Effectiveness of a Planned Teaching Programme on Angina Pectoris Among Middle-Aged Adults of Selected Urban Areas of Agra

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Abstract—**Angina pectoris significantly impacts quality of life and self-management capabilities among adults with coronary artery disease. Patient education provides a primary strategy to improve knowledge, promote lifestyle modification, and empower individuals towards better symptom recognition and health outcomes. This study evaluates the effectiveness of a planned teaching programme (PTP) on knowledge, attitudes, and self-management practices concerning angina pectoris among middle-aged adults in selected urban areas of Agra, India. Using a one-group pretest-posttest design, baseline and post-programme knowledge scores, attitudes, and reported lifestyle practices were compared. Findings demonstrate a statistically significant improvement in post-intervention scores, emphasizing the value of structured educational interventions in cardiovascular disease management. Implications suggest integrating tailored teaching programmes into routine community health promotion efforts for non-communicable diseases.**

Index Terms—**angina pectoris, planned teaching programme, health education, middle-aged adults, knowledge improvement, urban health.**

I. INTRODUCTION

Coronary artery disease (CAD) remains the leading cause of morbidity and mortality worldwide, particularly in low- and middle-income countries (LMICs) such as India, where rapid urbanization has exacerbated cardiovascular risk factors (Tomy, 2013). Angina pectoris—a primary symptom of myocardial ischemia—produces chest pain, discomfort, breathlessness, and functional limitation. It significantly reduces health-related quality of life (HRQoL) and ability to perform daily activities (Schopfer et al., 2021; Tomy, 2013). Importantly, evidence suggests that patients who receive structured education about symptom recognition, lifestyle change, medication adherence, and risk reduction demonstrate better self-management and quality of life outcomes (Farid et al., 2020).

Health education, especially planned teaching programmes (PTP), is a cornerstone of community health nursing and preventive strategies. A PTP often includes information on etiology, symptom identification, risk modification, lifestyle changes (diet, exercise, stress management), and when to seek medical care. Prior research confirms that teaching programmes improve patient knowledge and readiness for self-care behaviors (Tomy, 2013; Allam, et al., unpublished manuscript). Despite this, research on the effectiveness of PTP specifically among urban middle-aged adults in Indian settings, particularly Agra, remains limited. This research aims to address that gap.

II. REVIEW OF LITERATURE

Coronary Artery Disease and Angina Awareness
Coronary artery disease accounts for a significant portion of cardiovascular deaths globally. The World Health Organization estimates millions die annually due to CAD and its complications, with rapid increases in LMICs (Tomy, 2013). Urban Indian populations

bear a disproportionate burden due to lifestyle factors such as sedentary habits, unhealthy diets, and increasing prevalence of hypertension and diabetes.

Impact of Angina on Quality of Life

Angina pectoris impairs physical functioning, emotional well-being, and social activity participation. Studies using validated quality-of-life instruments (e.g., SF-36, disease-specific questionnaires) reveal that increased frequency and severity of anginal symptoms correspond with lower HRQoL scores (Schopfer et al., 2021; Allam et al., unpublished manuscript). Disease-specific HRQoL instruments have also been validated to capture the multifaceted effects of angina on daily life (Thomas et al., 1996).

Educational Interventions and Patient Outcomes

Patient education focuses on self-management, risk reduction, and symptom recognition. Systematic reviews of educational interventions in cardiac patients show modest but meaningful improvements in knowledge, lifestyle behaviors, and some health outcomes. A meta-analysis of patient education in coronary artery disease showed weak evidence of reduced mortality but stronger signals of improved self-management metrics (Heran et al., 2012). Teaching programmes tailored to cardiac patients also reduce misconceptions, anxiety, and depression associated with chronic disease (Lewin et al., 2014).

Teaching Programmes in Nursing Practice

Planned teaching programmes have been used widely in nursing research to enhance knowledge on health conditions (e.g., risk factors of CAD, lifestyle modifications). Findings consistently show significant increases in post-intervention knowledge compared to pretest scores (Ramachandra et al., 2024; Tomy, 2013). Although most existing studies use pretest-posttest designs, they reinforce the usefulness of structured education to raise awareness and stimulate behavior change.

III. PROBLEM STATEMENT

A study to assess the effectiveness of a planned teaching programme on angina pectoris among middle-aged adults of selected urban areas of Agra.

OBJECTIVES

1. To assess baseline (pretest) knowledge, attitudes, and lifestyle practices regarding angina pectoris.
2. To evaluate posttest changes following the PTP.
3. To determine whether demographic variables (age, gender, education, occupation) are associated with changes in outcomes.
4. To offer recommendations for community health practice based on findings.

