

KNOWLEDGE AND ATTITUDE TOWARDS NURSE LED CARDIAC REHABILITATION FOLLOWING CORONARY INTERVENTIONS AMONG FINAL-YEAR NURSING STUDENTS: A CROSS-SECTIONAL STUDY

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Abstract

Coronary artery disease remains one of the leading causes of morbidity and mortality worldwide, and cardiac rehabilitation (CR) is recognized as an essential component of comprehensive post-coronary intervention care. Nurses play a vital role in delivering patient education, promoting lifestyle modification, monitoring recovery, and facilitating long-term adherence to rehabilitation programmes. Therefore, assessing the knowledge and attitude of future nurses towards nurse-led cardiac rehabilitation is essential to ensure effective patient care. This study aimed to assess the knowledge and attitude towards nurse-led cardiac rehabilitation following coronary interventions among final-year nursing students studying in selected nursing colleges of Ahmedabad City and to determine their association with selected demographic variables. A quantitative, non-experimental cross-sectional survey research design was adopted. A total of 353 final-year nursing students were selected using a non-probability convenience sampling technique. Data were collected using a structured knowledge questionnaire and a five-point Likert attitude rating scale. Content validity was established through expert opinion, and reliability was assessed using the split-half method. Data were analyzed using descriptive statistics, including frequencies, percentages, mean, and standard deviation, along with inferential statistics using the Chi-square test. The findings revealed that 38.8% of students had average knowledge, 38.2% had good knowledge, and 23.0% had poor knowledge regarding nurse-led cardiac rehabilitation. Overall, 69.41% of the participants demonstrated a positive attitude towards nurse-led cardiac rehabilitation. Knowledge was significantly associated with the programme of study and previous attendance at cardiac rehabilitation-related seminars, workshops, or webinars ($p < 0.05$), whereas attitude showed no significant association with the selected demographic variables. The study concludes that although final-year nursing students possess a generally positive attitude towards nurse-led cardiac rehabilitation, important knowledge gaps remain. Strengthening undergraduate nursing curricula by integrating structured cardiac rehabilitation content and providing regular educational programmes, seminars, workshops, and clinical exposure may enhance students' knowledge, competence, and preparedness to effectively contribute to cardiac rehabilitation services following coronary interventions.

Keywords: Knowledge, Attitude, Nurse-led cardiac rehabilitation, Coronary interventions, Nursing students, Cardiac rehabilitation, Nursing education.

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Introduction

Cardiovascular disease (CVD) continues to be the leading cause of mortality and disability worldwide, accounting for nearly one-third of all global deaths and imposing a substantial social, economic, and healthcare burden on individuals, families, and health systems. According to the World Health Organization (WHO), ischemic heart disease remains the single largest contributor to cardiovascular mortality, with an increasing prevalence in low- and middle-income countries, including India (World Health Organization [WHO], 2021). Rapid urbanization, population ageing, sedentary lifestyles, unhealthy dietary habits, obesity, diabetes mellitus, hypertension, dyslipidemia, smoking, and psychosocial stress have contributed significantly to the rising incidence

of coronary artery disease (CAD). Although remarkable advances in medical therapy and interventional cardiology, including percutaneous coronary intervention (PCI) and coronary artery bypass grafting (CABG), have substantially improved survival rates among patients with acute coronary syndromes, successful revascularization alone does not eliminate the risk of recurrent cardiovascular events. Patients remain susceptible to recurrent myocardial infarction, heart failure, arrhythmias, repeated hospitalization, reduced functional capacity, impaired quality of life, and premature mortality. Consequently, comprehensive secondary prevention strategies have become an essential component of modern cardiovascular care to improve long-term clinical outcomes, minimize disease progression, reduce healthcare costs, and

