Libyan Journal of Public Health Practices (LJPHP)

Journal homepage:https://journals.uob.edu.ly/LJPHP/index
ISSN (Online) 3008-1467

Research Article

The Role of Nursing in Enhancing Care for Patients with Cardiovascular Diseases

Khadija M.A. Abu Sitta[1], Amani ALayat[*2] , Adel A. Al-Waqaa[1]and Abdulmajid S. Al-Jami [1]

[1] Higher Institute of Medical Sciences and Technologies, Al-Jamil, Libya
[2] Libyan center for studies and researches in environmental science and technology

ARTICLE INFO

Article history:
Received 27/4/2026
Revised 10/5/2026
Accepted 13/5/2026
Available online June 2026

Keywords:
Heart diseases
Blood pressure
Nursing care
Health education
Patient satisfaction

ABSTRACT

Cardiovascular diseases are among the leading causes of morbidity and mortality worldwide and represent a major public health challenge. Nurses play a crucial role in providing health education and comprehensive care to cardiac patients, which may contribute to improving patient outcomes and satisfaction. This study aimed to evaluate the role of nursing in health education and improving the quality of care provided to cardiac patients. The results showed that the most represented age group was 30-45 years, with males outnumbering females. A significant proportion of participants also held university degrees, and most had been living with the disease for one to five years. Regarding nursing health education, the results showed a good-to-high level, with an overall average of 3.9, indicating the effectiveness of the nursing role in enhancing patients' knowledge of the disease, its risk factors, and prevention. The results also showed that the nursing role in providing comprehensive care was strong, with an overall average of 3.76, particularly in psychological support. Regarding patient satisfaction, the level was relatively high, with a satisfaction rate of 65% and an overall average score of 3.8. The results also revealed a statistically significant positive correlation between health education and patient satisfaction ($r = 0.62$). The study further demonstrated statistically significant differences in health literacy levels attributable to educational attainment. It can be concluded that nursing health education plays a pivotal role in improving health literacy and increasing patient satisfaction.

[*] Corresponding author.
E-mail address: Alayatamani98@gmail.com

.

1. Introduction

Due to the continuous rise in cardiovascular disease rates globally, cardiovascular conditions remain a leading cause of morbidity and mortality, placing a substantial burden on health systems. Within this context, nursing plays a central role in improving the quality of care for cardiac patients. The role of nursing extends beyond the technical performance of clinical procedures to include patient education, psychosocial support, and long-term follow-up, all of which are essential components of effective cardiac care.

At the preventive level, evidence-based nursing interventions such as individualized patient education, counseling on risk factor modification (including hypertension control, dietary changes, smoking cessation), participation in cardiac rehabilitation programs, and support for treatment adherence have demonstrated significant effectiveness in reducing the burden of cardiovascular disease [1]. The success of these interventions is strongly influenced by nurses' level of training, clinical competence, and access to continuing professional development [1].

Community-based nursing interventions have also been shown to enhance patients' self-care capacity and improve disease-related knowledge [2]. In addition, these interventions contribute to measurable improvements in clinical indicators such as blood pressure and lipid profiles, as well as healthier behavioral outcomes, particularly when empowerment-based approaches are used. Such approaches emphasize patient and family engagement and often include home-based follow-up and continuity of care [3].

Continuity of care after hospital discharge is a critical component in the management of patients with coronary artery disease. Evidence indicates that structured nursing follow-up is associated with improvements in quality of life, psychological well-being, self-efficacy, and self-care behaviors, alongside reductions in blood pressure and lipid levels [4].

In the field of cardiac rehabilitation, particularly among patients with heart failure, recent evidence supports the effectiveness of nurse-coordinated, home-based rehabilitation programs. A 2023 scoping review highlighted that these models contribute to improved physical functioning, better quality of life, and enhanced symptom management [5].

Beyond physical care, nursing also plays an important role in providing psychological and holistic support, addressing emotional needs and improving patient-centered outcomes [6]. At an advanced level of practice, the expansion of nurses' roles—particularly advanced practice nurses in cardiology—has been associated with improved patient outcomes, reduced hospital length of stay, and lower healthcare costs, although further high-quality evidence is still required to strengthen these findings [7].

Despite these advancements, several barriers continue to limit the full implementation of advanced nursing roles in cardiovascular care. These include high workload, insufficient specialization in cardiac nursing, limited access to continuous training, and resource constraints, particularly in low- and middle-income settings [8].

In the Libyan context, where healthcare systems face structural and resource-related challenges, there is limited published evidence regarding the role and effectiveness of nursing interventions in cardiovascular disease management. This gap highlights the need for further research to evaluate nursing contributions within local clinical settings and to inform evidence-based improvements in cardiac care services.

