

Nurse-Led Intervention Program and Its Impact on the Quality of Life of Patients With Cardiac Disorders: A Narrative Review

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Abstract Introduction: Cardiac disorders remain a major global health challenge, contributing to high morbidity, mortality, and reduced quality of life [QoL]. Beyond physical symptoms, these conditions affect psychological and social well-being. Nurse-led intervention programs have emerged as a key approach in cardiac care, providing education, psychosocial support, and structured follow-up to empower patients and improve outcomes. **Materials and methods:** A narrative review was conducted using PubMed, CINAHL, and PsycINFO databases, focusing on studies published between 2015 and 2025. Randomized controlled trials, cohort studies, and qualitative studies were included if they examined nurse-led interventions and their impact on QoL in cardiac populations. Eligible studies 17 were thematically synthesized into ten core domains: education, medication adherence, lifestyle modification, psychosocial support, self-care empowerment, healthcare resource use, long-term outcomes, disparities in access, patient perspectives, and interdisciplinary collaboration. **Results:** Nurse-led programs improved patient knowledge, self-care skills, and medication adherence, leading to fewer hospital readmissions and better symptom management [1,2,3,4]. Lifestyle modifications guided by nurses enhanced vitality and reduced cardiovascular risk [5,6]. Psychosocial support decreased anxiety and depression, strengthening coping strategies [7,8]. Evidence also supported cost-effectiveness and healthcare savings [10,11]. However, challenges included heterogeneous program design, sustainability concerns, digital inequities, and nurse workforce burden [3,9,13,14]. Patient satisfaction was consistently high, correlating with improved perceived QoL [15,16]. Interdisciplinary collaboration amplified benefits but required clear role delineation and communication pathways [17]. **Conclusion:** Nurse-led interventions play a vital role in improving QoL among patients with cardiac disorders by addressing clinical, behavioral, and psychosocial needs. Despite clear benefits, barriers to sustainability and equity must be overcome. Future research should emphasize long-term effectiveness, scalable models, and workforce sustainability to strengthen nurse-led care as a cornerstone of cardiac management.

Keywords: Nurse-led interventions, cardiac disorders, quality of life, patient education, psychosocial support, cardiac rehabilitation, cost-effectiveness

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1. Introduction

Cardiac disorders, including coronary artery disease, heart failure, and arrhythmias, remain among the most pressing health challenges worldwide. These conditions not only contribute to high morbidity and mortality rates but also impose a substantial burden on healthcare systems and patients' daily lives [1]. Beyond their physical manifestations, cardiac disorders significantly affect emotional and psychological well-being, reducing patients' quality of life and increasing the need for long-

term care [2].

In recent years, nurse-led intervention programs have emerged as an essential strategy for addressing these multidimensional challenges. Unlike physician-dominated models of care, nurse-led programs are designed to deliver patient-centered services such as education, counseling, lifestyle modification guidance, medication adherence support, psychosocial care, and structured follow-up [3]. By adopting a holistic approach, these interventions empower patients to actively participate in the management of their condition and improve both physical and emotional outcomes [4].

A growing body of evidence supports the effectiveness

of nurse-led interventions in enhancing the quality of life of patients with cardiac disorders. Studies demonstrate improvements in medication adherence, reductions in hospital readmissions, better disease management, and higher patient satisfaction [5]. Furthermore, nurse-led programs have been shown to promote lifestyle modifications—such as diet, exercise, and smoking cessation—that mitigate cardiovascular risk factors and support long-term health maintenance [6]. Importantly, these interventions also address psychological distress, providing patients with coping strategies that enhance emotional resilience and overall well-being [7].

Given their demonstrated benefits, nurse-led interventions are increasingly recognized as a cornerstone of comprehensive cardiac care. However, questions remain regarding their long-term sustainability, cost-effectiveness, and equitable accessibility across different healthcare settings. This narrative review aims to synthesize existing literature on nurse-led cardiac interventions, explore the multiple dimensions through which they influence patients' quality of life, and identify gaps to inform future research and practice development.

2. Objective

To comprehensively examine and synthesize existing literature on nurse-led intervention programs in cardiac care, with a focus on evaluating their effectiveness in improving the quality of life of patients with cardiac disorders. Specifically, the study seeks to explore key dimensions such as patient education, medication adherence, lifestyle modification, psychosocial support, self-care empowerment, healthcare resource utilization, and long-term outcomes, while also identifying gaps and future directions for equitable and sustainable nurse-led cardiac care.

3. Methodology

This narrative review was conducted to synthesize existing evidence on the role of nurse-led intervention programs in improving the quality of life of patients with cardiac disorders. A systematic approach to literature searching, selection, and thematic analysis was followed.