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enhance patients' physical, psychological, and social well-being (Visseren et al., 2021). Among these strategies, cardiac rehabilitation (CR) has emerged as one of the most effective evidence-based interventions for improving recovery and preventing recurrent cardiovascular events following coronary interventions. Cardiac rehabilitation is a structured, multidisciplinary programme that combines supervised exercise training, cardiovascular risk-factor modification, patient education, nutritional counselling, smoking cessation support, medication optimization, psychosocial counselling, stress management, vocational rehabilitation, and long-term lifestyle modification to facilitate comprehensive recovery after cardiac events. International clinical guidelines consistently recommend participation in cardiac rehabilitation for eligible patients following myocardial infarction, PCI, CABG, heart failure, and other cardiovascular conditions because of its proven benefits in reducing cardiovascular mortality, minimizing hospital readmissions, improving exercise tolerance and functional capacity, enhancing medication adherence, promoting healthy behaviours, and improving overall quality of life (Anderson et al., 2016; Visseren et al., 2021). The successful implementation of cardiac rehabilitation depends on coordinated multidisciplinary teamwork involving cardiologists, nurses, physiotherapists, dietitians, psychologists, pharmacists, exercise specialists, and other healthcare professionals. Among these professionals, nurses occupy a central and indispensable role due to their continuous interaction with patients throughout the continuum of care. Nurse-led cardiac rehabilitation encompasses patient assessment, individualized education regarding cardiovascular disease, counselling on lifestyle modification, monitoring of clinical progress, medication education and adherence support, identification of cardiovascular risk factors, psychosocial support, and symptom surveillance, coordination of multidisciplinary services, discharge planning, and long-term follow-up. Nurses also play a significant role in motivating patients to actively participate in rehabilitation programmes, adopt healthier lifestyles, maintain regular physical activity, manage stress, adhere to prescribed medications, recognize warning symptoms, and prevent future cardiovascular complications. Their ability to establish therapeutic relationships with patients and families positions them as key facilitators of effective secondary prevention and continuity of care. Despite the overwhelming scientific evidence supporting cardiac rehabilitation, its utilization remains disappointingly low across both developed and developing countries. Multiple barriers contribute to this underutilization, including inadequate physician referral, limited availability of rehabilitation centres, geographical constraints, financial limitations, lack

of health insurance coverage, transportation difficulties, poor patient motivation, cultural beliefs, and insufficient awareness regarding the benefits of cardiac rehabilitation among patients and healthcare providers. In India, where cardiovascular diseases continue to rise rapidly, access to organized cardiac rehabilitation services remains limited, particularly in rural and resource-constrained settings. Studies have identified healthcare provider-related factors, including inadequate knowledge, limited training, insufficient confidence, and poor referral practices, as major obstacles to the implementation and expansion of cardiac rehabilitation services (Ghisi et al., 2018). Furthermore, recent research has highlighted persistent gaps in knowledge, attitudes, and clinical practices related to cardiac rehabilitation among healthcare professionals, emphasizing the urgent need for enhanced educational initiatives during undergraduate and continuing professional education (Gao et al., 2025). Preparing future nurses with adequate knowledge and a positive attitude toward nurse-led cardiac rehabilitation is therefore essential for strengthening cardiovascular healthcare services. Undergraduate nursing education serves as the foundation for developing competencies in patient education, health promotion, clinical decision-making, communication, counselling, and evidence-based nursing practice.

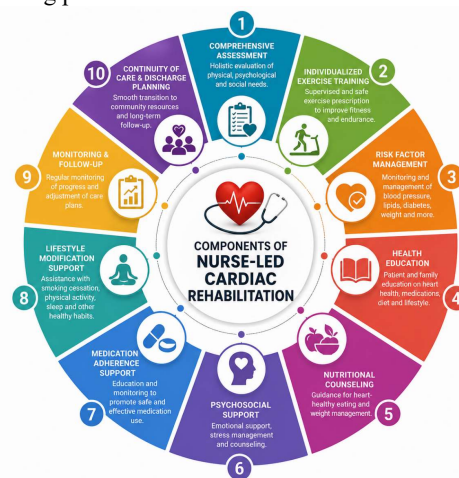


Figure 1: Components of Nurse-Led Cardiac Rehabilitation

Nursing students who possess comprehensive knowledge of cardiac rehabilitation principles are better equipped to educate patients regarding disease management, encourage adherence to lifestyle modifications and medications, recognize patients eligible for rehabilitation programmes, facilitate referrals, and provide holistic care following coronary interventions. Moreover, a positive professional attitude toward nurse-led cardiac rehabilitation is likely to enhance students' willingness to actively participate in multidisciplinary rehabilitation services and