Therefore, the aim of this study is to evaluate the role of nursing in enhancing care for patients with cardiovascular diseases in [study setting], Libya.

2. Methodology

The present study adopted a descriptive analytical design, which is appropriate for examining relationships and describing phenomena as they occur in real-life clinical settings.

2.1. Participants and Sampling

The study was conducted between January 12 and April 15, 2026, allowing sufficient time for

data collection and analysis in accordance with the study objectives.

The study was carried out at the Sabratha Heart Surgery and Treatment Center, a specialized medical facility that receives patients from different age groups and provides advanced cardiac care services. This setting was selected due to its accessibility, the availability of an adequate number of patients, and its relevance to the topic of cardiovascular nursing care.

The population consisted of 30 patients, who were selected using a convenience sampling technique based on their availability and willingness to participate during the data collection period. Although the sample size was relatively small, it was considered appropriate for an exploratory descriptive study conducted within a specialized clinical setting.

A structured questionnaire was used as the main data collection instrument. It was developed based on an extensive review of relevant literature and previous studies related to nursing care in cardiovascular disease management.

2.2.Validity and Reliability

Content validity of the instrument was ensured by submitting the questionnaire to a panel of experts in nursing and scientific research methodology to assess the clarity, relevance, and appropriateness of the items in relation to the study objectives. Modifications were made based on expert feedback to improve the final version of the tool. Reliability was assessed using Cronbach's Alpha coefficient. The results indicated high internal consistency across all domains. The Cronbach's Alpha values ranged between 0.86 and 0.89, while the overall reliability coefficient was 0.88, indicating a high level of stability and internal consistency of the instrument.

Table 1. Components and structure of the study questionnaire

Section	Content	Number of paragraphs	Type of scale
First	Demographic data	6	Optional
Second	Health education and knowledge	5	Likert scale (1–5)
Third	Nursing follow-up and care	5	Likert scale (1–5)
Fourth	Satisfaction with quality of care	5	Likert scale (1–5)
Fifth	Challenges and obstacles	2	Multiple choice
Total	—	23 paragraphs	—

Table 2. Reliability Coefficients of the Questionnaire

Axis	Number of paragraphs	Reliability Coefficient (Cronbach's Alpha)
Health Education	5	0.86
Nursing Care	5	0.87
Satisfaction with Care	5	0.89
Overall Stability	15	0.88

2.3.Data Analysis

Data were analyzed using the Statistical Package for the Social Sciences (SPSS), with both descriptive and inferential statistical methods applied. First, descriptive statistics were used, including frequencies, percentages (%), means, and standard deviations (SD). Second, inferential statistics were conducted, utilizing the Pearson Correlation coefficient to examine the relationship between health education and patient satisfaction, a One-Sample t-test to compare mean scores against a hypothetical value, an Independent Samples t-test to examine differences according to gender, and a One-way ANOVA to examine differences according to educational level. Finally, a significance level of ($p \leq 0.05$) was adopted to determine the statistical significance of the results.

3. Results and Discussion

The results of the descriptive data analysis showed Figure 1that most individuals in the sample were within the age group (30–45 years) at a rate of (35%), followed by the group (46–60 years) at a rate of (30%), while the percentage of those under 30 years was (20%), and over 60 years was (15%).

Through the results presented in Figure 1, the age group (30–45 years) represented the highest proportion of participants. This finding suggests that cardiovascular risk factors are increasingly affecting middle-aged individuals, who are often exposed to lifestyle-related risks such as stress, poor diet, and reduced physical activity. This trend is consistent with WHO reports indicating that cardiovascular diseases are no longer confined to older populations but are increasingly prevalent among younger and middle-aged groups [9].

The results presented in Figure 2 also showed that the level of nursing health education was generally good, with a mean score of 3.9, which is above the hypothetical mean. This indicates a relatively positive perception of the educational role of nurses in improving patients' knowledge about disease management and treatment adherence. Such findings may reflect the effectiveness of nursing education programs in enhancing patient awareness, as supported by previous studies that emphasize the importance of health education in improving self-management behaviors.

Similarly, the role of nursing in providing comprehensive care was rated positively, with a mean score of 3.76. The One-Sample t-test indicated statistically significant differences at the 0.05 level, suggesting that patients had a favorable evaluation of nursing care. This may be attributed to the presence of psychological support, coordination within the healthcare team, and continuous patient follow-up, which are essential components of high-quality nursing care. These findings are consistent with previous literature reporting that effective nursing care contributes to improved patient outcomes and satisfaction.

