

Research Article

# A Study to Assess the Effectiveness of Structured Teaching Programme on Knowledge Regarding Early Signs and Immediate Management of Myocardial Infarction Among Secondary Students of Selected Schools of Pulwama Kashmir

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## A B S T R A C T

**Background:** Myocardial infarction (MI) is a life-threatening cardiovascular emergency in which early recognition of symptoms and prompt management are essential. Adequate knowledge of warning signs and appropriate immediate actions may facilitate timely intervention and improve outcomes.

**Objective:** To assess the effectiveness of a Structured Teaching Programme (STP) on knowledge regarding the early signs and immediate management of myocardial infarction among secondary school students in selected schools of Pulwama, Kashmir.

**Materials and Methods:** A pre-experimental one-group pre-test post-test design was adopted among 60 secondary school students selected by purposive sampling. Data were collected using a validated structured knowledge questionnaire consisting of 30 items. A structured teaching programme on the early signs and immediate management of myocardial infarction was administered through lecture-cum-discussion and demonstration using visual aids. Post-test knowledge was assessed after seven days. Data were analysed using descriptive statistics, paired t-test and Fisher's Exact Test.

**Results:** In the pre-test, 7 (11.67%) students had inadequate knowledge, 52 (86.66%) had moderately adequate knowledge and 1 (1.67%) had adequate knowledge. The mean pre-test knowledge score was

13.46 ± 3.22. Following the intervention, 55 (91.67%) students demonstrated adequate knowledge and 5 (8.33%) had moderately adequate knowledge, with none having inadequate knowledge. The mean post-test score increased to 22.46 ± 3.09. The difference between pre-test and post-test knowledge scores was statistically significant ( $t = 22.83$ ,  $df = 59$ ,  $p < 0.05$ ), indicating that the Structured Teaching Programme was effective in improving students' knowledge. The study also found significant associations between pre-test knowledge and selected socio-demographic variables, while gender, class and father's occupation showed no significant association.

**Conclusion:** The Structured Teaching Programme was effective in significantly improving knowledge regarding the early signs and immediate management of myocardial infarction among secondary school students. Incorporating structured cardiovascular health education and emergency-response training into school health programmes may help improve awareness and preparedness among adolescents.

**Keywords:** Myocardial Infarction, Knowledge, Structured Teaching Programme, Secondary School Students, Early Signs, Immediate Management, Cardiovascular Health

## Introduction

Cardiovascular diseases (CVDs) remain a major global health burden, with Myocardial Infarction (MI) or heart attack being one of the most severe manifestations<sup>1</sup>. Myocardial infarction (MI) is a leading cause of death worldwide, with over 254 million cases and 9.1 million deaths reported in 2021<sup>2</sup>. Its prevalence is rising among younger adults, with early-onset cases increasing significantly and linked to smoking, obesity, and stress. Myocardial Infarction (MI) is a life-threatening condition caused by the sudden blockage of blood flow to the heart muscle, leading to tissue necrosis<sup>3</sup>. Early recognition of warning signs and prompt management are essential to reduce mortality. However, awareness among adolescents remains limited, especially in Pulwama, Kashmir. This study aimed to evaluate the effectiveness of a Structured Teaching Programme (STP) in improving knowledge regarding early signs and immediate management of MI among secondary school students.

Early detection plays a crucial role in reducing mortality and improving survival outcomes. Awareness of MI symptoms remains low, especially regarding atypical signs like jaw pain, nausea, or shortness of breath<sup>4</sup>. These trends highlight the urgent need for educational and structured teaching programs to promote early recognition and management of MI.

Structured teaching programmes have been shown to significantly improve knowledge regarding Early signs and immediate management of myocardial infarction among secondary students of selected schools of Pulwama Kashmir.

## Need for Study

Myocardial Infarction (MI) is a type of heart disease, more commonly known as heart attack as due to this disease one or more than one areas of heart muscles don't get enough oxygen<sup>1</sup>.