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advocate for comprehensive secondary prevention strategies throughout their clinical practice. Identifying knowledge deficits and attitudinal gaps among nursing students can therefore provide valuable information for curriculum planners, nursing educators, and policymakers to strengthen educational content related to cardiovascular rehabilitation, improve clinical exposure, and design targeted educational interventions such as workshops, simulation-based learning, continuing nursing education programmes, and clinical rotations in cardiac rehabilitation units. Strengthening undergraduate nursing curricula in this area has the potential to improve future nursing practice, increase patient participation in cardiac rehabilitation programmes, and ultimately contribute to better cardiovascular outcomes. Therefore, the present study was undertaken to assess the knowledge and attitude regarding nurse-led cardiac rehabilitation following percutaneous coronary intervention among final-year General Nursing and Midwifery (GNM) and Bachelor of Science (B.Sc.) Nursing students studying in selected nursing colleges, with the objective of identifying existing educational gaps and generating evidence to support the integration of comprehensive cardiac rehabilitation education into undergraduate nursing programmes.

MATERIALS AND METHODS

A quantitative, non-experimental, cross sectional survey design was adopted for the present study. The target population consisted of final-year GNM and B.Sc. Nursing students studying in selected nursing colleges of Ahmedabad city. A total sample of 353 nursing students was included in the study. Participants were selected using a non-probability convenience sampling technique based on predefined inclusion and exclusion criteria. Final-year GNM and B.Sc. Nursing students who were willing to participate and available during the data collection period were included in the study. Informed consent was obtained from all participants after explaining the purpose and procedures of the study. Confidentiality and anonymity of the participants were maintained throughout the study.

Data Collection Instruments

Data were collected using three sections:

Section I: Demographic Characteristics

This section included variables such as age, gender, type of nursing programme, clinical posting in Cardiology ward/Intensive Cardiac Care Unit (ICCU), and attendance at seminars, webinars, or workshops related to cardiac rehabilitation.

Section II: Structured Knowledge Questionnaire

A structured questionnaire was used to assess knowledge regarding nurse led cardiac rehabilitation following coronary interventions. Each correct response was assigned a score of 1, and an incorrect response was assigned a score of 0. The total knowledge scores were categorized into three

levels: poor, average, and good knowledge based on predetermined scoring criteria.

Section III: Structured Likert's Attitude Rating Scale

Attitude towards cardiac rehabilitation was assessed using a structured Likert's attitude rating scale. The items were scored on a five-point scale ranging from strongly disagree to strongly agree for positive statements, with reverse scoring applied for negative statements. The total attitude scores were categorized as favourable and unfavourable attitude based on the obtained scores.

Data Analysis

Data were analysed using descriptive and inferential statistics. Frequency and percentage distributions were used to describe demographic characteristics and levels of knowledge and attitude. Mean, median, mode, and standard deviation were calculated for knowledge and attitude scores. The Chi-square test was used to determine the association between demographic variables and the levels of knowledge and attitude towards nurse led cardiac rehabilitation. Statistical significance was considered at $p < 0.05$.

RESULTS

The findings are presented under the following sections: demographic characteristics of the participants, assessment of knowledge and attitude towards nurse led cardiac rehabilitation following coronary interventions among final-year GNM and B.Sc. Nursing students, and association between knowledge and attitude levels with demographic variables among nursing students.

Demographic characteristics of the participants
Table 1: Frequency and percentage distribution of participants according to their demographic variables

[n=353]				
Sr. No.	Demographic variables	Variables	Frequency (f)	Percentage (%)
1	Age	20-21 years	201	57
		22-23 years	136	38
		24 and above years	16	5
2	Gender	Male	64	18.1
		Female	289	81.9
3		GNM	140	39.7

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	Type of Nursing Programme	B.Sc. Nursing	213	60.3
4	Cardiology ward / Intensive Cardiac Care Unit (ICCU)	Yes	319	90.4
		No	34	9.6
5	Attended any special seminar, webinar, or workshop on Cardiac Rehabilitation	Yes	248	70.3
		No	105	29.7

Table 1 describes the demographic characteristics of the participants (n = 353). The majority of students were aged 20–21 years (57%), were female (81.9%), and belonged to the B.Sc. Nursing programme (60.3%). Most participants had clinical exposure in the Cardiology ward/ICCU (90.4%), and 70.3% had attended a seminar, webinar, or workshop related to cardiac rehabilitation.

