Original Article

Assessment of the Nurse's Knowledge Toward Chest Pain Relief for Patients with Angina Pectoris at Tikrit Teaching Hospital

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ABSTRACT

Objective: (1) To evaluate nurses' understanding regarding how to relieve chest pain in patients with angina pectoris; and (2) To ascertain how nurses' knowledge of chest pain relief for angina pectoris patients relates to their demographic data.

Study Design: Descriptive study

Place and Duration of Study: This study was conducted at the Tikrit Teaching Hospital in Tikrit City Iraq from 2nd December 2024 to 2nd January 2025.

Methods: 50 male and female nurses from the emergency care unit, surgical ward, medical ward, and cardiac care units were enrolled. It is separated into 2 parts, the first part consists of 7 demographic items, including gender, age, education level, marital status, hospital workplace, training sessions, and years of experience. Nurses' knowledge regarding how to relieve chest pain in patients with angina pectoris is evaluated by fifteen items in the second section.

Results: Most of the nurse's knowledge has been at an intermediate level. There is a strong relation between nurses' knowledge and their education level and gender, yet not with marital status, years of experience, age, hospital workplace, or training sessions. The educational initiatives that address and concentrate on managing angina chest pain ought to be created and implemented.

Conclusion: The yearly shift in Iraqi nurses' understanding of angina relieving pain. Encourage the nurses to participate in workshops both abroad and domestically to broaden their knowledge. In the critical care units, put an educational poster that provides nurses with further details on how to treat angina early.

Key Words: Chest pain relief, Nurse's knowledge, Angina pectoris

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INTRODUCTION

Myocardial hypoxia caused by stenosis or obstruction of coronary arteries is the cause of coronary artery disease (CAD), which is in some cases referred to as necrotic heart disease or ischemia. With about one in seven deaths each year, it is the leading heart disease-related mortality cause in the US. CAD is one of the world's major causes of death. The Global Burden of Diseases survey estimates that there have been 26.6 million mortalities and 706 million disability-adjusted life years.

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Importantly, ischemic heart disease was the leading death cause, accounting for 8.38 million deaths.[1]

Angina is both a symptom and a warning indication regarding cardiovascular disease. The majority of angina sufferers report chest pressure or pain. At the same time, some report feeling as though their chest is tightening or squeezing. The discomfort typically starts behind the breastbone. Other upper body parts may experience discomfort or radiating pain from the chest. The jaw, neck, arms, shoulder, abdomen, and back are a few examples of them. Other symptoms, known as "angina equivalents," could result from the heart not receiving enough oxygen. Vomiting or nausea, fatigue, excessive perspiration, and dyspnea are examples of symptoms that are not related to the chest.[2]

There are two types of anginas: unstable angina and stable angina. The increased myocardial demand for oxygen just occurs throughout exercise instable angina, but it occurs throughout rest in unstable angina. Among other variables, higher blood pressure, increased heart rate, and increased myocardial contraction are the main causes of increased myocardial demand oxygen from effort.[3]

From initial assessment as well as stabilization to long-term recovery and education, nurses are crucial in managing patients with angina, offering vital care throughout all stages of treatment. In order to effectively manage such conditions, nurses must combine understanding of evidence-based procedures, clinical expertise, and compassionate care. Vital sign monitoring, cardiopulmonary resuscitation when required, medication administration, and patient education regarding medication adherence, alterations to the life-style, and emotional support are all duties of nurses.[4]