Myocardial infarction (MI) is a leading cause of death worldwide, with over 254 million cases and 9.1 million deaths reported in 2021<sup>2</sup>. Its prevalence is rising among younger adults, with early-onset cases increasing significantly and linked to smoking, obesity, and stress. Awareness of MI symptoms remains low, especially regarding atypical signs like jaw pain, nausea, or shortness of breath. These trends highlight the urgent need for educational and structured teaching programs to promote early recognition and management of MI<sup>4</sup>. WHO reported that 16.7 million people are the world die due to coronary artery diseases. Each year 29% of all deaths are globally caused due to Myocardial Infarction (MI) and it is considered as major health problem in India including Kashmir. Global Burden of Disease study estimated an age-standardized cardiovascular disease (CVD) death rate of 272 per 100,000 population in India, which is higher than the global average<sup>5</sup>. A comprehensive study conducted in the Kashmir Valley reported an overall coronary heart disease (CHD) prevalence of 7.54%. The study found a higher prevalence in urban areas (8.37%) compared to rural areas (6.70%). Gender-wise, males exhibited a prevalence of 7.88%, while females had a slightly lower rate of 6.63%. Age and Gender Distribution: Research focusing on patients under 40 years of age revealed that 76.7% were males and 23.3% were females, with a mean age of 37.7 years<sup>7</sup>. This indicates a higher incidence of MI among younger males in the region. The unique socio-environmental factors in Kashmir, including prolonged stress due to regional disturbances, sedentary lifestyles, dietary habits, and harsh climatic conditions, may contribute to the increased prevalence of Myocardial Infarction (MI)<sup>10</sup> despite these factors, there is a paucity of region-specific data on MI.

In this context this study aims to contribute to existing body of knowledge by evaluating the effectiveness of structured teaching Program(STP) in improving students' knowledge about Myocardial Infarction(mi), the findings of the study can be used to develop targeted educational interventions to enhance students' knowledge about Myocardial Infarction(mi), ultimately contributing to improved health outcomes in Kashmir.

## Materials And Methods

### Statement of the Problem

A study to assess the effectiveness of structured teaching Programme on knowledge regarding early signs and

immediate management of myocardial infarction among secondary students of selected schools of Pulwama Kashmir

### Objectives Of the Study

- To assess the pre-test level of knowledge regarding early signs and immediate management of myocardial infarction among secondary school students.
- To assess the post-test level of knowledge regarding early signs and immediate management of myocardial infarction among secondary school students.
- To evaluate the effectiveness of structured Teaching program by comparing pretest and Posttest level of knowledge regarding early signs and immediate management of myocardial infarction among secondary school students.
- To find out the association between pre-test level of knowledge regarding early signs and immediate management of myocardial infarction with selected sociodemographic variables.
- **Study Design:** A pre-test post-test experimental design was adopted for this study.
- **Study Setting:** The study was conducted at Govt. Higher Secondary School and Srinagar International School of District Pulwama Kashmir.
- **Study Population:** Secondary School students enrolled in Selected Schools of Pulwama Kashmir.
- **Sample Size and Sampling Technique:** A sample size of 60 participants was selected using non-probability purposive sampling. 30 students were selected from each school,

### Inclusion Criteria

- Students enrolled in classes 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup> and 12<sup>th</sup>
- Students who are willingness to participate in the study
- Students who are able to read English and Urdu.
- Students who were present during the period of study.

### Exclusion criteria include:

- Students who are not willing to participate.
- Students who were absent during the period of study

### Data Collection Tool

A self-structured questionnaire was developed based on literature review and expert validation. It consisted of:

#### Section I

It includes demographic data such as age, gender, occupation and education.

#### Section II

It is intern divided into two sections

Section A includes early signs and symptoms and Section B includes immediate management. It contains structured questionnaire with thirty questions based on secondary

school students' knowledge about MI. Each correct response was awarded one mark. Total score ranged from 0 to 30.