Knowledge regarding nurse led cardiac rehabilitation following coronary interventions among final year nursing students

Table 2: Frequency and percentage distribution of participants according to level of knowledge

[n=353]

Level of knowledge	Scores	Frequency (f)	Percentage (%)
Poor	0-3	81	23.0
Average	4-7	137	38.8
Good	8-11	135	38.2
Total		353	100

Table 2 presents the level of knowledge regarding nurse led cardiac rehabilitation among nursing students (n = 353). Nearly equal proportions of students demonstrated average knowledge (38.8%) and good knowledge (38.2%), while 23.0% had poor knowledge regarding nurse led cardiac rehabilitation.

Table 3: Mean, Median, Mode and Standard Deviation (SD) of knowledge score among final year nursing students

[n=353]

Knowledge Score	Mean	Median	Mode	SD
	6.410	6	11	3.189

Table 3 presents the descriptive statistics of the knowledge scores regarding nurse led cardiac rehabilitation among nursing students. The mean knowledge score was 6.410 ± 3.189 , with a median score of 6 and a mode of 11, indicating that the students had an overall average level of knowledge regarding nurse led cardiac rehabilitation with variability in individual scores.

Attitude regarding nurse led cardiac rehabilitation following coronary interventions among final year nursing students.

Table 4: Frequency and percentage distribution of participants according to level of attitude

[n=353]

Level of attitude	Scores	Frequency (f)	Percentage (%)
Favourable	37-60	245	69.41
Unfavourable	12-36	108	30.59
Total		353	100

Table 4 presents the level of attitude towards nurse led cardiac rehabilitation among nursing students (n = 353). The majority of participants demonstrated a favourable attitude (69.41%) towards nurse led cardiac rehabilitation, while 30.59% had an unfavourable attitude.

Table 5: Mean, Median, Mode and Standard Deviation (SD) of attitude score regarding nurse led cardiac rehabilitation following coronary interventions among final year nursing students

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Attitude Score	Mean	Median	Mode	SD
	39.44	38	37	5.494

The mean attitude score of nursing students towards nurse led cardiac rehabilitation was 39.44 ± 5.49 , with a median of 38 and mode of 37, indicating an overall favourable attitude with variability in attitude scores among participants.

Association between knowledge regarding nurse led cardiac rehabilitation with demographic variables.

Chi square test was applied to find the association between knowledge score of samples and demographic variables.

Table 6 shows the association between knowledge score and demographic variables of samples

[n=353]

Sr. No.	Demographic variables	f	Percentage	G.O.d	χ^2 value	Table value	df	Remarks
1	Age in years 20-21 22-23 24 and above	20 11 13 61 6	5 83 70 06 2	6 3 6 0 8	7.73	9.48	4	NS
2	Gender Male Female	28 91 44	7 23 44	1 13 22 6	0.54	5.99	2	NS
3	Program of Study GNM B.Sc. Nur	14 02 13	5 33 33	51 86 4	25.46	5.99	2	S

	sin g								
4	Posting in ICCU/ Cardiology Ward Yes No	31934	7313	12413	12208	477	5.991	2	NS
5	Attended Seminar/ Workshop/ Webinar Yes No	248105	5036	8552	11317	2788	5.991	2	S

S: Significant NS: Non significant

Table 6 presents the association between demographic variables and the level of knowledge regarding cardiac rehabilitation among nursing students (n = 353). The Chi-square test revealed a statistically significant association between programme of study ($\chi^2 = 25.46$, df = 2, p < 0.05) and attendance at seminar/webinar/workshop on cardiac rehabilitation ($\chi^2 = 27.88$, df = 2, p < 0.05) with the level of knowledge. However, age ($\chi^2 = 7.73$, df = 4), gender ($\chi^2 = 0.54$, df = 2), and clinical posting in ICCU/cardiology ward ($\chi^2 = 4.77$, df = 2) showed no statistically significant association with knowledge level (p > 0.05).

