



# A STUDY TO ASSESS THE KNOWLEDGE REGARDING EARLY SIGNS AND EMERGENCY MANAGEMENT OF MYOCARDIAL INFARCTION AMONG STAFF NURSES WORKING IN CRITICAL CARE UNIT IN A SELECTED HOSPITAL KOLKATA ,WEST BENGAL.

## Nursing

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## ABSTRACT

An acute myocardial infarction is an emergency situation requiring immediate diagnosis and treatment. It is caused by complete blockage of the coronary artery due to thrombus attached to a ruptured plaque. **Methods-** A descriptive study was conducted by B.Sc Nursing Part III, group –B students of Ramakrishna Mission Seva Pratishthan, Ma Sarada College of Nursing to assess the knowledge regarding early signs and emergency management of Myocardial Infarction among staff nurses working in critical care unit in selected hospital ,Kolkata. **Results:** The tool used for generating the necessary data was structured knowledge questionnaire regarding early signs and emergency management of Myocardial Infarction. The study findings revealed that some of the staff nurses (36.67%) have good knowledge , and most of the staff nurses (63.33%) have average knowledge. **Conclusion:** Myocardial infarction cases are mainly reported in the critical care unit and emergency department and the nurses must have adequate knowledge for immediate management to prevent further complications and death.

## KEYWORDS

Myocardial Infarction, Early Signs, Emergency Management

Cardiovascular diseases remains the most common cause of death in both developed and developing countries, all health professionals including nurses should know the risk factors, preventive measures and its management. Nearly 3 million people are suffering from acute Myocardial Infarction in India per year. First attempt towards development of ST Segment Elevated Myocardial Infarction management protocols in India was done in the year 2011. Recently a consensus statement has been published jointly by ST Segment Elevated Myocardial Infarction- India, Central Sensitization Inventory and association of physicians of India. The concept of “spoke and hub” has been highlighted in this document, which is based on the distance of the place from where the patient is commuting and the location of the primary, secondary or tertiary care centres. But since the whole concept revolved around few locations in India which were having advantages in terms of logistics and infrastructure, there have been challenges in its universal application in our diversified country. Accurate and sudden action of the nurses can help in the survival of the patient. Monitoring and evaluation of nurse's competence might participate to provide better future performance. The specialist nurse plays an important role in educating and counselling patients with acute myocardial infarction to prevent further myocardial damage detect complication and promote patient's recovery.

### Problem Statement

A study to assess the knowledge regarding early signs and emergency management of myocardial infarction among staff nurses working in critical care unit in a selected hospital Kolkata , West Bengal.

### OBJECTIVES

The objectives of the study were as follows.

- To assess the knowledge of early signs and emergency management of myocardial infarction among the staff nurses working in critical care unit.
- To find the association between knowledge regarding early signs and emergency management of myocardial infarction and selected demographic variables.

### HYPOTHESIS

All Hypothesis were tested at 0.05 level to significance

H<sub>1</sub>: There is a association between level of knowledge of staff nurses working in critical care unit regarding Early signs and Emergency Management of Myocardial Infarction and selected variable.

### Variables

The research variables were:

**Demographic variables-** age ,gender, educational qualification, year of experience of staff nurses working area, attend any workshop on Cardiovascular disease.

**Research variables-** Knowledge of early signs and Emergency Management of Myocardial Infarction.

### METHODOLOGY

The present study was concerned to assess knowledge of staff nurses working in critical care unit regarding the initial management of Myocardial Infarction. Ethical permission was taken from institution administrative committee. A quantitative research approach was applied. Descriptive research design was selected to assess the level of knowledge of early signs and immediate treatment of myocardial infarction. Sample selected for the study was the staff nurses working in critical care unit(Intensive care unit , coronary care unit and emergency department )of Ramakrishna Mission Seva Pratishthan by non probability convenience sampling technique. Tool I- Demographic Proforma ( paper pencil method) and Tool II- Structured knowledge questionnaire were used to collect the data.

