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Research Article

Effectiveness of Knowledge on Early Signs and Immediate Treatment of Myocardial Infarction in Selected Hospitals of Dharmapuri District

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Abstract

Myocardial infarction (MI) remains a leading cause of morbidity and mortality globally. Nurses play a vital role in early recognition and management, especially in emergency settings. However, knowledge gaps persist, particularly in resource limited hospitals.

To assess the level of knowledge among nurses regarding myocardial infarction at Faridpur Medical College Hospital, Faridpur.

A descriptive cross-sectional study was conducted among 68 nurses using purposive sampling. Data were collected through a structured, pre-tested questionnaire and analyzed using SPSS version 21 with descriptive statistics.

Most participants were female (790/o) aged 35-40 years, with 5—10 years of experience. While general awareness of MI symptoms, risk factors, and diagnostic tools was satisfactory-95.6% recognized chest pain, 96% identified Troponin I, and 870/o could perform ECG within 10 minutes-knowledge gaps were evident. Only 28% correctly understood aspirin's role, and 80.9% misunderstood the effect of betablockers on cardiac output.

Although overall knowledge was acceptable, misconceptions in pharmacological aspects highlight the need for targeted training. Regular professional development on emergency cardiac care and evidence-based practices is essential to improve nursing competencies and patient outcomes in MI cases.

1. Introduction

Myocardial infarction (MI), commonly known as a heart attack, is a leading cause of morbidity and mortality worldwide. Prompt identification and management of MI are critical for reducing complications and improving patient survival rates. Nurses are oRen the first healthcare professionals to assess patients in emergency settings, making their knowledge and clinical judgment essential for early diagnosis and timely intervention. Comprehensive knowledge of MI among nurses includes understanding its pathophysiology, recognizing signs and symptoms, interpreting electrocardiogram (ECG) changes, and knowing appropriate pharmacological and nonpharmacological interventions. Additionally, nurses must be proficient in-patient education and secondary prevention strategies to support recovery and prevent recurrence. Despite the critical nature of this knowledge, studies have revealed knowledge gaps among nurses in certain settings, particularly regarding the interpretation of ECGs and the administration of thrombolytic. Ongoing education and training are therefore necessary to ensure high standards of care for patients experiencing MI.

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Statement of the problem

Effectiveness of Knowledge on Early Signs and Immediate
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Operational definitions

Nurses' Knowledge on Myocardial Infarction: In this study, "nurses' knowledge on myocardial infarction" refers to the level of understanding that registered nurses have regarding the causes, risk factors, signs and symptoms, emergency management, treatment, and complications of myocardial infarction. Knowledge will be measured using a structured questionnaire consisting of multiple-choice and short-answer questions. The total score will be categorized as low, moderate, or high knowledge level based on predetermined cut-off points.

Objectives of the Study

General Objective:
To assess the level of knowledge among nurses regarding myocardial infarction at Faridpur Medical College Hospital.

Specific Objectives:

1. To determine nurses' understanding of the causes and risk factors of myocardial infarction.
2. To assess knowledge regarding signs and symptoms of myocardial infarction.
3. To identify nurses' awareness of emergency management and treatment of myocardial infarction.
4. To evaluate nurses' knowledge of complications related to myocardial infarction.
5. To find out demographic factors.

2. Methodology

A study was carried out to determine the overall factors related to nurse's knowledge about Myocardial Infarction. This study will follow the following methodology.

Types of the study

A descriptive & cross-sectional study was conducted in Faridpur Medical College Hospital, Faridpur; it was carried throughout the present investigation and collection data started from the period of September 2024 to July 2025.

Study Design

This is a cross sectional study to find out the nurses knowledge about Myocardial Infarction patient.

Target Population & Sample Population

Non-probability (purposive) sampling method was used to collect the sample. The study population consisted of nurses working at Faridpur Medical College Hospital, Faridpur. Oral consent was taken from each nurse before to interview, are a brief explanation on the study and its objectives.

Sample Size

The sample size consisted of 68 nurses who were experienced.
Inclusion Criteria

1. Registered nurses working at Faridpur Medical College Hospital.
2. Nurses who have at least 6 months of clinical experience.
3. Nurses who are willing to participate and provide informed consent.
4. Nurses available at the time of data collection.

