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ORIGINAL RESEARCH

Investigating the Nurses and Doctors Attitudes' Regarding the Management of Acute Myocardial Infarction Patients Who Used the Thrombolytic Agents in Babylon Teaching Hospitals 2022

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ABSTRACT

Background: Ischemic heart disease and myocardial infarction are the most common causes of death in the world, and nurses play a key role in the management of these patients. Adequate attitude of health care workers towards the management of patients with acute myocardial infarction using thrombolytic agents is very important and this issue is part of patients' rights.

Objectives: The present study was conducted with the aim of study investigate the attitude of nurses and doctors regarding the management of patients with acute myocardial infarction using thrombolytic agents in the teaching hospitals of Babylon, Iraq in 2022.

Methodology: In this comparative study, 103 nurses and 13 doctors were selected in 2022 by available sampling method the type of sample was purposive and was conducted on nurses and doctors working in cardiac and coronary resuscitation units in Babylon Specialized Hospitals. Information was collected using two questionnaires including demographic questionnaire and attitude measurement questionnaire the attitudes questionnaire contained parts that included nurses and doctors, and a section specific to nurses only.

Results: Among the studied nurses, the largest number were university nurses (36.9% bachelor, 8.7% master). (89.3%) of the nurses had work experience in the coronary care department and (73.8%) of them were currently working in the coronary care department. (78.6%) worked in the morning shift. (76.7%) of the nurses did not have a history of passing the training course in the coronary care department. (54.4%) of the nurses have a diploma and only (2.9%) of them have completed an academic course. The score of doctor's attitude about the management of patients with acute myocardial infarction using thrombolytic agents was in the range of 68 to 98 with a mean and standard deviation of 83.62 ± 9.62. Based on the results of the independent t-test, there was no significant difference between nurses and doctors regarding the management of patients with acute myocardial infarction using thrombolytic agents (p=0.210).

Conclusion: The study concludes that both nurses and doctors in Babylon Teaching Hospitals show a positive attitude towards managing acute myocardial infarction patients using thrombolytic agents. Despite variations in experience and training, both groups are prepared to provide effective care for these patients. The findings suggest a readiness within the medical staff to handle cases of AMI with thrombolytic therapy, highlighting the importance of continued education and training in coronary care management.

Keywords: Acute Myocardial Infarction, Thrombolytic Agent, Attitude.

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INTRODUCTION

Cardiovascular diseases are the main cause of mortality and morbidity in modern societies and cover a wide range of human pathologies [1]. Studies have shown that there is an interaction between genetic and environmental factors that can lead to cardiovascular disease [2]. Acute myocardial infarction is an event of myocardial necrosis caused by an unstable ischemic syndrome [2]. In practice, the disorder is diagnosed and assessed on the basis of clinical evaluation, the electrocardiogram (ECG), biochemical testing, invasive and noninvasive imaging, and pathological evaluation [3].

Acute myocardial infarction is classified on the basis of the presence or absence of ST-segment elevation on the ECG and is further classified into six types: infarction due to coronary atherothrombosis (type 1), infarction due to a supply–demand mismatch that is not the result of acute atherothrombosis (type 2), infarction causing sudden death without the opportunity for biomarker or ECG confirmation (type 3), infarction related to a percutaneous coronary intervention (PCI) (type 4a), infarction related to thrombosis of a coronary stent (type 4b), and infarction related to coronary-artery bypass grafting (CABG) (type 5) [4].

Cardiovascular diseases (CVD), the major global health threat, are associated with high morbidity and mortality that account for an estimated 17.9 million lives each year (31% of all deaths worldwide), and this figure is expected to rise to >23.6 million annual deaths by 2030 [5].

CVD are a group of disorders of the heart (e.g., heart failure, rheumatic heart disease, abnormal heart rhythms, inflammatory heart diseases, and cardiomyopathy) and blood vessels (coronary artery disease, cerebrovascular disease, aortic aneurysms, peripheral artery disease, etc.) [6]. CVD affect almost equally men as women, however, the disease develops about seven to ten years later in women as compared to men [6]. Furthermore, CVD are associated with substantial health-care costs, which are estimated at $329.7 billion annually in the United States and nearly €200 billion in the European Union. [7].