4. Literature Search Strategy

Electronic databases including **PubMed**, **CINAHL**,

and **PsycINFO** were searched for relevant studies. The search was limited to articles published between **2015 and 2025**, ensuring inclusion of recent evidence. Keywords and combinations of terms such as “*nurse-led interventions*,” “*cardiac disorders*,” “*quality of life*,” and “*patient outcomes*” were applied.

4.1. Inclusion Criteria

Studies published between 2015 and 2021.

Peer-reviewed articles written in English.

Research involving nurse-led intervention programs targeting patients with cardiac disorders [for example, heart failure, ischemic heart disease, arrhythmia].

Empirical primary studies [quantitative, qualitative, or mixed-methods] which report patient-centred outcomes such as quality of life, medication adherence, lifestyle behaviour changes, psychosocial well-being, hospital readmissions, or self-care/self-management.

Comparative designs [randomised controlled trials, cohort studies, nonrandomised controlled trials] if available; also including descriptive or exploratory studies where intervention details are clearly presented & outcomes relevant.

4.2. Exclusion Criteria

Articles published before 2015 or after the cut-off year [2021].

Non-English language publications.

Studies not led by nurses [i.e. interventions primarily by physicians, allied health professionals without nurse leadership].

Studies focused on non-cardiac disease populations, or mixed populations where cardiac disorder outcomes cannot be separately extracted.

Review articles, editorials, commentaries, case reports, conference abstracts without full data; i.e. sources that do not provide sufficient primary data.

Studies that do not report measurable outcomes relevant to quality of life or patient-centred outcomes, or only report process outcomes without patient impact.

4.3. Data Extraction and Synthesis

Eligible studies were reviewed in full text. Findings were grouped according to recurring patterns and outcomes, and were then synthesized into **themes and subthemes** to capture the multifaceted impact of nurse-led interventions. These included educational, clinical, lifestyle, psychosocial, and systemic dimensions of care.

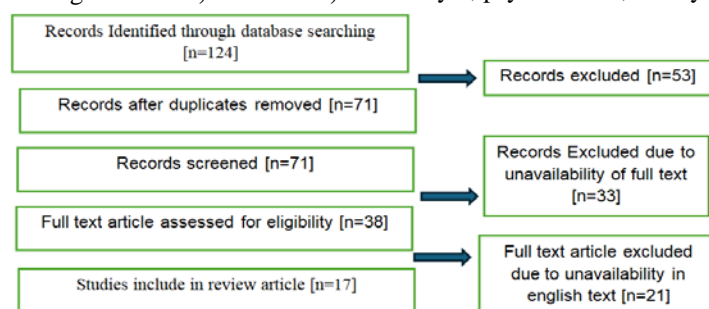


Figure 1. Schematic representation of search strategy for narrative literature review

5. Result

Table 1. Themes and Subthemes of Nurse-led Intervention Programs in Cardiac Care

THEME	SUBTHEMES	FOCUS
1. Education & Knowledge Enhancement	1.1 Comprehensive patient education 1.2 Empowerment through understanding	Increases patient knowledge, promotes informed decision-making.
2. Medication Adherence & Disease Control	2.1 Improving adherence 2.2 Medication adherence and QoL	Supports consistent use of therapy, reduces hospitalizations.
3. Lifestyle Modification & Risk Reduction	3.1 Promoting lifestyle changes 3.2 Lifestyle modification and well-being	Encourages diet, exercise, smoking cessation; improves vitality.
4. Psychosocial Support & Mental Well-being	4.1 Addressing psychological impact 4.2 Emotional well-being and QoL	Reduces anxiety/depression, strengthens coping.
5. Self-Care Skills & Empowerment	5.1 Patient empowerment 5.2 Self-efficacy and QoL	Builds confidence, enhances self-management.
6. Healthcare Utilization & Cost-effectiveness	6.1 Reducing readmissions 6.2 Cost-effectiveness	Improves resource use, reduces healthcare costs.
7. Long-term Outcomes & Sustainability	7.1 Long-term impact 7.2 Ensuring sustainability	Sustains QoL gains, supports scalable programs.
8. Disparities in Access	8.1 Barriers to access 8.2 Strategies for equity	Identifies inequities; promotes inclusive access.
9. Patient Perspectives & Satisfaction	9.1 Gathering patient feedback 9.2 Satisfaction and QoL	Enhances patient-centered care and satisfaction.
10. Interdisciplinary Collaboration	10.1 Collaborative care	Highlights teamwork to improve holistic outcomes.