METHODS

This descriptive study was carried out at of the Tikrit Teaching Hospital in Tikrit City Iraq from 2nd December 2024 to 2nd January 2025 vide letter No. 9872/QM/Approval/4JKJD8 dated January 1, 2024. The purposive (non-probability) sampling was used to choose the 50 female and male nurses from the emergency care unit, medical ward, cardiac care unit, and surgical ward. To collect comprehensive data, the researcher specifically designs a questionnaire based on a survey of the literature on the topic of the research. It is separated into two sections. Seven demographic questions, which include age, gender, years of experience, marital status, education level, hospital employment, and training sessions, make up the first section. A total of fifteen items make up the second component, which evaluates nurses' knowledge of how to relieve angina pectoris patients' chest pain. These items have been scored using a three-point Likert scale. 1 denoted no, 2 denoted not sure, and 3 denoted yes. Three levels (1.0–1.660 = low, 1.670–2.330 = moderate, and 2.340–3.0 = high levels) have been recommended for assessing nurses' knowledge regarding chest pain relief for patients who have angina pectoris based on their cutoff points. The validity of questionnaires has been assessed by five panels of adult nursing experts, and the reliability of surveys has been tested by calculating the Cronbach's Coefficient alpha (0.9040) using internal consistency. Data has been obtained with the use of the self-report methodology. Using the SPSS-21, independent sample t-test statistic method and one-way ANOVA testing method were used.

RESULTS

There were 60% females and 40% males with mean age was 29.95±3.232 years. The largest percentage of nurses, 42.0% have been between the ages of 20 and 29. Based on marital status, most of the participants (62%) were married. The largest proportion of them 60% was at the institution level in terms of education level. The majority of them (34%) worked in the coronary care unit of the hospital. In terms of years of experience, the study's majority sample (30%) consisted of people aged 6 to 10. Last but not least, a sizable portion (30.0%) of study sample participated in training sessions in groups 6–11 (Table 1). The mean score of the next nursing knowledge items were at a moderate level, whereas item 1 was at a high level: 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 and 15. The majority of nurses' knowledge was at a median level (Table 2).

The independent sample t-test statistic has been used for determining significant difference in nurses' knowledge by gender, and the one-way ANOVA test has been utilized for determining significant difference in nurses' knowledge through sociodemographic information (marital status, age, hospital workplace, education level, training sessions, and years of experience). Table 3 indicates that a nurse's knowledge is extremely substantially correlated with their education level and gender, yet not with their training sessions, years of experience, marital status, age, or hospital workplace.

Table No.1: Frequency of sociodemographic information (n=50)

Variable	No.	%
Gender		
Male	20	40.0
Female	30	60.0
Age (years)		
20-29	21	42.0
30-39	10	20.0
40-49	8	16.0
≥50	11	22.0
Marital Status		
Single	12	24.0
Married	31	62.0
Divorced	5	10.0
Widowed	2	4.0
Level of Educational		
Secondary level	16	32.0
Institute	30	60.0
College	4	8.0
Hospital Workplace		
Emergency department.	14	28.0
Coronary care unit	17	34.0
Medical ward	9	18.0
Surgical ward	10	20.0
Years of Experiences		
1-5	13	26.0
6-10	15	30.0
11-15	12	24.0
16-20	7	14.0
≥21	3	6.0
Training Sessions		
1-5	9	18.0
6-11	15	30.0
> 11	12	24.0
Never participated	14	28.0

Table No. 2: Mean of score, level of nurses' knowledge

Items of the Questionnaire	Mean±SD	Assessment
Taking pain characteristics duration, onset, location, radiation and quality	2.54±0.61	High
Assessing pain severity with the use of a level of intensity (high/moderate/low)	2.24±0.74	M
Assessing relieving factors of pain	2.22±0.76	M
Maintaining bed rest in semi-to high fowlers position	2.28±0.78	M
Administering supplemental oxygen In the case where ox-meter <95%	2.28±0.64	M
Instructing patient to conduct deep breath exercises	2.28±0.75	M
Decreasing body movement and physical activities	1.84±0.73	M
Avoiding patient exposure to cold	2.06±0.74	M
Providing light meals frequently	2.04±0.66	M
Having patient rest for 1 hr following meals	2.04±0.78	M
Maintaining quiet and comfortable environment	2.02±0.82	M
Restricting visits as necessary	2.12±0.75	M
Presence of nurse near the patient and providing psychological support in cases pain	2.18±0.83	M
Administering nitroglycerin according to the prescription	2.06±0.81	M
Consulting physician in case of persistent pain or discomfort	2.18±0.77	M
Total	2.28±0.75	M

Assessment level (1.0-1.660 low, 1.670-2.330 moderate, 2.340-3.0 high for three score)