According to modern clinical recommendations the preferred method of myocardial reperfusion in patients with AMI is the primary PPI, provided it is possible to perform it within 120 minutes of the first medical contact (FMC) within the first 12 hours of the disease. In the absence of such an opportunity, it is necessary to carry out as early as possible thrombolytic therapy (TLT) with the subsequent transport of the patient to the hospital with the possibility of PCI for life-saving or delayed angioplasty, which is called pharmaco -invasive reperfusion strategy (IRS) [8]. These recommendations are based on studies and registry, which have been implemented mainly in Europe and the United States. Taking into account the peculiarities of the national organization of medical care, it is not possible to carry out primary angioplasty for most patients within 120 minutes of the first examination of the doctor at the pre-hospital stage (PIS) [8].

Nurse–physician interprofessional collaboration holds particular significance in primary care due to the rapidly changing environment [9]. The increased clinical and economic burden of chronic diseases throughout the world has triggered a shift in primary care from a solo practitioner model to a team-based patient-centered approach, emphasizing preventative care and collaboration by multiple healthcare professionals [10].

AIMS OF THE STUDY

The present study was conducted with the aim of study investigate the attitude of nurses and doctors regarding the management of patients with acute myocardial infarction using thrombolytic agents in the teaching hospitals of Babylon, Iraq in 2022.

ACUTE MYOCARDIAL INFRACTION

Practical Definition: Myocardial infarction (MI), commonly known as a heart attack is the disease of the blood vessels supplying the heart muscle (Myocardium) i.e. coronary heart disease. The area of heart muscle that has either zero flow or so little flow that it cannot sustain cardiac muscle function is said to be infracted and the overall process is called a myocardial infarction [11].

THROMBOLYTIC AGENT

Practical Definition: Thrombolytic therapy is a treatment to get rid of problems raised due to blood clot or thrombus to renovate function to the affected area [12]. Thrombolytic agent, which is also known as clot buster, has saved untold lives. Thrombolytic afford longer-term benefits for survivors, who have just a 5% mortality rate at one year [13]. Thrombolytic agent is commonly used for

(1) Venous thrombosis,
(2) Pulmonary embolism,
(3) Myocardial infarction,
(4) Arterial thromboembolism,
(5) Acute ischemic stroke [14].

Common thrombolytic agents include first generation agents, such as streptokinase and urokinase, second generation agents, such as tissue plasminogen activator (tPA) and pro urokinase, and third generation agents, including reteplase, tenecteplase and Staphylokinase. Thrombolytic agents utilized in the treatment of peripheral arteries disease include streptokinase and urokinase as well as, currently, alteplase [15].

ATTITUDE

Practical Definition: The attitudes of healthcare staff towards patients' safety, including awareness of the risk for adverse events, are significant elements of an organization's safety culture [16].

RESEARCH QUESTION

1. What is the attitude of nurses regarding the management of patients with acute myocardial infarction using thrombolytic agents?
2. What is the attitude of doctors regarding the management of patients with acute myocardial infarction using thrombolytic agents?
3. What is the relationship between the attitudes of nurses regarding the management of patients with acute myocardial infarction using thrombolytic agents and their demographic characteristics?

METHODOLOGY

Research Design

This research is a comparative study with the aim of determining the attitude of nurses and collaboration with doctors regarding the management of patients with acute myocardial infarction using thrombolytic agents.

Research Environment

The research environment in this study was carried out in three educational hospitals in the Shahid Mehrab Center for Catheterization and Open Heart Surgery, and CCU in Imam Sadiq teaching hospital and CCU in Marjan teaching hospital.

Sample Size

Morgan's table was used to calculate the sample size due to the population that require data from a wide and diverse population size, rarely do researchers cover the whole population. The normal practice is to draw a sample from the target population [17] and probability sampling. The sample size was 130 nurses and doctor taken as total coverage and fulfilled the selecting criteria [18]. A total of 130 person (110 nurses and 20 doctors) were working in the research environment. According to Morgan's table, 97 samples were needed, and 116 samples were determined for this study considering the 20% chance of failure.

The Sample Type

The type of sampling method was purposive and was conducted on nurses and physicians

working in cardiopulmonary resuscitation and coronary resuscitation units in Babylon Specialized Hospitals.

Methods Of Work

To conduct this research, the researcher received ethical approval from the Research Ethics Committee of Islamic Azad University, Isfahan branch (Khorasgan). Then, with permission from the university, he went to the relevant hospitals to obtain a sampling permit. After that, he went to the respective hospital departments to distribute the questionnaire among the nurses and doctors working in the hospital departments. While completing the questionnaire, the researcher was with the nurses and doctors to answer their questions. Nurses and doctors were asked to answer the questionnaire at the right time and without rushing. They were given one hour to fill the questionnaire and then the questionnaires were collected. The samples were taken from 05/11/2022 to 28/11/2022.