### Scoring Criteria

- Inadequate knowledge: (0–9) Marks
- Moderately adequate: (10–19) Marks
- Adequate: > (20–30) Marks

### Reliability

The tool demonstrated good internal consistency (Cronbach's alpha = 0.85).

### Intervention (Structured Teaching Programme)

The STP was developed using standard nursing literature and expert consultation. It included:

- Concept and importance of Identifying Early signs of MI like Chest Pain Shortness of Breath, Excessive sweating etc.
- Risk factors and Immediate Management
- Step-by-step MI management

The Programme was delivered through lecture-cum-discussion and demonstration using visual aids. Duration was 30–45 minutes.

### Data Collection Procedure

Participants were approached in classrooms after obtaining institutional permission. Written informed consent was obtained. Pre-test was conducted, followed by STP, and post-test after 7 days.

### Ethical Considerations

Ethical approval was obtained from the institutional authority. Confidentiality and anonymity were ensured. Participation was voluntary. Consent was taken from the students before participating in the study.

### Statistical Analysis

The data were analysed using both descriptive statistics and inferential statistics. All statistical analyses were performed using SPSS version 26, with inferences drawn at a significance level of  $p < 0.05$ .

### Results

**Interpretation:** The majority of participants were aged 17-18 (55%) years, followed by age group 15-16 years as 33.3%, followed by age of 13-14 years as 11.7%. Above data reveals that male to female are in equal proportion i.e 50% each Class Half of students (50%) were students of 9<sup>th</sup> class, followed by 30% students studied in grade 11<sup>th</sup> & the remaining 20% students were student of 12<sup>th</sup> class Majority of fathers (43.3%) were working in other profession, followed by health profession as 33.3%, followed by farmer as 13.3% & the remaining 10% fathers were businessman .Majority of mothers 91.7% were working in

other profession, followed by health profession as 5% & the remaining 3.3% mothers were housewife Majority of fathers 36.7% have studied up to secondary level, followed by primary education as 25%, followed by graduate as 21.7% & the remaining 16.7 fathers were illiterate Majority of mothers 53.3% have studied up to primary level, followed by illiterate as 21.7%, followed by secondary education as 15% & the remaining 10% mothers were graduate.

**Interpretation:** Most participants. (86.66%) have moderately adequate knowledge regarding the aforesaid subject, followed by inadequate knowledge as 11.67% & the remaining 1.67% have adequate knowledge.

**Interpretation:** The mean $\pm$ 13.46 indicates moderate knowledge, with a wide range (5–22) suggesting variability among participants also shown in Figure 1.

**Interpretation:** After the intervention 91.67% of participants achieved adequate knowledge indicating a marked improvement and the remaining 8.33% were having moderately adequate knowledge also shown in Figure 2.

**Interpretation:** The high mean score (22.46 $\pm$ 3.09) with low variability indicates consistent and excellent knowledge after the intervention.

**Interpretation:** The comparison of pre-test and post-test knowledge levels shows a remarkable improvement in participants' knowledge regarding Early signs and immediate management of myocardial infarction following the structured teaching programme. The mean pre-test knowledge score was (13.46  $\pm$  3.22) which increased markedly to a mean post-test score of (22.46  $\pm$  3.09). The calculated Paired t-Value (t=22.83) is much higher than the table value at 0.05 level of significance and the p-value is P=0.00 <0.05 indicating that the difference is highly statistically significant. This demonstrates that the structured teaching programme was highly effective in improving the knowledge of participants regarding Early signs and immediate management of myocardial infarction following the structured teaching programme.

