ⁽⁸⁾.

AIMS OF THE STUDY

to assess of nurses' knowledge about nursing care of patients receiving thrombolytic therapy with Acute Myocardial Infarction at Coronary Care Unit.

METHODOLOGY

A quantitative descriptive cross-sectional study design to obtaining the study goals assess of nurses' knowledge about nursing care of patients receiving thrombolytic therapy with acute myocardial infarction at coronary care unit in Al-Diwaniyah Teaching Hospital. Duration of this study was beginning from 17th \ September \ 2020 to 4th \ April \ 2021. A non-probability (purposive) sample was selected to obtain representative and accurate data, which consist of (40) nurses who are working at CCU in Al-Diwaniya Teaching Hospital.

- Study instrument

The researcher has constructed the instrument in order to achieve the objectives of the study, and it consists of two parts: Part I consists of (7) items involving age, gender, educational level, years of experience in nursing, years of experience in CCU, educational/ training courses related thrombolytic therapy, and educate yourself about the knowledge of thrombolytic therapy. Part II consists from (4) domains which include: nurses' knowledge about the heart and AMI, nurses' knowledge about the AMI medications, nurses' knowledge about the thrombolytic therapy, and nurses' knowledge about risk factors for bleeding in patients with AMI receiving thrombolytic therapy.

- Scoring

The number of correct answers was utilized to identify the level of knowledge to every nurse, rating score from answers (2) to correct and (1) to incorrect. Each subject spends approximately (20-25) minute to complete the interview.

-The Statistical Data Analysis

To analyze and assess the finding of the study, utilizing the Statistical Package for Social Sciences (SPSS) version (25) and the Microsoft Excel (2010)

RESULTS

Table (1): Distribution of the (40) Nurses According to the Demographical Characteristics.

Demographic Data	Rating and Intervals	Frequency	Percent
Age / years	20-25	16	40
	26-30	14	35
	31-35	6	15
	36-40	4	10
	Total	40	100
Gender	Male	18	45
	Female	22	55
	Total	40	100
Educational Level	Secondary School of Nursing	15	37.5
	Diploma in Nursing	12	30
	Bachelor in Nursing	13	32.5
	Total	40	100
Years of experience in nursing	1-5	19	47.5
	6-10	10	25
	11-15	8	20
	16-20	3	7.5
	Total	40	100
Years of Experience in CCU	1-5	28	70
	6-10	5	12.5
	11-15	7	17.5
	Total	40	100
Participate in training courses related to thrombolytic therapy	Present	0	0.0
	Not present	40	100
	Total	40	100

Table 1 show study sample demographic data, The study results display the dominant age group of nurses were (40%) at age group (20-25) years old. Concerning gender the table indicate that (55%) of nurses were female. Regarding to levels of education, the table results display the majority of nurses (37.5%) were secondary school of nursing. According to years of experience in nursing field the results illustrates that the greater number of nurses were (47.5.0%) were ranging of their nurses have less than 5 years of experience in nursing. In regards to years of experience in CCU, the results indicate that the majority of nurses (70.0%) of the nurses have (1-5) years of experience in CCU. Additionally, all the study samples (100%) don't have participate in training courses related to thrombolytic therapy. Regarding educates yourself about the knowledge of thrombolytic therapy the study results show that (85%) of the sample don't have knowledge of thrombolytic therapy.

Table (2): Overall Assessment of the Nurses' Knowledge about thrombolytic therapy

Main studied domains	Levels	Freq.	%	Mean	Assessment
Overall Nurses' Knowledge	Fair	8	20	1.26	Low
	Good	0	0.0		
	Low	32	80		
	Total	40	100		

Good (mean 1.68-2), fair (mean 1.34-1.67), low (mean 1-1.33)

Table 2 shows that the overall assessments of the nurses' knowledge to main studied domains of thrombolytic therapy were low knowledge at test.

Table (3): Assessment of the Nurses' Knowledge about thrombolytic therapy

Main studied domains	Levels	Freq.	%	Mean	Assessment
Nurses' Knowledge about the Heart and AMI	Fair	12	30	1.35	Fair
	Good	2	5		
	Low	26	65		
	Total	40	100		
Nurses' Knowledge about the AMI Medications	Fair	5	12.5	1.30	Low
	Good	3	7.5		
	Low	32	80		
	Total	40	100		
Nurses' Knowledge about the Thrombolytic Therapy	Fair	5	12.5	1.18	Low
	Good	0	0.0		
	Low	35	87.5		
	Total	40	100		
Nurses' Knowledge about Risk Factors for Bleeding in Patients with AMI receiving Thrombolytic Therapy	Fair	6	15	1.22	Low
	Good	0	0.0		
	Low	34	85		
	Total	40	100		

Good (mean 1.68-2), fair (mean 1.34-1.67), low (mean 1-1.33).