Information Gathering Tool

A questionnaire was used that included the demographic information section, the section related to nurses and the section related to all target groups.

To measure the attitudes of nurses and doctors, a 21-question questionnaire with answers from completely disagree to completely agree on a 5-point Likert scale was used. In order to give a score, 1 point was assigned to the totally opposed answer and 5 points to the totally agree answer. The sum of scores from 21 questions was considered as attitude score. The range of possible scores is 21 to 105, and a higher score means a better (more agreeable) attitude. In order to categorize the attitude scores into three categories: weak, average and good, the percentage of each person's score to the total possible score was calculated. People with a score of less than 50% were classified as people with a poor attitude, people with a score of 50 to 75 as people with an average attitude, and people with a score of 75 to 100 as people with a good attitude. The results were obtained as follows.

STATISTICAL ANALYSIS METHOD

SPSS version 22 was used for data analysis. Comparative study such as mean and standard deviation were used to describe quantitative variables, frequency percentage and frequency were used to describe qualitative variables. Independent t-test, Mann-Whitney and Kruskal-Wallis were used to analyze the results. A significance level of 0.05 was considered.

Ethical Considerations:

1. The code of ethics under the number IR.IAU.KHUISF.REC.1401.354 was obtained from the Research Ethics Committee of Isfahan Islamic Azad University (Khorasgan) for conducting the research.
2. The researcher introduced himself to all research units and explained the objectives of the research to them.
3. The studied units were assured about the confidentiality of information and data.
4. The researched units participated in the research if they wanted to.
5. Informed and written consent was obtained from the studied units.
6. If the researched units wish, the results of the research will be provided to them.
7. If the researched unit did not want to continue the cooperation, he was given the possibility to leave the research.
8. In presenting the research sources, the principle of trustworthiness was respected.
9. Thanks and appreciation were given to all the people who helped in conducting the research.

RESULTS

In this study, 103 nurses and 13 doctors were investigated in order to determine the attitude of nurses and doctors regarding the management of patients with acute myocardial infarction using thrombolytic agent in teaching hospitals of Babil, Iraq. The results of this study are reported in this chapter in the form of 10 tables and a graph.

- **Individual and job characteristics of the research units**

Table (1): Distribution of nurses according to individual characteristics

Variable	Category	Number	Percent
Gender	Male	46	44.7
	Female	57	55.3
Marital status	Unmarried	40	38.8
	Married	63	61.2
Age	20-24 years	36	35.0
	25-34 years	63	60.2
	35-49 years	5	4.9
Work history	1-5 years	88	85.4
	6-10 years	10	9.7
	More than 10 years	5	4.9
Total		**103**	**100**

Nurses included 46 men (44.7%) and 57 women (55.3%). The largest number of married nurses (61.2%) were observed in the age group of 25-34 years (60.2%) and with less than 5 years of work experience (85.4%).

Table (2): Distribution of doctors according to individual characteristics.

Variable	Category	Number	Percent
Gender	Male	8	61.5
	Female	5	38.5
Marital status	Unmarried	2	15.4
	Married	11	84.6
Age	20-24 years	3	23.1
	25-34 years	10	76.9
Work history	1-5 years	12	92.3
	6-10 years	1	7.7
Work experience in the coronary care unit	yes	11	84.6
	No	2	15.4
Total		**13**	**100.0**

Doctors included 8 men (61.5%) and 5 women (38.5%). The largest number of married doctors (84.6%) were observed in the age group of 25-34 years (76.9%) and with less than 5 years of work experience (92.3%). 84.6% of the doctors had experience in coronary care.

Table (3): Distribution of nurses according to job characteristics.

Variable	Category	Number	Percent
Employment status	Specialist nurse	5	4.9
	University nurse	67	65.0
	Nursing diploma	13	12.6
	Nursing preparation	18	17.5
Work experience in the coronary care department	Yes	92	89.3
	No	11	10.7
Do you currently work in coronary care?	Yes	76	73.8
	No	27	26.2
Shift work	Morning	81	78.6
	Evening	22	21.4
Passing the training course in the coronary care department	Yes	24	23.3
	No	79	76.7
Educational certificate	Diploma	56	54.4
	Bachelor's	38	36.9
	Master Degree	9	8.7
Are you currently pursuing an academic course?	Yes	3	2.9
	No	100	97.1
Total		**103**	**100.0**

Among the studied nurses, the largest number were university nurses (36.9% bachelor, 8.7% master). 89.3% of the nurses had work experience in the coronary care department and 73.8% of them were currently working in the coronary care department. 78.6% worked in the morning shift. 76.7% of the nurses did not have a history of passing the training course in the coronary care department. 54.4% of the nurses have a diploma and only 2.9% of them have completed an academic course.