Fisher Exact Test Was used to determine the Association between pre-test level of knowledge score with their demographic variables The findings reveal that there was no statistically significant association between pre-test knowledge scores and most of the selected variables, including Gender (p=1.66&0.861), Class (p=2.463&0.72), Occupation of Father (p=3.01&0.618)

**Table I. Frequency and percentage distribution of Secondary school students according to their demographic variables**

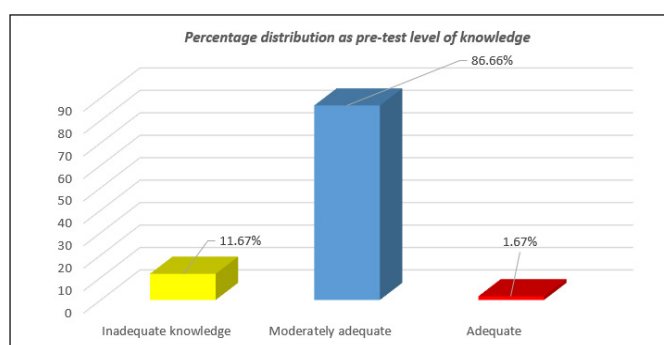
| Characteristics      | Socio-demographic variables | -  | -     |
|----------------------|-----------------------------|----|-------|
|                      | Content                     | f  | %     |
| Age(years)           | 11-12                       | 0  | 0%    |
|                      | 13-14                       | 7  | 11.7% |
|                      | 15-16                       | 20 | 33.3% |
|                      | 17-18                       | 33 | 55%   |
| Gender               | Male                        | 30 | 50%   |
|                      | Female                      | 30 | 50%   |
|                      | Prefer not to say           | 0  | 0%    |
| Grade/ Class         | Grade 9 <sup>th</sup>       | 30 | 50%   |
|                      | Grade 10 <sup>th</sup>      | 0  | 0%    |
|                      | Grade 11 <sup>th</sup>      | 18 | 30%   |
|                      | Grade 12 <sup>th</sup>      | 12 | 20%   |
| Occupation of father | Health professional         | 20 | 33.3% |
|                      | Businessman                 | 6  | 10%   |
|                      | Farmer                      | 8  | 13.3% |
|                      | Other                       | 26 | 43.3% |
| Occupation of mother | Health professional         | 3  | 5%    |
|                      | Housewife                   | 2  | 3.3%  |
|                      | Other                       | 55 | 91.7% |

|                        |                     |    |       |
|------------------------|---------------------|----|-------|
| Fathers' qualification | Primary education   | 15 | 25%   |
|                        | Secondary education | 22 | 36.7% |
|                        | Graduate            | 13 | 21.7% |
|                        | Illiterate          | 10 | 16.7% |
| Mothers' qualification | Primary education   | 32 | 53.3% |
|                        | Secondary education | 9  | 15%   |
|                        | Graduate            | 6  | 10%   |
|                        | Illiterate          | 13 | 21.7% |

**Table 2.**Frequency and percentage distribution of pre-test level of knowledge regarding the early signs and immediate management of myocardial infraction among secondary school students

| Scoring criteria                      | Pre-test Knowledge(n=60) |            |
|---------------------------------------|--------------------------|------------|
|                                       | Frequency                | Percentage |
| Inadequate Knowledge (0-9)            | 7                        | 11.67%     |
| Moderately adequate Knowledge (10-18) | 52                       | 86.66%     |
| Adequate Knowledge (19-30)            | 1                        | 1.67%      |

Minimum Score = 0 Maximum Score = 30



**Figure 1.**Bar Diagram showing pre-test level of knowledge among Secondary school students

**Table 3.**Descriptive statistics of pre-test level of knowledge regarding the early signs and immediate management of myocardial infraction among secondary school students

| Descriptive                          | (Mean±SD)    | Mode | Median | Minimum | Maximum | Range |
|--------------------------------------|--------------|------|--------|---------|---------|-------|
| Statistics Pre-test knowledge (N=60) | (13.46±3.22) | 17   | 14     | 5       | 22      | 17    |