### Content Validity Of Tools

Tool I - Demographic proforma(paper pencil method) initially contained 5 items. There was 100% agreement in all items. After taking experts suggestion and after discussion with the guide one item was added to the demographic proforma and other necessary modification are made for specification and clarity. After validation final Tool-I contained total 6 items.

Tool II - Structured knowledge questionnaire to assess the knowledge regarding emergency management of Myocardial Infarction initially contained 20items.Out of 20items 15items had 100% agreement, 3 items had 8% agreement and 2items had 60% agreement.

The content validity index for 15 items (2, 3, 4, 5, 9, 10, 11, 12, 13, 14, 15, 16, 17, 20) was 1 and 3 items (1, 6, 19) content validity index was 0.8 and 2 items (7, 8) content validity index was 0.6. After the discussion with the guide necessary modification was done and Tool-II finally consisted of 20 items.

### Pre Testing Of Tools

The demographic proforma, structured knowledge questionnaire regarding the early signs and emergency management of Myocardial Infarction was administered among 5 staff nurses working in Emergency Department of Ramakrishna Mission Seva Pratishthan on 2nd August to 6th August. The purpose of the pretesting of the tools was to determine the clarity and ambiguity of the item and to find out the time required to complete the tools. The all items of each tool were reported clear to the subjects and time taken to complete all items was 25 minutes.

### Reliability Of Tools

Reliability is the degree of consistency or accuracy with which an instrument measures the attributes. The Tool I demographic proforma and Tool II structured knowledge questionnaire regarding early signs and emergency management of Myocardial Infarction was administered among 10 staff nurses working in Emergency Department of Ramakrishna Mission Seva Pratishthan from 03.08.22 to 06.08.22. The reliability of Tool II was established by using split half method followed by Spearman brown Prophecy Formula to check internal consistency. The obtained  $r$  value was 1.009 and hence the Tool II was found to be reliable.

### Pilot Study

A pilot study is a miniature trial run on methodology planned for major study, it is also conducted to find out the feasibility of the study. The pilot study was conducted on 13.08.22 on 10 subjects selected by non probability convenience sampling technique after obtaining permission from respective authority. The Pilot study result shows that research tool was applicable and feasible for conducting main study.

### RESULTS

In order to find out level of knowledge regarding Early Signs and Emergency Management of Myocardial Infarction among staff nurses working in critical care unit data were tabulated, analysed and interpreted using descriptive and inferential statistics method.

Description of the sample characteristics of staff nurses.

- Out of 30 samples, 27 (90%) staffs nurses were between 20-29 years age group, there was no staff nurses belong between 30-39 year age group, 2 (6.66%) staff nurses were between 40-49 year age group and 1 (3.33%) staff nurses were between 50-59 years age group.
- 27 (90%) staff nurses were female, 3 (10%) staff nurses were male.
- Out of 30 samples 21 (70%) staff's educational qualification were GNM and 9 (30%) staff's educational qualification were B.Sc nursing.
- Out of 30 samples 27 (90%) staff nurses working experience was 0-9 years, there was no staff nurse belong to 10-19 years of working experience and 3 (10%) staff nurses working experience was 22-29 years.
- Only 33.3% staff nurses attended workshop on cardiovascular disease and 66.6% staff nurses not attended any workshop on cardiovascular disease.

Findings related to knowledge regarding early signs and immediate management of myocardial infarction among staff nurses who were working in critical care unit:

- The results shows that out of 30 samples 11 (36.67%) staff nurses had good knowledge, 19 (66.33%) had average knowledge and 0 (0%) has poor knowledge regarding early signs and immediate management of myocardial infarction.

**Table no. 1 frequency and percentage distribution of knowledge scores of the sample.** N-30

| Score range | Frequency | Percentage (%) |
|-------------|-----------|----------------|
| 14-20       | 11        | 36.67          |
| 7-13        | 19        | 63.33          |
| 0-6         | 0         | 0              |

Table no 1 shows that majority of staff nurses 19 (63.33%) has score within 13-7 score (Average), 11 (36.67%) has score within 20-14

scores (Good).