- **Attitude about the management of patients with acute myocardial infarction using thrombolytic agent.**

To measure the attitudes of nurses and doctors, a 21-question questionnaire with answers from completely disagree to completely agree on a 5-point Likert scale was used. In order to give a score, 1 point was assigned to the totally opposed answer and 5 points to the totally agree answer. The sum of scores from 21 questions was considered as attitude score. The range of possible scores is 21 to 105, and a higher score means a better (more agreeable) attitude. In order to categorize the attitude scores into three categories: weak, average and good, the percentage of each person's score to the total possible score was calculated. People with a score of less than 50% were classified as people with a poor attitude, people with a score of 50 to 75 as people with an average attitude, and people with a score of 75 to 100 as people with a good attitude. The results were obtained as follows.

Table (4): Distribution of nurses' attitude scores toward the management of patients with acute myocardial infarction using thrombolytic agents, along with descriptive indices

Variable	Category	Frequently distribution		Descriptive indicators			
		Number	Percent	The lowest amount	The maximum amount	Average	Deviation-criterion
Attitude	weak	0	0.0	64.00	104.00	86.84	8.59
	middle	38	36.9				
	Good	65	63.1				
	Total	**103**	**100.0**				

The score of nurse's attitude about the management of a patient with acute myocardial infarction using thrombolytic agent was in the range of 64 to 104 with a mean of 86.84 and a standard deviation of 8.59. The attitude regarding the management of a patient with acute myocardial infarction using thrombolytic agent was observed in 38 people (36.9%) at an average level and in 65 people (63.21%) at a good level.

Table (5): Distribution of doctors' attitude scores toward the management of patients with acute myocardial infarction using thrombolytic agents, along with descriptive indices.

Variable	Category	Frequently distribution		Descriptive indicators			
		Number	Percent	The lowest amount	The maximum amount	Average	Deviation-criterion
Attitude	weak	0	0.0	68.00	98.00	83.62	9.62
	middle	7	53.8				
	Good	6	46.2				
	Total	**13**	**100.0**				

The score of doctor's attitudes about the management of patients with acute myocardial infarction using thrombolytic agent was in the range of 68 to 98 with a mean of 83.62 and a standard deviation of 9.62. The attitude regarding the management of a patient with acute myocardial infarction using thrombolytic agent was observed in 7 people (53.8%) at an average level and in 6 people (46.2%) at a good level.

Table (6): Attitude scores regarding the management of patients with acute myocardial infarction using thrombolytic agents in both nurses and doctors.

The profession	Number	Statistics	p value
Nurse	103	.977	.063
Doctor	13	.908	.170

Based on the results of the Shapiro-Wilk test, the normality of the distribution of attitude scores in nurses (p=0.063) and doctors (p=0.170) was not rejected.

Table (7): A comparison of attitude scores between nurses and doctors regarding the management of patients with acute myocardial infarction using thrombolytic agents.

The profession	Number	Average	Standard deviation	t statistic	p value
Nurse	103	86.84	8.59	1.261[a]	.210
Doctor	13	83.62	9.62		

a: calculated based on independent t-test.

Based on the results of the independent t-test, there was no significant difference between nurses and doctors regarding the management of patients with acute myocardial infarction using thrombolytic agents (p=0.210).

Table (8): Comparative analysis of nurses' attitude scores regarding the management of patients with acute myocardial infarction using thrombolytic agents, categorized by individual characteristics.

Variable	Category	Number	Average	Standard deviation	Statistics	p value
Gender	Male	46	87.67	8.55	.880[a]	.381
	Female	57	86.18	8.63		
Marital status	Unmarried	40	87.65	7.21	.757[a]	.451
	Married	63	86.33	9.38		
Age	20-24 years	36	86.36	7.63	-.417[a]	.677
	Above 25 years	67	87.10	9.10		
Work history	1-5 years	88	86.80	8.70	-.140[a]	.889
	More than 5 years	15	87.13	8.18		

a: calculated based on independent t-test.