Table No. 3: Association between nurses' sociodemographic information and knowledge

Variable		Knowledge			Independent 't' test		
		F	M	SD	't' value	Sig.	CS
Gender	Male	20	35.800	5.2880	3.9120	0.0000	H
	Female	30	30.230	4.6810			
						One way ANOVA	
Age (years)	20-29	21	34.62	5.869	2.165	.105	N
	30-39	10	31.40	5.016			
	40-49	8	29.50	6.908			
	> 50	11	31.450	3.1420			
Marital status	Single	12	33.00	4.843	.115	.951	N
	Married	31	32.48	6.319			
	Divorced	5	31.6	3.647			
	Widow	2	31.0	4.243			
Level of Educational	Secondary level	16	34.31	6.074	11.448	.000	H
	Institute	30	30.30	4.070			
	College	4	41.250	.50			
Hospital Workplace	Emergency department	14	31.730	4.9200	.8930	.4520	N
	Coronary care unit	17	32.560	6.6030			
	Medical ward	9	35.000	5.8740			
	Surgical ward	10	31.100	4.5330			
Years of Experiences	1-5	13	29.750	4.0250	1.205	.322	N
	6-10	15	33.130	5.9990			
	11-15	12	33.080	6.8290			
	16-20	7	35.000	4.4350			
	> 21	3	31.330	4.5090			
Training Session	1-5	9	32.670	5.3850	.531	.663	N
	6-11	15	31.060	6.2980			
	> 11	12	32.920	4.7380			
	Not participate	14	33.620	5.8670			

F= frequency, SD= standard deviation, M= mean, t-value= calculated value for observed-t, F value= calculated value for observed-F, Sig.= significance, CS=comparison of significance:≤0.050=significant, ≤0.0010=high significant, & ≥ 0.050=no significance

DISCUSSION

More people get sick and die from coronary heart disease (CHD) than from any other disease in the US and other advanced nations. CHD is responsible for one out of every seven deaths in the US. The main CHD symptom is angina pectoris (AP), which can be defined as chest pain or discomfort brought on through myocardial ischemia. The best way for patients to monitor their own increased risk of cardiac events is to be able to recognize when AP symptoms shift from a stable chronic condition to unstable acute state.[5,6]

The current research's findings on age revealed that most nurses (42.0%) belonged to the 20–29 age group, and no less than half (62.0%) have been married. This finding is consistent with that of Shaaban and Shehab[9], who discovered that the majority of nurses have been married, and that the largest percentage of the nurses was in the 20-30 age range.

Majority (60%) have an institution certificate in nursing. Those findings concur with those of Yakoub et al[10], who had found out that 60% of nursing staff members had attended a nursing education.

According to the current study, most of study sample (30%) had six to ten years of experience in the nursing industry. This outcome is in line with the findings of Ibrahim et al[11], who discovered that a greater proportion of his study sample had five to ten years of nursing experience.

Most of study sample (72%) had nurse training sessions, and the biggest percentage of them (34%) worked in coronary care unit. This finding is consistent with that of Mansour and Saied[12], who found that the majority of nurses (89.6%) had formal training, and a larger percentage of his study group (50%) had experience working in a coronary care unit.

Depending on data analysis, the current research showed that nurses' knowledge was generally assessed with a mean score of moderate for the following questionnaire items 2,3,4,5,6,7,8,9,10,11,12,13,14,15 and high for item 1. The nurse's knowledge has been mostly at a middle level. Those findings are in line with Smith et al[13], who had reported that 65% of nurses possess a moderate degree of angina knowledge.

The results show a strong and significant relation between gender of nurses and their degree of expertise. This finding is consistent with research that has been conducted by Yakoub et al[10], which discovered a correlation between nurses' gender and their knowledge. Additionally, the current research's findings showed a significant correlation between nurses' education level and their level of knowledge. Sakr et al[14] validated this finding, showing a substantial correlation between nurses' expertise and educational level.