Table 3 shows that the assessment of the nurses' knowledge to main studied domains (the Heart and acute MI was fair and acute MI medications, thrombolytic therapy, and risk factors for bleeding in patients with acute MI receiving thrombolytic therapy at test were low knowledge).

DISCUSSION

- Part I: Discussion of the Nurses' Demographic Characteristics of the Study Sample, as Shown in Table (1)

The table (1) shows the demographic Characteristics of this study. The results of the study regarding the age of nurses revealed that the majority of participants (40.0%) were between (20-25) years old.

These results of the current study was supported by a study conducted by Abdulrha and Mansour (2018) that was displayed about (36.20%) of the nurses were in the age group (20-24) years old ⁽⁹⁾.

The results explained that the highest percentages of the nurses participants in the study sample were female (55%) while were the male (45%). This finding

from the current study was agrees with a study conducted by Toppo, Dungdung, and Kumar (2019) which showed that the majority of the study sample were females (93.0%)⁽¹⁰⁾.

With regard to educational levels, the findings of the study showed that most of the study participants graduated from high school nursing (37.5%). A study by Attiah, Khader, and Hassan (2012) is completely in agreement with the results of the current study which acknowledged that most of the participants (52.7%) were high school nursing graduates⁽¹¹⁾.

According to years of experience in nursing field the results illustrates that the greater number of nurses were (47.5.0%) were ranging of their nurses have less than 5 years of experience in nursing. These findings of the study conducted by Al-Tameemi and Khudur (2017), and Ahmed et al., (2019) who reported that most the sample of the study had less than 5 years of experience in nursing, supported the findings of these current study^(12,13).

Regarding years of experience in coronary care units, the maximum of participants in the study found (70.0%) were ranging in their years of experience less than 5 years. While regarding to the training courses about thrombolytic therapy, the findings of the study explain that all of the nurses (100 %) don't have training courses about thrombolytic therapy. this results were totally agrees with results found in Hami (2020)⁽⁷⁾.

The researcher affirms that these findings were regard to the lack of courses related to thrombolytic therapy in the hospital in addition did not action the Continuous Medical Education Unit in hospital correctly.

The results of the study demonstrated that (85%) of the sample have not educate yourself about the knowledge of thrombolytic therapy, the nurses at coronary care unit in AL-Diwaniyah Teaching Hospital, have no obtainable written protocols or the resources of the information to improving their knowledge about risk factors for bleeding of AMI in

patient receiving thrombolytic. Also, the absence of persistent monitoring and evaluation necessary to preserve the correct knowledge (The research).

- Part II: Discussion of the Overall Assessment of the Nurses' Knowledge about thrombolytic therapy, as Show in Tables (2and 3)

The results of the study illustrated that the knowledge of nurses about nursing management of thrombolytic therapy for patients with acute myocardial infraction at test was low as shown in the table.

The results of the study were partly in line with a similar study by Ndosu and Newell (2009), who studied knowledge of the nurses of pharmacology of drugs they generally administered and display most of them, had inadequate knowledge⁽¹⁴⁾.

These results were a similar with another study by Hsiao et al (2010), who conducted in Taiwan to evaluated knowledge of the nurses of high-alert medications and explained that insufficient knowledge was a factor in medication administration errors by the nurses. They observation the most of the drug errors no hurt the patients, have dangerous consequences of the mistaken administration of high-alert medication⁽¹⁵⁾.

Another study conducted by Shaaban Khali et al., (2018) found the majority of nurses (86.7%) had unsatisfactory knowledge scores about thrombolytic therapy at a university hospital in Upper Egypt⁽⁶⁾.

CONCLUSION

Nurses' knowledge about nursing management of thrombolytic therapy for acute myocardial infarction patients were low and was not at the level required to suitable with the critical and special nature of coronary care unit.

RECOMMENDATIONS

Activating the Training and Development Center for action educational courses about thrombolytic

therapy in the hospital, especially nurses working in Coronary Care Unit and There is a need across Iraq

cities to perform similar studies at a larger sample size and sufficient period of time.

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