



## Educational Needs Assessment for Cardiac Rehabilitation Patients

Fatemeh Baghernejad <sup>1</sup>, Ali Dashtgard <sup>2</sup>, Maryam Sadat Rahimi <sup>3</sup>, Seyed Mohammad Riahi <sup>4</sup>, Reza Dastjerdi <sup>5</sup>, Fatemeh Hoseinzadeh-Chahkandak <sup>6</sup>, Toba Kazemi <sup>7,\*</sup>

<sup>1</sup>Department of Public Health, Qaen School of Nursing and Midwifery, Birjand University of Medical Sciences, Birjand, Iran

<sup>2</sup>Department of Nursing, Qaen School of Nursing and Midwifery, Birjand University of Medical Sciences, Birjand, Iran

<sup>3</sup>Department of Surgery, School of Medicine, Birjand University of Medical Sciences, Birjand, Iran

<sup>4</sup>Department of Epidemiology and Biostatistics, School of Health, Birjand University of Medical Sciences, Birjand, Iran

<sup>5</sup>Department of General Courses, Cardiovascular Diseases Research Center, School of Medicine, Birjand University of Medical Sciences, Birjand, Iran

<sup>6</sup>Department of Public Health, Social Determinants of Health Research Center, Faculty of Health, Birjand University of Medical Sciences, Birjand, Iran

<sup>7</sup>Department of Cardiology, Cardiovascular Diseases Research Center, School of Medicine, Birjand University of Medical Sciences, Birjand, Iran

\*Corresponding Author: Department of Cardiology, Cardiovascular Diseases Research Center, School of Medicine, Birjand University of Medical Sciences, Birjand, Iran.  
Email: drtooba.kazemi@gmail.com

Received: 26 March, 2025; Revised: 11 May, 2025; Accepted: 1 June, 2025

### Abstract

**Background:** Education is effective in improving the quality of life of patients, and needs assessment is an important factor in effective education.

**Objectives:** This study aimed to assess the educational needs of cardiac patients referred to the cardiac rehabilitation (CR) department.

**Methods:** The list of educational topics required by cardiac patients was determined using the fish bowl technique. In the next step, the checklist was completed by patients and healthcare providers based on the five-point Likert scale.

**Results:** The mean score of "The role of a healthy diet in the prevention and management of heart disease" was  $3.79 \pm 0.37$  for patients and  $4.65 \pm 0.56$  for healthcare providers.

**Conclusions:** The results of the study show that educational needs are different from the perspectives of patients and healthcare providers. Therefore, in addition to paying attention to the priorities expressed by patients, it is essential to design and implement necessary interventions to increase patients' perceived sensitivity to other educational topics.

**Keywords:** Cardiac Patients, Healthcare Providers, Educational Priorities, Needs Assessment

### 1. Background

In the past three decades, cardiovascular diseases (CVD) have been recognized as the leading cause of mortality worldwide, accounting for one-third of global deaths. In 2021, these diseases were responsible for approximately 20 million deaths. While the death rates from CVD have decreased in developed countries, they remain a major concern in low- and middle-income countries (1). With the increasing prevalence of CVD, the need for appropriate healthcare services to better manage these conditions has become a necessity. Cardiac patients require continuous care and access to

the monitoring and education necessary for better disease management. In this regard, providing educational and supportive resources to assist patients in managing their daily lives and adhering to a healthy lifestyle is of particular importance (2).

Cardiac rehabilitation (CR) is considered one of the key strategies in managing CVD. Cardiac rehabilitation not only helps in reducing complications and issues arising from heart diseases but also enhances the quality of life and patient satisfaction. These programs may include exercise training, nutritional education, psychological counseling, and lifestyle modification plans, all of which contribute to improving the patient's

recovery (3). One important aspect of CR is structured educational programs (4). In the context of CR, needs assessment is important, and this information can aid in designing effective educational programs tailored to their specific circumstances and abilities. Educational programs that align with the needs and challenges of patients can assist them in better understanding their condition, managing symptoms, making lifestyle changes, and improving their overall quality of life.

## 2. Objectives

The aim of this study is to assess the educational needs of patients attending CR at Razi Hospital in Birjand and to compare these findings with the insights of healthcare providers, including physicians and nurses in the cardiology department.

## 3. Methods

The present study is a qualitative study conducted with the aim of assessing the educational needs of patients requiring CR in 2022. The research was carried out in two phases. Initially, qualitative techniques were used to identify needs using the fish bowl technique. Three sessions were held with the expert team. In the final meeting, 15 topics were selected as patients' educational needs with full agreement of the team members.