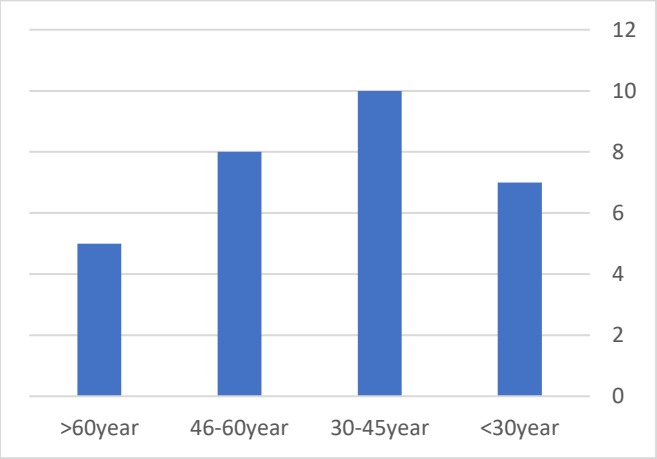


Figure 1. illustrates the age distribution

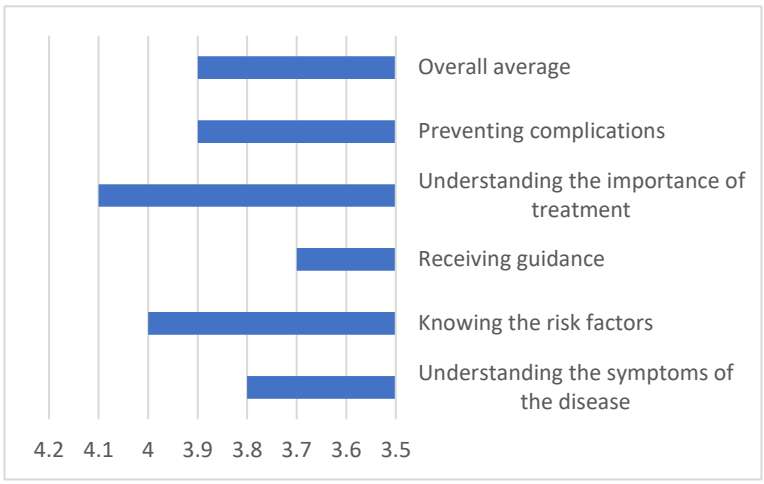


Figure 2. Arithmetic mean of health education levels among nursing staff

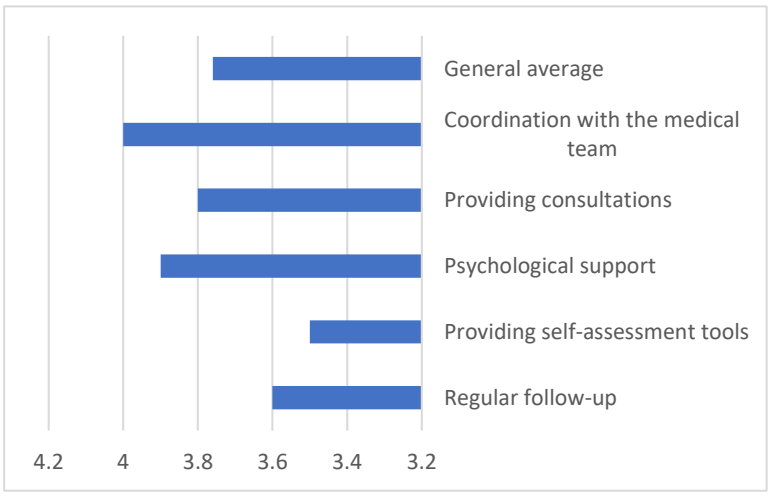


Figure 3 illustrates the role of nursing in providing comprehensive care

This result is consistent with the study [10], which confirmed that the quality of nursing care is directly related to improved patient outcomes and reduced complication rates.

The level of patient satisfaction with the quality of care being high (good + excellent) reached (65%), indicating a good level of satisfaction with the quality of nursing care Table 3. The overall satisfaction average also reached (3.8), which indicates that patients have a positive impression of the nursing services provided.

Table 3. Level of patient satisfaction with the quality of nursing care provided

Satisfaction level	**(%)** Percentage
Very poor	5%
Poor	10%
Acceptable	20%
Good	40%
Excellent	25%

The Table 4 showed that the main challenges facing patients were the low number of nurses and work pressure, which may affect the quality of care provided. It also appeared that lack of resources and weak communication are important factors that limit the effectiveness of nursing care.

Table 4. Level of challenges and obstacles faced by patients

The challenge	(%) Percentage
Shortage of nurses	45%
Work pressure	40%
Lack of resources	35%
Weak communication	30%
Difficulty in implementing instructions	28%
Lack of family support	25%

The most prominent challenges were represented by the shortage of nurses and work pressure, which are common problems in health systems. This result agrees with the study [11], which indicated that a shortage of nursing staff leads to an increased workload and decreased quality of care.