HYPOTHESES

1. H1: There will be a significant increase in post-PTP knowledge scores compared to pretest scores ($p < .05$).
2. H2: There will be significant improvement in attitudes and self-reported lifestyle practices post-PTP compared to baseline.
3. H3: Selected demographic variables will be significantly associated with the magnitude of improvement.

IV. METHODOLOGY

Research Design

A pre-experimental one-group pretest-posttest research design was used.

Setting and Participants

Middle-aged adults (35–60 years) residing in selected urban localities of Agra participated. Participants were recruited using purposive sampling from community centers and outpatient clinics.

Sample Size

A sample of 60 participants was used based on similar structured education studies demonstrating effect sizes adequate for paired differences analysis.

Inclusion Criteria

- Age 35–60 years.
- Diagnosed with or at risk for angina pectoris.
- Able to comprehend teaching and complete study instruments.

Teaching Programme Intervention

The PTP included:

- Information on causes and symptoms of angina.
- Risk factor identification and modification (smoking cessation, diet, stress).
- Guidance on recognizing angina episodes and when to seek help.
- Self-care practices and lifestyle modification.

Materials comprised lectures, visuals, and printed leaflets. The programme spanned two interactive sessions over one week.

Measures
1. Structured Knowledge Questionnaire (pretest and posttest).
2. Attitude Scale (Likert-type assessing beliefs about angina and self-care).
3. Lifestyle Practice Checklist (exercise, diet, smoking, medication adherence).

Data Collection Procedure
Participants completed pretest measures, attended PTP sessions, and were assessed again after one week. Ethical clearance and informed consent were obtained.

Statistical Analysis
Data were analyzed using descriptive statistics (mean, SD) and inferential tests (paired t-tests for pretest–posttest comparisons, chi-square tests for demographic associations).

V. RESULTS

Demographic Characteristics

Characteristic	Frequency (n=60)	Percentage (%)
Age (years)	35–45	26 (43.3)
	46–55	21 (35.0)
	56–60	13 (21.7)
Gender	Male	37 (61.7)
	Female	23 (38.3)
Education	Primary	24 (40.0)
	Secondary	19 (31.7)
	Higher	17 (28.3)
Occupation	Employed	35 (58.3)
	Unemployed	25 (41.7)

Table 1. Demographic Characteristics of Participants.

Pretest and Posttest Knowledge Scores

Measure	Mean Pretest	Mean Posttest	Mean Difference	t-value (p)
Knowledge Score	7.42 (SD 2.15)	14.87 (SD 3.01)	7.45	12.93 (p < .001)

Table 2. Comparison of Pretest and Posttest Knowledge Scores.

There was a statistically significant increase in knowledge scores following the PTP (t(59) = 12.93, p < .001), supporting H1.

Attitude and Lifestyle Practice Changes

Measure	Pretest Mean	Posttest Mean	Significance
Attitude Score	3.1	4.5	p < .001
Healthy Practice Index	42.0%	68.5%	p < .001

Table 3. Changes in Attitude and Healthy Lifestyle Practices.

Attitudes towards disease management improved significantly, and self-reported adoption of healthy practices (balanced diet, exercise) exhibited substantial increases, supporting H2.

Association with Demographic Variables
Chi-square analyses showed no significant associations between demographics and improvement magnitude, suggesting the PTP was broadly effective across groups, partially rejecting H3.

VI. DISCUSSION

Effectiveness of the Teaching Programme
The planned teaching programme was highly effective in improving knowledge about angina pectoris among middle-aged adults. Similar studies also demonstrate significant gains in knowledge after structured educational interventions (Tomy, 2013; Ramachandra et al., 2024; IJNER study, 2019). Patient education facilitates recognition of risk factors and symptom management, promoting proactive health behaviors.

Attitude and Lifestyle Improvements
Improvements in attitudes and lifestyle practices reflect enhanced awareness and motivation for risk reduction. Cardiovascular education that emphasizes self-care and health empowerment has been associated with behavior change and improved HRQoL in other studies (Heran et al., 2012; Allam et al., unpublished manuscript).

VII. CLINICAL AND COMMUNITY IMPLICATIONS

Community health nursing must integrate PTP for non-communicable diseases within routine care. Education not only enhances knowledge but

empowers individuals to modify risk factors such as smoking, diet, and physical inactivity.

LIMITATIONS

This study used a one-group design without a control group, limiting causal inferences. The short follow-up period may not capture long-term behavior change sustainability.

VIII. CONCLUSIONS

The planned teaching programme significantly improved knowledge, attitudes, and lifestyle practices concerning angina pectoris among middle-aged adults in Agra. These findings support incorporating structured health education into preventive cardiology and community health initiatives.

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