In the second phase, a checklist containing the 15 educational needs titles was designed and distributed to 70 cardiac patients and 17 healthcare providers, including cardiologists and nurses in the cardiology department, for prioritization. The validity of the checklist was reviewed by a panel of experts. A degree of importance index based on a five-point Likert scale was utilized for prioritizing the educational needs. Participants were asked to assign a score between 1 and 5 to each of the presented titles based on the importance and educational needs of the patients (where a score of 5 indicated the highest educational need and a score of 1 indicated the lowest). After collecting data, educational priorities were determined based on the average score of each topic.

## 4. Results

Patients assigned the highest scores to topics such as "the role of a healthy diet in the prevention and management of heart disease" and "the role of exercise and physical activity". In contrast, service providers placed more emphasis on topics like "awareness of warning clinical symptoms" and "risk factors for heart disease" (Table 1).

## 5. Discussion

The results of this study indicate significant differences in educational priorities between patients and healthcare providers. Patients emphasized lifestyle-related factors, such as a healthy diet, exercise, and the control of negative emotions, highlighting the importance of positive changes in these areas. In contrast, healthcare providers focused more on recognizing clinical symptoms and identifying disease risks. The difference in the perceived sensitivity and severity of each of the two groups is one of the reasons for the difference in the needs assessment results.

In the context of needs assessment and promoting self-care among patients requiring CR, identifying educational needs and providing accurate information is an essential necessity. Based on the priorities expressed by patients in this study, it is evident that many of them require information regarding proper nutrition and physical activity. From the perspective of our patients, access to adequate information regarding physical activities, dietary management, and stress management is of significant importance. After experiencing a heart attack, patients naturally face numerous stresses and concerns, with one of their main worries being their ability to start a regular physical activity program. They are eager to learn how to exercise safely and effectively to improve their heart health and prevent disease recurrence. Additionally, a healthy diet is considered a key factor in preventing disease recurrence, and patients are particularly keen on obtaining necessary information about healthy food choices and how to prepare them.

Increased awareness among healthcare providers about the importance of diagnostic signs and risk factors has been the reason for choosing these topics as educational priorities. Our findings are consistent with the results of Rashidi et al.'s study, which systematically reviewed the quality of life of heart patients following CR. Their study results indicate that patients experience significant positive changes in their quality of life after participating in CR programs. These changes include improvements in healthy habits, increased social interactions, and enhanced mental health. Patients particularly emphasized the importance of regular physical activity and proper nutrition, stating that these factors helped them feel better about themselves and increased their confidence in managing their health. Furthermore, interactions with peers in the rehabilitation environment provided a space for patients to share their experiences and benefit from each other's emotional support (5).

**Table 1.** Average Scores for Each Educational Topic According to Service Recipients and Providers <sup>a,b</sup>

Educational Topic	Patients	Service Providers
The role of a healthy diet in the prevention and management of heart disease	3.79 ± 0.37	4.65 ± 0.56
The role of exercise and physical activity in the prevention and management of heart disease	3.63 ± 0.32	4.71 ± 0.32
The role of controlling negative emotions in the prevention and treatment of heart disease	3.49 ± 0.21	4.65 ± 0.31
Risk factors for heart disease (hypertension, high cholesterol, diabetes, obesity, smoking, and tobacco)	3.44 ± 0.22	4.88 ± 0.35
Awareness of warning clinical symptoms (when to seek emergency care urgently)	3.44 ± 0.34	4.94 ± 0.51
Familiarity with the heart and its functions	3.36 ± 0.31	2.88 ± 0.21
Familiarity with types of heart diseases	3.33 ± 0.31	2.76 ± 0.22
How heart diseases are developed	3.26 ± 0.21	3.53 ± 0.31
Symptoms of heart diseases	3.26 ± 0.21	4.59 ± 0.45
The impact of heart disease on daily activities	3.19 ± 0.22	4.24 ± 0.32
Familiarity with pharmaceutical and non-pharmaceutical treatments for heart patients	3.16 ± 0.19	4.00 ± 0.32
Awareness of misconceptions about heart disease treatment	3.10 ± 0.18	4.53 ± 0.42
Familiarity with diagnostic methods for heart diseases	2.86 ± 0.17	2.71 ± 0.21
Familiarity with the CR process	2.70 ± 0.18	4.82 ± 0.32
The role of traditional medicine in the prevention and treatment of heart diseases	2.63 ± 0.27	3.59 ± 0.28

Abbreviation: CR, cardiac rehabilitation.

<sup>a</sup> Values are expressed as mean ± SD.

<sup>b</sup> Priorities differ between patients and healthcare providers.