**Table 4.**Frequency and percentage distribution of post-test level of knowledge regarding the early signs and immediate management of myocardial infraction among secondary school students

| Scoring criteria            | Post-test Knowledge(n=60) |            |
|-----------------------------|---------------------------|------------|
|                             | Frequency                 | Percentage |
| Inadequate Knowledge (0-9)  | 0                         | 0%         |
| Moderately adequate (10-18) | 5                         | 8.33%      |
| Adequate Knowledge (19-30)  | 55                        | 91.67%     |

Minimum Score = 0 Maximum Score = 30

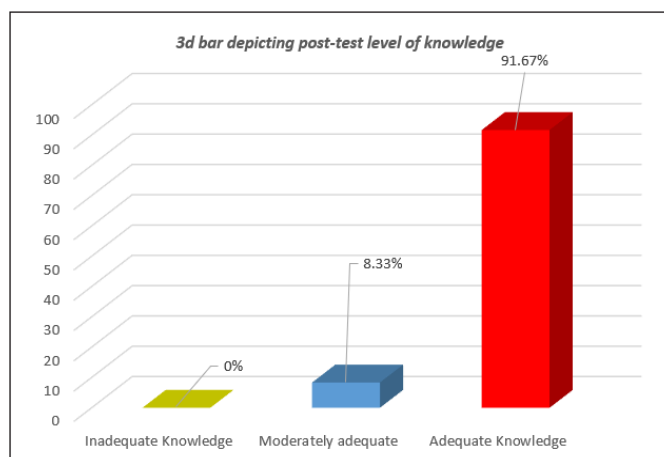


Figure 2. Bar Diagram showing post-test level knowledge among secondary school students

Table 5. Descriptive statistics of post-test level of knowledge regarding the early signs and immediate management of myocardial infraction among secondary school students

| Descriptive Statistics     | (Mean±SD)    | Mode | Median | Minimum | Maximum | Range |
|----------------------------|--------------|------|--------|---------|---------|-------|
| Post-test knowledge (N=60) | (22.46±3.09) | 21   | 23     | 14      | 27      | 13    |

Maximum=30 Minimum=0

Table 6. Comparison of Mean Pre-test and Post-test Knowledge Scores and SD of mothers of both experimental and control group

| Effectiveness between pre and post-test knowledge using paired t-test(N=60) |            |    |                      |
|-----------------------------------------------------------------------------|------------|----|----------------------|
| Group                                                                       | Mean ±SD   | df | Paired t test        |
| Pretest                                                                     | 13.46±3.22 | 59 | 22.83 S P=0.00 <0.05 |
| Posttest                                                                    | 22.46±3.09 |    |                      |

S Significant, P<0.05

NS Non-Significant, P>0.05

Maximum Score=30 Minimum Score=0

Table 7. Association between pre-test level of knowledge score with their demographic variables using Fisher Exact test

| Variables       | Options                | Inade-<br>quate<br>Knowl-<br>edge | adequate | Moderately | Ade-<br>quate<br>Knowl-<br>edge | Fisher<br>Exact<br>Test | df    | P value | Interpretation |
|-----------------|------------------------|-----------------------------------|----------|------------|---------------------------------|-------------------------|-------|---------|----------------|
| Age             | 11-12                  | 0                                 | 4        | 0          | 29.77                           | 6                       | 0.01  | S**     |                |
|                 | 13-14                  | 3                                 | 25       | 0          |                                 |                         |       |         |                |
|                 | 15-16                  | 2                                 | 12       | 1          |                                 |                         |       |         |                |
|                 | 17-18                  | 6                                 | 7        | 0          |                                 |                         |       |         |                |
| Gender          | Male                   | 6                                 | 10       | 0          | 1.66                            | 2                       | 0.861 | NS      |                |
|                 | Female                 | 5                                 | 38       | 1          |                                 |                         |       |         |                |
| Grade/<br>Class | Grade 9 <sup>th</sup>  | 1                                 | 20       | 1          | 2.463                           | 6                       | 0.72  | NS      |                |
|                 | Grade 10 <sup>th</sup> | 4                                 | 10       | 0          |                                 |                         |       |         |                |
|                 | Grade 11 <sup>th</sup> | 3                                 | 9        | 0          |                                 |                         |       |         |                |
|                 | Grade 12 <sup>th</sup> | 3                                 | 8        | 1          |                                 |                         |       |         |                |