Association between attitude towards nurse led cardiac rehabilitation with demographic variables

Chi square test was applied to find the association between attitude score of samples and demographic variables.

Table 7 shows the association between attitude score and demographic variables of samples

[n=353]

Sr. No.	Demographic variables	f	Favourable	Unfavourable	χ^2 value	Table value	df	Remarks
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1	Age in years	2	14	59				
		20-21	0	2	47	3	5.	2 N
		22-23	1	89	02	.	9	S
		24	1	14		6	9	
		and above	3			2	1	
		years	6					
2	Gender							
		Male	2	19	48	1	3.	1 N
		Femal	8	7	16	.	8	S
		e	9	92		6	4	
			6			4	1	
			4					
3	Program of Study							
		GNM	1	94	46	0	3.	1 N
		B.Sc.	4	15	62	.	8	S
		Nursing	0	1		8	4	
			2			2	1	
			1					
4	Posting in ICCU/ Cardiology Ward							
		Yes	3	22	97	0	3.	1 N
		No	1	2	11	.	8	S
			9	23		8	4	
			3			2	1	
			4					
5	Attended Seminar/Workshop/Webinar							
		Yes	2	17	78			
		No	4	0	30	0	3.	1 N
			8	75		.	8	S
			1			4	4	
			0			7	1	

S: Significant NS: Non significant

Table 6 presents the association between demographic variables and attitude towards nurse led cardiac rehabilitation among nursing students (n = 353). The Chi-square test showed that none of the demographic variables, including age ($\chi^2 = 3.62$, df = 2), gender ($\chi^2 = 1.64$, df = 1), programme of study ($\chi^2 = 0.82$, df = 1), clinical posting in ICCU/cardiology ward ($\chi^2 = 0.82$, df = 1), and seminar attendance ($\chi^2 = 0.47$, df = 1), had a statistically significant association with attitude towards nurse led cardiac rehabilitation ($p > 0.05$).

DISCUSSION

In the present study, 38.8% of nursing students had average knowledge, 38.2% had good knowledge, and 23.0% had poor knowledge regarding nurse-led cardiac rehabilitation, with a mean knowledge score of 6.41 ± 3.18 . Although a considerable proportion

of students demonstrated good knowledge, the findings indicate existing gaps in understanding the principles, components, and implementation of cardiac rehabilitation. Similar concerns regarding inadequate awareness and knowledge of cardiac rehabilitation among healthcare professionals have been reported, which may influence referral practices and patient participation in rehabilitation programmes (Ghisi et al., 2018). Since nurses play an essential role in coordinating and delivering cardiac rehabilitation interventions, improving nursing students' knowledge through structured education and training is important for strengthening future nurse-led cardiac rehabilitation services (Lidin et al., 2025). The present study revealed that 69.41% of nursing students had a positive attitude towards nurse-led cardiac rehabilitation, with a mean attitude score of 39.44 ± 5.49 . A positive attitude among nursing students is encouraging because nurses are key contributors to cardiac rehabilitation through patient education, lifestyle counselling, risk-factor modification, and support for long-term treatment adherence. Previous evidence has highlighted the important role of nurses within cardiac rehabilitation teams, where nurses contribute to patient-centred care, coordination, education, and continuity of rehabilitation services (Lidin et al., 2025). In the current study, a significant association was found between the programme of study ($\chi^2 = 25.46$, df = 2, $p < 0.05$), attendance at seminars/webinars/workshops related to cardiac rehabilitation ($\chi^2 = 27.88$, df = 2, $p < 0.05$), and knowledge level. This finding suggests that academic exposure and additional learning opportunities influence students' understanding of nurse-led cardiac rehabilitation. Evidence indicates that structured education and professional training improve healthcare providers' knowledge, confidence, and ability to participate effectively in cardiac rehabilitation delivery (Miah et al., 2025). Therefore, incorporating NLCR-focused educational activities into undergraduate nursing programmes may enhance students' preparedness for future clinical practice. Conversely, no significant association was observed between knowledge level and age ($\chi^2 = 7.73$, df = 4), gender ($\chi^2 = 0.54$, df = 2), and clinical posting in ICCU/cardiology ward ($\chi^2 = 4.77$, df = 2). These findings suggest that demographic characteristics and routine clinical exposure alone may not ensure adequate knowledge regarding nurse-led cardiac rehabilitation. Specific educational interventions and structured clinical experiences may be required to develop competency in this specialized area of cardiovascular nursing (Miah et al., 2025). The present study also found that attitude towards nurse-led cardiac rehabilitation was not significantly associated with age ($\chi^2 = 3.62$, df = 2), gender ($\chi^2 = 1.64$, df = 1), programme of study ($\chi^2 = 0.82$, df = 1),