Exclusion Criteria

1. Student nurses, intern nurses, or trainee nurses.
2. Nurses who are on leave during the data collection period.
3. Nurses working in non-clinical or administrative roles.
4. Nurses who decline to participate or do not provide consent.

Statistical analysis

Data was analysed by using the (SPSS) version 21 such as analysis was performed by, descriptive statistical used in order to analyse and assess the result of this study which is frequency & percentage.

Data Collection Tools

During data collection pencil, pen and papers were used. A formed written permission was taken from the director of hospitals for data collection acer explaining of the study. Data will be collected by researcher himself. Face to face interview will be conducted with structure questionnaire.

Research Instruments

Pre-tested structured questionnaire. There is designed according to the objectives and variables stated in the study.

Data Management and Analysis Plan

- Descriptive studies.
- So Rawer SPSS used for this study.

Distribution of respondents with Hallmark symptoms of MI

Distribution of respondents with hallmark symptoms of MI			
Demographic characteristics	Frequency	Percent	Valid Percent
Sudden severe headache	3	4.4	4.4
chest pain	65	95.6	95.6
Total	68	100.0	100.0

Table: Respondents hallmark symptoms of MI

Distribution of respondents according to the need of Beta blocker

Distribution of respondents according to the need of Beta blocker			
Demographic characterisflcs	Frequency	Percent	Valid Percent
Increase cardiac output	55	80.9	80.9
Reduce heart rate and oxygen demand	11	16.2	16.2
Enhance appetite	2	2.9	2.9
Total	68	100.0	100.0

Table: Respondents needs of beta blocker

Distribution of respondents by knowledge during training activities

Distribuflon of respondents by knowledge during training activifles			
Demographic characteristics	Frequency	Percent	Valid Percent
No share	6	8.8	8.8
Once	20	29.4	29.4
More than one	42	61.8	61.8
Total	68	100.0	100.0

Distribution of respondents during performing ECG

Distribuflon of respondents during performing ECG			
Demographic characterisflcs	Frequency	Percent	Valid Percent
Within 5 minutes	12	17.6	17.6
Within 10 minutes	47	69.1	69.1
Within 30 minutes	5	7.4	7.4
Within 1 hour	4	5.9	5.9
Total	68	100.0	100.0

Table: Respondents knowledge about performing ECG

Distribution of respondents' experience during operating instruments

Distribution of respondents experience during operating instruments			
Demographic characteristics	Frequency	Percent	Valid Percent
Yes	59	86.8	86.8
No	9	13.2	13.2
Total	68	100.0	100.0

Recommendations

1. **Regular In-Service Training:** Conduct periodic workshops and refresher courses focusing on updated guidelines for MI recognition, emergency response, and pharmacological management.
2. **Curriculum Enhancement:** Nursing education programs should strengthen content related to cardiovascular emergencies, especially pharmacology and diagnostic interpretation.
3. **Simulation-Based Learning:** Introduce practical simulañons and drills in cardiac emergency scenarios to build clinical confidence and decision-making skills.
4. **Strengthen Continuing Professional Development (CPD):**Encourage nurses to attend CPD programs and seminars related to cardiac care, both in-person and online.
5. **Promote Evidence-Based Practice:** Provide access to updated protocols and encourage the use of current research and clinical guidelines in daily practice.

Article Information

Disclaimer (Artificial Intelligence): The author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.), and text-to-image generators have been used during writing or editing of manuscripts.

Competing Interests: Authors have declared that no competing interests exist.

References

[1] Alharbi, M. M., Alshammari, F. O., & Almutairi, A. A. (2020). Nurses' knowledge and practice toward myocardial infarction: A cross-sectional study. *Journal of Clinical Nursing*, 29(3–4), 452–459.

[2] Ibanez, B., James, S., Agewall, S., Antunes, M. J., Bucciarelli-Ducci, C., Bueno, H., et al. (2018). 2017 ESC Guidelines for the management of acute myocardial infarction in patients presenting with ST-segment elevation. *European Heart Journal*.