|                       |                     |   |    |   |       |   |       |      |
|-----------------------|---------------------|---|----|---|-------|---|-------|------|
| Occupation of father  | Health professional | 1 | 21 | 1 | 3.01  | 6 | 0.618 | NS   |
|                       | Businessman         | 3 | 18 | 0 |       |   |       |      |
|                       | Farmer              | 5 | 4  | 0 |       |   |       |      |
|                       | Other               | 1 | 6  | 0 |       |   |       |      |
| Occupation of mother  | Health professional | 5 | 20 | 0 | 24.82 | 6 | 0.00  | S**  |
|                       | Housewife           | 1 | 20 | 1 |       |   |       |      |
|                       | Other               | 3 | 5  | 0 |       |   |       |      |
| Fathers qualification | Primary education   | 1 | 20 | 1 | 7.91  | 6 | 0.77  | NS   |
|                       | Secondary education | 4 | 10 | 0 |       |   |       |      |
|                       | Graduate            | 3 | 9  | 0 |       |   |       |      |
|                       | Illiterate          | 3 | 8  | 1 |       |   |       |      |
| Mothers qualification | Primary education   | 3 | 18 | 1 | 22.71 | 6 | 0.01  | S*** |
|                       | Secondary education | 5 | 7  | 0 |       |   |       |      |
|                       | Graduate            | 4 | 9  | 0 |       |   |       |      |
|                       | Illiterate          | 4 | 8  | 1 |       |   |       |      |

## Discussion

The present study assessed the effectiveness of a Structured Teaching Programme (STP) on knowledge regarding the early signs and immediate management of myocardial infarction among 60 secondary school students in selected schools of Pulwama, Kashmir. The pre-test findings showed that 11.67% of students had inadequate knowledge, 86.66% had moderately adequate knowledge and only 1.67% had adequate knowledge, with a mean score of  $13.46 \pm 3.22$ . These findings indicate a considerable gap in students' knowledge regarding recognition and immediate management of myocardial infarction.

Following the STP, a marked improvement was observed. In the post-test, 91.67% of students achieved adequate knowledge, while 8.33% had moderately adequate knowledge and none remained in the inadequate category. The mean knowledge score increased to  $22.46 \pm 3.09$ . The difference between pre-test and post-test scores was statistically significant ( $t = 22.83$ ,  $df = 59$ ,  $p < 0.05$ ), demonstrating the effectiveness of the structured teaching programme.

The findings are consistent with Yadav and Khokhar, who reported significant improvement in cardiovascular health literacy among school-going adolescents following an information, education and communication intervention.<sup>11</sup>

Similarly, Abdelkhalik et al. found that an educational intervention significantly improved knowledge of heart-attack symptoms among high-school students, with adequate knowledge increasing from 22% before the intervention to 83.2% afterwards.<sup>12</sup>

Bhat et al. also reported significant improvement in cardiovascular disease awareness among school-going adolescents following a simple educational intervention supported by audiovisual teaching.<sup>13</sup> These findings support the use of structured school-based health education to improve awareness of cardiovascular emergencies.

In the present study, gender, class and father's occupation were not significantly associated with pre-test knowledge. The findings suggest that cardiovascular health education may be beneficial across different groups of secondary school students. However, the study's one-group pre-test post-test design, purposive sampling and relatively small sample limit the generalizability of the findings. Nevertheless, the substantial improvement in knowledge supports the usefulness of structured educational programmes for promoting early recognition and appropriate response to myocardial infarction among adolescents.

## Conclusion

The study concludes that the structured teaching programme was highly effective in improving knowledge

regarding early signs and immediate management of Myocardial infarction following the structured teaching programme. Integrating such programmes into academic curriculum can enhance early detection practices and reduce burden of myocardial infarction cases.