There is a statistically significant positive direct correlation between health education and patient satisfaction, where the correlation coefficient reached (0.62) at a significance level of less than (0.01). This indicates that the higher the level of health education provided by nursing, the higher the patients' satisfaction with the quality of nursing care. Table 5

Table 5. The relationship between health education and satisfaction with nursing care

Variables	Correlation coefficient (r)	P-value	Type of relationship
Health education × Patient satisfaction	0.62	<0.01	Moderate positive

There is a positive direct relationship between health education and patient satisfaction, indicating that an increase in the level of education leads to improved patient satisfaction. This result is consistent with the study [12], which confirmed that patient education is among the most important factors affecting their satisfaction with health services.

This study has several limitations that should be considered when interpreting the findings. First, the sample size was relatively small (n = 30), which may limit the generalizability of the results to a broader population. Second, the study was conducted in a single specialized cardiac center (Sabratha Heart Surgery and Treatment Center), which may not fully represent other healthcare settings in Libya. Third, the use of a convenience sampling technique may introduce selection bias. Finally, the cross-sectional nature of the study limits the ability to establish causal relationships between the studied variables.

Despite these limitations, the study provides useful preliminary insights into the role of nursing in cardiovascular care within the Libyan context.

4. Conclusions

The results showed that the level of nursing health education provided to patients was good to high, reflecting the effectiveness of the nursing awareness role in improving patients' knowledge about the nature of the disease and its associated risk factors. It was found that nursing plays a pivotal role in providing comprehensive care, as this care included therapeutic, educational, and psychological aspects, enhancing the quality of health services provided to heart patients. The study showed that the level of patient satisfaction with nursing care was relatively high, which is a positive indicator of the quality of nursing performance within the healthcare institution. The results revealed a statistically significant positive relationship between the level of health education and patient satisfaction, indicating that improving health education

directly contributes to increasing patient satisfaction.

Conflict of Interest

The authors declare no conflict of interest

References

1- Garea SC, Díaz MJF. Nursing interventions for cardiovascular disease prevention: A narrative review of evidence-based strategies. *BMC Nurs*. 2025;24:1269. doi:10.1186/s12912-025-03885-1

2- Daly J, Newton PJ, Halcomb E, Davidson PM. The role of community-based nursing interventions in improving outcomes for individuals with cardiovascular disease: A systematic review. *Int J Nurs Stud*. 2019;95:1-10.

3- Almutairi KM, Alodhayani AA, Vinluan JM, Almutairi A. Health literacy and health outcomes among patients in Saudi Arabia. *J Health Commun*. 2019;21(suppl 2):125-130. doi:10.1080/10810730.2016.1201179

4- Continuity of Care Review. Continuity of nursing care in patients with coronary artery disease: A systematic review. *Int J Environ Res Public Health*. 2022;19(5):3000.

5- Ruan T, Xu M, Zhu L, Ding Y. Nurse-coordinated home-based cardiac rehabilitation for patients with heart failure: A scoping review. *Int J Nurs Sci*. 2023;10(4):435-445.

6- Ahmed N. Compassionate care in cardiology: The role of nurses in cardiovascular disease management. *NURSEARCHER J Nurs Midwifery Sci*. 2024;4(2):1.

7- Kornburger C, Gibson C, Sadowski S, Maletta K, Klingbeil C. Using "teach-back" to promote a safe transition from hospital to home. *J Pediatr Nurs*. 2013;28(3):282-291. doi:10.1016/j.pedn.2012.04.002

8- Almutairi KNF, Al-Omar AM, et al. The role of nursing in enhancing the care of patients with cardiovascular diseases: Systematic review. *J Int Crisis Risk Commun Res*. 2024. doi:10.63278/jicrcr.vi.2047

9- World Health Organization. Cardiovascular diseases (CVDs). Published 2021. Accessed May 14, 2026. https://www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-(cvds)

10- Aiken LH, Sloane DM, Ball J, Bruyneel L, Rafferty AM, Griffiths P. Patient satisfaction with hospital care and nurses in England: An observational study. *BMJ Open*. 2018;8(1):e019189. doi:10.1136/bmjopen-2017-019189

11- Shields M, Wilkins K. Factors related to on-the-job abuse of nurses by patients. *Health Rep*. 2009;20(2):7-19.

12- Batbaatar E, Dorjdagva J, Luvsannyam A, Savino MM, Amenta P. Determinants of patient satisfaction: A systematic review. *Perspect Public Health*. 2017;137(2):89-101. doi:10.1177/1757913916634136