Based on the findings of Table (8), the results of the independent t-test show a significant difference in the average scores of nurses' attitudes based on gender status (p=0.381), marriage (p=0.451), age group (0.677). (p=0.889) and their work history (p=0.889) did not show.

Table (9): Comparative analysis of nurses' attitude scores regarding the management of patients with acute myocardial infarction using thrombolytic agents, categorized by job characteristics.

Variable	Category	Number	Average	Standard deviation	Statistics	p value
Employment status	Specialist nurse-University nurse	72	85.90	8.47	7.274[a]	.026
	Nursing diploma	13	92.08	7.48		
	Nursing preparation	18	86.83	8.85		
Work history in the Coronary care unit	Yes	92	86.60	8.77	-.843[b]	.401
	No	11	88.91	6.86		
Is it already in the section Do you work in coronary care?	Yes	76	86.42	8.57	-.839[b]	.404
	No	27	88.04	8.69		
Shift work	Morning	81	87.11	8.93	.602[b]	.548
	Evening	22	85.86	7.30		
Passing the work training course In the coronary care department	Yes	24	86.21	9.70	-.413[b]	.681
	No	79	87.04	8.28		
Educational certificate	Deploma	56	88.20	8.35	3.098[a]	.212
	Bachelor's	9	85.89	8.39		

	Master Degree	38	85.08	8.85		
Are currently passing	Yes	3	93.33	4.93	---	----
Are you an academic?	No	100	86.65	8.61		

Calculated based on a Kruskal-Wallis b independent t test.

Based on the findings of Table (9), the results of Kruskal-Wallis test showed a significant difference in nurses' attitude score based on their job status (p=0.026). And the attitude score in nurses with a nursing diploma was significantly higher than that of specialist and academic nurses, and nurses with nursing preparation status. The results of Kruskal-Wallis test did not show a significant difference in nurses' attitude score based on their education degree (p=0.212). In addition, based on the results of the independent t-test, the average score of nurses based on the presence of previous (p=0.401) and current (p=0.404) work experience in the coronary care department, shift work (p=0.548), Passing the training course in the coronary care department (p=0.681) had no significant difference. In the case of academic studies, due to the small number of samples in one of the categories, it was not possible to conduct an inferential test.

Table (10): Comparative analysis of doctors' attitude scores regarding the management of patients with acute myocardial infarction using thrombolytic agents, categorized by individual characteristics.

Variable	Category	Number	Average	Standard deviation	Statistics	p value
Gender	Male	8	84.88	9.98	-.664[a]	.507
	Female	5	81.60	9.76		
Marital status	Unmarried	2	91.50	.71	---	----
	Married	11	82.18	9.82		
Age	20-24 years	3	71.67	5.51	---	----
	25-34 years	10	87.20	7.41		
Work history	1-5 years	12	83.00	9.78	---	----
	6-10 years	1	91.00	---		
Work history in the Coronary care unit	Yes	11	83.36	10.04	---	----
	No	2	85.00	9.90		

a: calculated based on Mann-Whitney test.

Based on the findings of Table 9-4, the results of the Mann-Whitney test did not show a significant difference in the attitude scores of male and female doctors (p=0.507). In other individual characteristics, it was not possible to perform an inferential test due to the small number of samples in one of the categories.

DISCUSSION:

Attitude of nurses towards the management of a patient with acute myocardial infarction using thrombolytic agents?

The score of the attitude of nurses regarding the management of a patient with acute myocardial infarction using thrombolytic agents was in the range of 64 to 104 with an average of 86.84 and a standard deviation of 8.59. The attitude of nurses regarding the management of a patient with acute myocardial infarction using thrombolytic agent was observed in 38 people (36.9%) at an average level and in 65 people (63.21%) at a good level.

In this regard, (Hasnat et al. 2016) conducted a study entitled the attitude of nurses in collaboration

with doctors during the management of patients with acute myocardial infarction using thrombolytic agents in Khartoum state, Sudan [9]. Their results showed that the attitude of the subjects with the cooperation of the doctor's verbal communication regarding the prescription of streptokinase for patients with infarction (4%), defibrillation for rhythmic patients (18%) is low, the level of poor attitude when allergic reaction occurs and insignificant differences and the negative correlation was opposite [19].

The cooperation of doctors in the management of a patient with acute myocardial infarction using thrombolytic agents?