## Recommendations

- School-based cardiovascular health education should be incorporated into the health education curriculum to improve students' knowledge regarding early signs and immediate management of myocardial infarction.
- Periodic structured teaching programmes should be conducted for secondary school students to reinforce and maintain knowledge regarding cardiovascular emergencies.
- Practical demonstrations and audiovisual teaching methods may be incorporated to make learning more effective and improve students' preparedness to respond to cardiac emergencies.
- Basic life support and CPR training should be provided to secondary school students as part of school health programmes.
- School nurses and health professionals should actively participate in cardiovascular health-awareness programmes and provide age-appropriate information to students.
- Larger studies with control groups and longer follow-up periods should be conducted in different schools and geographical areas to determine the long-term effectiveness and generalizability of such educational interventions.

## References

1. World Health Organization. (2019). Cardiovascular diseases (CVDs). Retrieved from [https://www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-\(cvds\)](https://www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-(cvds))
2. Dar, I. H., Bhat, A. A., & Wani, F. A. (2022). Rising incidence of myocardial infarction among young adults in Kashmir: A clinical overview. *International Journal of Health Sciences Research*, 12(3), 47–53 [Google Scholar]
3. Tsao CW, Aday AW, Almarzooq ZI, Alonso A, Beaton AZ, Bittencourt MS, Boehme AK, Buxton AE, Carson AP, Commodore-Mensah Y, Elkind MS. Heart disease and stroke statistics—2022 update: a report from the American Heart Association. *Circulation*. 2022 Feb 22;145(8):e153-639.[Google Scholar]
4. GBD 2021 Cardiovascular Collaborators. (2023). Global burden of cardiovascular diseases and risk factors, 1990–2021. *Journal of the American College of Cardiology*, 81(25), 2414–2450. [Google Scholar]
5. European Society of Cardiology. (2020). ESC Guidelines for the management of acute coronary syndromes in patients presenting without persistent ST-segment elevation. *European Heart Journal*, 42(14), 1289–1367 <https://europemc.org/article/med/32860058>
6. Gupta, R., & Yusuf, S. (2019). Trends in cardiovascular disease in India: Epidemiology and risk factors. *The Indian Heart Journal*, 71(5), 401–405. [Google Scholar]
7. Gandhar S, Jadhav N, Ghanekar P, Devkar P. "A study to assess the knowledge regarding early signs of myocardial infarction among the adults in selected urban areas of Pune city." *International Journal of Advance Research in Nursing*. 2018 Jan-Jun. [Google Scholar]
8. Bertalanffy, L. von. (1968). *General System Theory: Foundations, development, applications*. New York: George Braziller [Google Scholar]
9. Zafari AM, Yang E. Myocardial Infarction: Background, Definitions, Etiology. *Medscape*. Updated Sep 30, 2025 [Google Scholar]
10. Aobour-Arnold S, Jairath N. Acute Myocardial Infarction: Early Recognition and Management From the Home Healthcare Nurse's Perspective. *Home Healthcare Nurse*. 1998 Jun;16(6):379-87. [Google Scholar]
11. Yadav S, Khokhar A. Effect of Information, Education, and Communication activity on health literacy of cardiovascular diseases among school-going adolescents in Delhi. *J Educ Health Promot*. 2021;10:71. [Google Scholar]
12. Abdelkhalik MA, Boutros E, Trad K, et al. Moving towards health promoting schools: effectiveness of an educational intervention to improve knowledge, attitude and beliefs regarding heart attack, and CPR knowledge in high school students in Lebanon. *Front Public Health*. 2024;12:1355766. [Google Scholar]
13. Bhat V, Coates R, Shanbhag D, et al. Impact of a simple educational intervention on awareness regarding cardiovascular disease among school-going adolescents in a rural area of Bengaluru district, India. *J Educ Health Promot*. 2023;12. [Google Scholar]