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clinical posting in ICCU/cardiology ward ($\chi^2 = 0.82$, $df = 1$), or seminar attendance ($\chi^2 = 0.47$, $df = 1$). This indicates that nursing students generally maintained a positive attitude towards nurse-led cardiac rehabilitation irrespective of demographic and academic characteristics. Positive perceptions among nursing professionals support the potential expansion of nurse-led rehabilitation models, where nurses actively contribute to improving patient engagement and cardiovascular outcomes (Premkumar et al., 2022). Overall, the findings demonstrate that final-year nursing students possess a favourable attitude towards nurse-led cardiac rehabilitation; however, improvement in knowledge is required. Strengthening undergraduate nursing curriculum with structured NLCR content, skill-based training, and clinical learning opportunities may enhance nurses' competence in delivering secondary prevention interventions post cardiac events. Evidence from nurse-led cardiac rehabilitation studies indicates that nurse-coordinated interventions can positively influence patient behaviours, cardiovascular risk factors, and adherence to rehabilitation strategies (Premkumar et al., 2022; Zhao et al., 2025).

IMPLICATIONS

The findings of the present study have important implications for nursing education, clinical practice, nursing administration, and nursing research. Nurse-led cardiac rehabilitation (NLCR) is an important component of secondary prevention following coronary events and interventions. Nurses contribute significantly to cardiac rehabilitation through patient education, cardiovascular risk-factor modification, lifestyle counselling, medication adherence support, and coordination of follow-up care (Lidin et al., 2025).

Nursing Education

The findings highlight the need to strengthen nurse-led cardiac rehabilitation content within undergraduate nursing curriculum. The presence of average and poor knowledge among a considerable proportion of students indicates the need for structured educational strategies, including dedicated teaching modules, seminars, workshops, case-based discussions, and simulation-based learning focused on the principles and implementation of nurse-led cardiac rehabilitation following coronary interventions. Strengthening nursing education in this area can improve students' competency and preparedness to deliver evidence-based secondary prevention. Previous evidence indicates that education and training opportunities significantly influence healthcare professionals' knowledge and utilization of cardiac rehabilitation services (Ghisi et al., 2018).

Nursing Practice

The findings emphasize the importance of preparing future nurses to effectively coordinate and deliver nurse-led cardiac rehabilitation services. Improved knowledge and positive attitudes among nursing students can enhance their ability to educate patients, promote healthy lifestyle behaviours, encourage medication adherence, monitor cardiovascular risk factors, provide psychosocial support, and improve patient participation in rehabilitation programmes following coronary events. Competent nurse-led rehabilitation has the potential to improve recovery and long-term cardiovascular outcomes (Visseren et al., 2021).

Nursing Administration

Nursing administrators should promote continuing nursing education, in-service training programmes, and interdisciplinary learning opportunities related to nurse-led cardiac rehabilitation. Developing standardized clinical protocols and providing supervised clinical exposure to rehabilitation services can enhance nurses' competence and confidence in delivering rehabilitation care. Institutional support for nurse-led rehabilitation initiatives may also improve referral practices and strengthen the implementation of secondary prevention services (Ghisi et al., 2018).