Recommendations

1. Education programs that address and focus on management of angina chest pain should be developed and implemented.
2. To identify the educational needs, a continuous study needs to be carried out in order to evaluate annual changes in nurses' knowledge of angina pain relief in Iraq.
3. To increase the nurses' knowledge, encourage them to take part in workshops both domestically and abroad.
4. Put up an instructional poster in the critical care units that gives nurses more information about early management for angina-related chest pain alleviation.

CONCLUSION

Most participants were female, about half were between the ages of 20 and 29, more than half were married, most were at the institute level, about 25% worked in a coronary care unit, the majority had between 6 and 10 years of experience, and most nurses had training sessions that lasted between 6 and 11. Whereas item 1 was at a high level, the nurses' knowledge of the next questionnaire items has been at a middle level: 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, and 15. Nurses' overall level of knowledge was in middle level. According to the research, nurses' knowledge is strongly correlated with their gender and educational level, but it is unrelated to their marital status, age, hospital workplace, training sessions, or years of experience.

Author's Contribution:

Concept & Design or acquisition of analysis or interpretation of data:	Sameer A. Khalaf
Drafting or Revising Critically:	Sameer A. Khalaf
Final Approval of version:	The above author
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REFERENCES

1. Blumenthal DM, Howard SE, Searl Como J, O'Keefe, SM, Atlas SJ, Horn DM, et al. Prevalence of angina among primary care patients with coronary artery disease. JAMA 2021;4(6): e2112800.

2. El-Hussein MT, Hakkola J. Management of Stable Angina: A Treatment Strategy Mnemonic. J Nurse Prac 2023;19(5):104473.
3. Ferrari R, Camici PG, Crea F, Danchin N, Fox K, Maggioni AP, et al. Expert consensus document: A 'diamond' approach to personalized treatment of angina. Nat Rev Cardiol 2018;15(2):120-32.
4. Kumar A, Patil V. Impact of in-service education programs on nursing care practices in MI and Angina management. J Adva Nurs 2021;77(6): 1894-1902.
5. Kimble LP. A randomized clinical trial of the effect of an angina self-management intervention on health outcomes of patients with coronary heart disease. Rehab Nurs J 2018;43(5):275-84
6. Pelaj P, Autor B. Education and Nursing Care for Patients with Angina Pectoris during The Stay of Patients in The Regional Hospital of Peja. J Pharmac Negative Results 2023; 14(2): 739-49.
7. Howeri NM, AlBashtawy M, Ozaybi N, Alkhawaldeh A, Al-Azzam M, Albashtawy S, et al. Nurses' Knowledge Regarding Care Provided to Patients with Angina. EC Pulmonol Resp Med 2021; 10: 1-4.
8. Mali RL, Singh M. Assessment of the knowledge and practice on nursing management of Myocardial infarction and Angina among staff nurses with a view to develop informational booklet: A hospital-based study. Bioscan 2024; 19(Special Issue-1): 469-74.
9. Shehab M, Shaaban A. Nurses' Performance Regarding Caring of Patients with Angina Attack at Emergency and Critical Care Units. Mansoura Nurs J 2021; 8(3): 149-62.
10. Yakoub NNS, Mohamed MA, Ahmed GH, Farghal MAK. Assessment of Nurses' Performance In Caring for Patients with Myocardial Infarction at El kharga Specialized Hospital: A proposed Brochure. Assiut Sci Nurs J 2025; 13(51): 198-207.
11. Ibrahim R, Abd-Allah K, Arafa O, Mohammed S. Effect of nursing care standards on nurses' performance in caring for patients with cardiac arrhythmias. Egypt Nurs J 2017; 14(3): 251258.
12. Saied DR, Mansour KA. Effectiveness of an educational program on nurses' knowledge and attitudes about pain assessment and management in Imam Hussein Medical City in Holy Karbala. Indian J Forensic Med Toxicol 2021; 15(3).
13. Smith J, Brown K. Healthcare professionals' understanding of myocardial infarction and angina: a survey-based analysis. J Cardiol Educ 2021; 12(3): 150-58.
14. Sakr M, Metwaly E, Taha N. Effect of intervention guidelines on nursing performance regarding patients with angina. Egypt Nurs J 2019; 16:70–7.