Soleimani et al. conducted a qualitative study to examine the perspectives of three groups (patients with chronic diseases, 11 healthcare providers, and 5 health policymakers) regarding self-management education for key cardiovascular risk factors, including diabetes, dyslipidemia, and hypertension. The findings reveal significant differences in the subthemes expressed by each stakeholder group, highlighting the importance of considering this diversity in the design of educational programs. Patients emphasized their need for clear, accessible information and interactive educational methods, underscoring the importance of a personalized approach to self-management education. These results align with our study, which focuses on the education of physical activity, dietary management, and stress management for patients with heart disease. Both studies emphasize patients' need for precise and contextually relevant information, suggesting that educational programs should be designed based on their actual needs and experiences. Considering patients' perspectives and needs allows for more impactful education, ultimately leading to improved health outcomes and quality of life (6).

A comprehensive and personalized approach to self-management education is essential to increase treatment outcomes and patient satisfaction in managing chronic diseases. The selection of samples from hospital patients and the subjective nature of individuals' responses are limitations of the study.

### 5.1. Conclusions

The results of the study show that educational needs differ from the perspectives of patients and healthcare providers. Patients emphasize the importance of lifestyle changes, such as a healthy diet, exercise, and emotional management, in managing their health. In contrast, members of the care team focus more on recognizing clinical symptoms and understanding risk factors, while acknowledging the significance of lifestyle interventions. Therefore, in addition to paying attention to the priorities expressed by patients, it is essential to design and implement necessary interventions to increase patients' perceived sensitivity to other educational topics.

### Acknowledgements

The research team sincerely thanks all individuals who participated in this study. We would also like to express our gratitude to the Clinical Research Development Center of Razi Hospital.

### Footnotes

**Authors' Contribution:** F. B. and T. K. conceptualized the study, prepared the proposal, secured funding from the NASR, and drafted the initial manuscript. A. D., M. S.

R., S. M. R., R. D., and F. H. C. were involved in data collection and interpretation of the results. All authors have read and approved the final version of the manuscript.

**Conflict of Interests Statement:** The authors declare no conflict of interest.

**Data Availability:** The dataset presented in the study is available on request from the corresponding author during submission or after publication.

**Ethical Approval:** IR.NASRME.REC.1400.446 .

**Funding/Support:** This project was funded by the National Center for Strategic Research in Medical Education (NASR), Tehran, Iran, under grant number 4000427.

**Informed Consent:** Patients were informed about the study, and all participants signed an informed consent form.

## References

1. Di Cesare M, Perel P, Taylor S, Kabudula C, Bixby H, Gaziano TA, et al. The Heart of the World. *Glob Heart*. 2024;19(1):ii. [PubMed ID: 38273998]. [PubMed Central ID: PMC10809869]. <https://doi.org/10.5334/gh.1288>.
2. Riegel B, Moser DK, Buck HG, Dickson VV, Dunbar SB, Lee CS, et al. Self-Care for the Prevention and Management of Cardiovascular Disease and Stroke: A Scientific Statement for Healthcare Professionals From the American Heart Association. *J Am Heart Assoc*. 2017;6(9). [PubMed ID: 28860232]. [PubMed Central ID: PMC5634314]. <https://doi.org/10.1161/JAHA.117.006997>.
3. Hag E, Back M, Henriksson P, Wallert J, Held C, Stomby A, et al. Associations between cardiac rehabilitation structure and processes and dietary habits after myocardial infarction: a nationwide registry study. *Eur J Cardiovasc Nurs*. 2025;24(2):253-63. [PubMed ID: 39743227]. <https://doi.org/10.1093/eurjcn/zvaet47>.
4. Vanzella LM, Konidis R, Pakosh M, Aultman C, Ghisi GLM. A Systematic Review of Interventions With an Educational Component Aimed at Increasing Enrollment and Participation in Cardiac Rehabilitation. *J Cardiopulm Rehabil Prev*. 2024;44(2):83-90. [PubMed ID: 37820282]. <https://doi.org/10.1097/HCR.0000000000000820>.
5. Rashidi A, Whitehead L, Halton H, Munro L, Jones I, Newson L. The changes in health-related quality of life after attending cardiac rehabilitation: A qualitative systematic review of the perspective of patients living with heart disease. *PLoS One*. 2025;20(1). e0313612. [PubMed ID: 39883647]. [PubMed Central ID: PMC1781667]. <https://doi.org/10.1371/journal.pone.0313612>.
6. Soleimani N, Ebrahimi F, Mirzaei M. Self-management education for hypertension, diabetes, and dyslipidemia as major risk factors for cardiovascular disease: Insights from stakeholders' experiences and expectations. *PLoS One*. 2024;19(9). e0310961. [PubMed ID: 39325734]. [PubMed Central ID: PMC1426497]. <https://doi.org/10.1371/journal.pone.0310961>.