Nursing Research

The findings provide baseline information regarding nursing students' knowledge and attitudes towards nurse-led cardiac rehabilitation. Future research should evaluate the effectiveness of structured educational interventions, competency-based training programmes, and simulation-based learning in improving knowledge, attitudes, and clinical skills related to nurse-led cardiac rehabilitation. Further studies are also needed to explore barriers and facilitators influencing the implementation of nurse-led cardiac rehabilitation programmes and nurses' participation in delivering rehabilitation services (Miah et al., 2025).

Future Research

The present study provides baseline evidence regarding the knowledge and attitude of final-year nursing students towards nurse-led cardiac rehabilitation following coronary interventions. Future research should include multicentre studies involving nursing colleges from different geographical regions to improve the generalizability of the findings. Longitudinal studies are recommended to evaluate changes in knowledge and attitudes throughout nursing education and clinical training. Experimental studies assessing the

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effectiveness of structured educational interventions, simulation-based learning, workshops, and continuing nursing education programmes on students' knowledge, attitudes, and clinical competencies related to nurse-led cardiac rehabilitation are also warranted. In addition, qualitative research exploring nursing students' perceptions, barriers, and facilitators regarding the implementation of nurse-led cardiac rehabilitation may provide deeper insights for curriculum development. Further research should also investigate the impact of enhanced nursing education on patient outcomes, referral practices, and participation in cardiac rehabilitation programmes.

Clinical Significance

Nurse-led cardiac rehabilitation is an essential component of comprehensive secondary prevention following coronary interventions. The findings of this study highlight the importance of equipping nursing students with adequate knowledge and practical competencies to effectively contribute to cardiac rehabilitation services. Strengthening undergraduate nursing education through structured curriculum content, competency-based teaching, simulation training, and clinical exposure can improve students' preparedness to educate patients, promote healthy lifestyle modifications, encourage medication adherence, monitor cardiovascular risk factors, and support long-term rehabilitation. Competent and well-prepared nurses can enhance patient participation in cardiac rehabilitation programmes, improve adherence to evidence-based secondary prevention strategies, reduce recurrent cardiovascular events and hospital readmissions, and contribute to improved quality of life and overall cardiovascular health outcomes. Therefore, integrating nurse-led cardiac rehabilitation education into undergraduate nursing programmes has significant implications for strengthening cardiovascular care and improving patient-centred clinical practice.

Conclusion

The present study demonstrated that final-year nursing students possessed a generally positive attitude towards nurse-led cardiac rehabilitation (NLCR) following coronary interventions; however, their level of knowledge was found to be only moderate, with a considerable proportion of students exhibiting inadequate understanding of the principles, components, and implementation of cardiac rehabilitation. The findings indicate that while students recognize the importance of nurse-led rehabilitation in promoting recovery and secondary prevention, significant educational gaps remain that may affect their preparedness to deliver evidence-based cardiac rehabilitation services in future clinical practice. Knowledge was significantly associated with the programme of

study and prior participation in seminars, workshops, or webinars related to cardiac rehabilitation, suggesting that structured educational exposure plays an important role in improving students' understanding. In contrast, demographic variables showed no significant association with students' attitudes, indicating a consistently favourable perception of nurse-led cardiac rehabilitation across different student groups. These findings underscore the need to strengthen undergraduate nursing education by integrating comprehensive cardiac rehabilitation content into the curriculum, along with competency-based teaching strategies, simulation-based learning, clinical postings, and continuing educational programmes. Regular workshops, seminars, and interdisciplinary training can further enhance students' knowledge, confidence, and clinical competence in delivering nurse-led cardiac rehabilitation. Preparing future nurses with the necessary knowledge and skills will enable them to provide effective patient education, promote healthy lifestyle modifications, support medication adherence, facilitate participation in rehabilitation programmes, and contribute to improved secondary prevention and long-term cardiovascular outcomes following coronary interventions. Overall, strengthening nursing education in cardiac rehabilitation has the potential to improve the quality of evidence-based cardiovascular care and optimize patient outcomes.

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CONFLICTS OF INTEREST

None

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