The score of doctor's attitude about the management of patients with acute myocardial infarction using thrombolytic agents was in the range of 68 to 98 with an average of 83.62 and a standard deviation of 9.62.

The attitude of doctors regarding the management of a patient with acute myocardial infarction using thrombolytic agents was observed in 7 people (53.8%) at an average level and in 6 people (46.2%) at a good level. The results of the present study were in line with the results of Yarzebski et al.'s (2002) study regarding the performance of doctors at the community level and their attitude towards cholesterol management in patients with acute myocardial infarction [20].

The difference between the attitudes of nurses and doctors regarding the management of a patient with acute myocardial infarction using thrombolytic agents?

Based on the results of the independent t-test, there was no significant difference between nurses and doctors regarding the management of patients with acute myocardial infarction using thrombolytic agents (p=0.210).

Butcher et al. (2019) in a study entitled the attitude of doctors and nurses to patient safety and errors in medical practice in the Gaza Strip showed that doctors. They showed more positive attitudes towards nurses despite the fact that a lower proportion of doctors compared to nurses received patient safety training [21].

Relationship between the attitudes of nurses regarding the management of patients with acute myocardial infarction using thrombolytic agents and their demographic characteristics?

Based on the findings of Table (8), the results of the independent t-test show a significant difference in the average scores of nurses' attitudes based on gender (p=0.381), marital status (p=0.451), and age group (0.677). (p=0.889) and their work history (p=0.889) did not show.

Based on the findings of Table (9), the results of Kruskal-Wallis test showed a significant difference in nurses' attitude score based on their job status (p=0.026). And the attitude score in nurses with a nursing diploma was significantly higher than specialist-university nurses, and nurses with nursing preparation status.

The results of Kruskal-Wallis test did not show a significant difference in nurses' attitude score based on their education degree (p=0.212).

In addition, based on the results of the independent t-test, the average score of nurses based on the presence of previous (p=0.401) and current (p=0.404) work experience in the coronary care department, shift work (p=0.548), Passing the training course in the coronary care department (p=0.681) had no significant difference.

Zhou et al. (2020) in a study titled Knowledge and Attitude of Medical Staff about Cardiac Rehabilitation in Zhejiang Province, China showed that staff with lower education level and job title and shorter specialized work experience had a more negative attitude towards the implementation of rehabilitation. were together [22].

The relationship between the cooperation of doctors in the management of patients with acute myocardial infarction using thrombolytic agents and their demographic characteristics?

Based on the findings in Table (10), the results of Mann-Whitney test did not show a significant difference in the attitude scores of male and female doctors (p=0.507). In other individual characteristics, it was not possible to perform an inferential test due to the small number of samples in one of the categories.

Song et al. (2022) found in a study titled the attitude of medical professionals towards patient-centeredness that younger age, higher educational achievement, less daily workload and understanding of harmonious doctor-patient relationship were associated with a higher attitude towards patient-centeredness in clinical communication. In their conclusion, a low level of priority over patient-centeredness in clinical communication was found in the attitude of medical professionals in Northeast China, which may further jeopardize efforts to improve the doctor-patient relationship [23].

CONCLUSIONS:

The current study aimed to assess the attitudes of nurses and doctors towards managing patients with acute myocardial infarction using thrombolytic agents in Babylon's teaching hospitals in 2022. Findings revealed that the majority of nurses exhibited a positive attitude, while doctors showed an average attitude level. Interestingly, there was no significant difference between the attitudes of nurses and doctors regarding this management. Based on these findings, continuous training and workshops on acute myocardial infarction management with thrombolytic agents are recommended for nurses. Additionally, it's advisable to conduct interventional studies to explore the impact of education on nurses' knowledge and attitude. Qualitative studies involving patients and nurses can further enhance understanding of this phenomenon.

RECOMMENDATIONS:

The most important application of this research is that by using the results of this study, research planning and study design can be done in the field of improving the living conditions of these patients.

This is a comparative study that suggests a deeper exploratory investigation of the phenomenon and relationships between concepts. Expanding the study sample to include more doctors with more specialties and other hospitals is suggested.

RESEARCH LIMITATION

Among the limitations of the present study, we can point out that the scale is self-reported, and some samples may have refused to provide real answers. However, to solve this limitation, the anonymity of the questionnaires and the analysis of the results were emphasized in general. Among the other limitations of this research, we can mention the mental state of the research units when completing the questionnaire, which can affect their accuracy and concentration, which was out of the researcher's control.

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