**Table no.2 Mean, median and standard deviation of knowledge score** N-30

| Range of score | Mean $\pm$ Standard Deviation | Median |
|----------------|-------------------------------|--------|
| 7-16           | 12.56 $\pm$ 3.37              | 16.72  |

The data presented in the table no 2 shows that knowledge score range was (7-16) and the mean score is 12.56 and Standard Deviation is 3.37.

Findings related to find out the association between knowledge regarding early signs and immediate management of myocardial infarction and selected demographic variables:

**Table 3 : Association between level of knowledge with selected variables.**

| Demographic variables       | Level of knowledge |         |      |       | Chi square | Degrees of freedom | Significance    |
|-----------------------------|--------------------|---------|------|-------|------------|--------------------|-----------------|
| 1.Age                       | Poor               | Average | Good | Total |            |                    |                 |
| 20-29                       | 0                  | 18      | 9    | 27    | 2.7        | 6                  | No significance |
| 30-39                       | 0                  | 0       | 0    | 0     |            |                    |                 |
| 40-49                       | 0                  | 1       | 1    | 2     |            |                    |                 |
| 50-59                       | 0                  | 0       | 1    | 1     |            |                    |                 |
| Total                       | 0                  | 19      | 11   | 30    |            |                    |                 |
| 2.Gender                    |                    |         |      |       | 1.93       | 2                  | No significance |
| Male                        | 0                  | 3       | 0    | 3     |            |                    |                 |
| Female                      | 0                  | 16      | 11   | 27    |            |                    |                 |
| Others                      | 0                  | 0       | 0    | 0     |            |                    |                 |
| Total                       | 0                  | 19      | 11   | 30    |            |                    |                 |
| 3.Educational Qualification |                    |         |      |       | 1.52       | 2                  | No significance |
| GNM                         | 0                  | 12      | 9    | 21    |            |                    |                 |
| BSc                         | 0                  | 7       | 2    | 9     |            |                    |                 |
| Total                       | 0                  | 19      | 11   | 30    |            |                    |                 |
| 4.Year of experience        |                    |         |      |       | 1.29       | 4                  | No significance |
| 0-9                         | 0                  | 18      | 9    | 27    |            |                    |                 |
| 10-19                       | 0                  | 0       | 0    | 0     |            |                    |                 |
| 20-29                       | 0                  | 1       | 2    | 3     |            |                    |                 |
| Total                       | 0                  | 19      | 11   | 30    |            |                    |                 |
| 5.Attended workshop         |                    |         |      |       | 0.02       | 2                  | No significance |
| Yes                         | 0                  | 2       | 1    | 3     |            |                    |                 |
| No                          | 0                  | 17      | 10   | 27    |            |                    |                 |
| Total                       | 0                  | 19      | 11   | 30    |            |                    |                 |
| 6.Working area              |                    |         |      |       | 0.341      | 2                  | No significance |
| ICU                         | 0                  | 9       | 4    | 13    |            |                    |                 |
| CCU                         | 0                  | 10      | 7    | 17    |            |                    |                 |
| Total                       | 0                  | 19      | 11   | 30    |            |                    |                 |

The data presented in table showed that the calculated chi square values were less than the table values at respective df at 0.05 level of significance. Thus the data showed there is no association between level of knowledge and demographic variables like age, gender, educational qualification, years of experience, working area, attended workshop.

### DISCUSSION

In this present study results shows that out of 30 samples 11 (36.67%) staff nurses had good knowledge, 19 (66.33%) had average knowledge and 0 (0%) has poor knowledge regarding early signs and immediate management of myocardial infarction and also there is no significant association between knowledge with demographic variables.

### CONCLUSION

The investigation shows that 11 (36.67%) staff nurses had good knowledge, 19 (66.33%) had average knowledge and 0 (0%) has poor knowledge regarding early signs and immediate management of myocardial infarction. So the study suggests that staff nurses have sound knowledge regarding cardiovascular function and immediate management of myocardial infarction.

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