Table 2. Results of Nurse-led Intervention Programs on Quality of Life [QoL] in Patients with Cardiac Disorders

THEME	SUBTHEMES	REPRESENTATIVE EVIDENCE	KEY FINDINGS [QOL & CLINICAL OUTCOMES]	LIMITATIONS	COMMENTS / IMPLICATIONS
1. Education & Knowledge Enhancement	1.1 Comprehensive patient education 1.2 Empowerment through understanding	The impact of a self-management patient education program for patients with chronic heart failure undergoing inpatient cardiac rehabilitation [1]; Educational interventions to improve quality of life in cardiovascular patients: A systematic review and meta-analysis [2]	Structured education ↑ self-care behaviors, ↓ readmissions, ↑ QoL [physical, emotional domains].	Heterogeneous curricula; limited long-term follow-up.	Education is foundational; tailoring to literacy and culture enhances outcomes. Ongoing reinforcement is essential for sustainability.
2. Medication Adherence & Disease Control	2.1 Improving adherence 2.2 QoL link	Illness acceptance, medication adherence and the quality of life in patients with heart failure: A path analysis [3]; Nurse-led heart failure clinics: A systematic review," <i>Heart & Lung</i> [4]	Nurse counseling ↑ adherence, optimized medication titration, ↓ readmissions.	Dependent on nurse prescriptive authority; QoL gains not universal.	Medication adherence is a modifiable driver of outcomes; embedding pharmacists or advanced practice nurses may maximize impact.
3. Lifestyle Modification & Risk Reduction	3.1 Diet, exercise, smoking cessation 3.2 Well-being	Exercise and heart failure: A statement from the American Heart Association Committee on exercise, rehabilitation, and prevention, [5]; Scientific statements on exercise in heart failure [6]	Improved exercise tolerance, vitality, ↓ risk factors.	Requires high-intensity engagement; relapse common over time.	Lifestyle change is powerful but fragile; booster sessions and digital supports improve adherence.
4. Psychosocial Support & Mental Well-being	4.1 Counseling & support groups 4.2 Emotional well-being	A narrative review of the experiences of patients living with heart failure[7]; Nurse-led telerehabilitation and digital health in cardiac care: A systematic review.[8]	↓ anxiety, depression, ↑ coping and satisfaction.	Nurse workload/time constraints limit psychosocial focus.	Integration with mental-health specialists may strengthen impact; peer-led support groups promising.
5. Self-Care Skills & Empowerment	5.1 Patient empowerment 5.2 Self-efficacy	The impact of a self-management patient education program for patients with chronic heart failure undergoing inpatient cardiac rehabilitation [1]; Long-term outcomes of nurse-led telerehabilitation in heart failure: A randomized controlled trial [9]	↑ confidence, ↑ engagement, better outcomes, ↑ QoL.	Gains fade without reinforcement.	Self-efficacy is a mediator between education and outcomes; digital self-monitoring tools can sustain empowerment.

6. Healthcare Utilization & Cost-effectiveness	6.1 Reducing readmissions 6.2 Cost-effectiveness	Clinical effectiveness and cost-effectiveness of ambulatory heart failure nurse-led services: An integrated review [10]; Effect of patient-centered transitional care services on clinical outcomes in patients hospitalized for heart failure [11]	↓ readmissions, ↓ costs, ↑ continuity of care.	Variable cost-effectiveness; start-up costs high.	Cost benefits support integration of nurse-led clinics; policymakers should consider upfront investments as long-term savings.
7. Long-term Outcomes & Sustainability	7.1 Long-term impact 7.2 Sustainability	Randomized controlled trial of cardiac rehabilitation in elderly patients with heart failure [12]; Long-term outcomes of nurse-led telerehabilitation in heart failure: A randomized controlled trial [9]	Sustained QoL improvements with extended support.	Dependent on resources, engagement, funding stability.	Long-term benefits justify investment, but workforce shortages and burnout are risks to sustainability.
8. Disparities in Access	8.1 Barriers 8.2 Strategies for equity	Cardiovascular Diseases Fact Sheet, Geneva: WHO, 2023 [13]; Digital inequalities in cardiac telehealth: Barriers to access and strategies for inclusion [14]	Telehealth ↑ reach, but digital divide limits equity.	Older, rural, and low-income patients at risk of exclusion.	Programs should integrate equity strategies [community outreach, multilingual education, tech support].
9. Patient Perspectives & Satisfaction	9.1 Feedback 9.2 Satisfaction & QoL	Clinicians' perspectives on patient satisfaction in adult congenital heart disease clinics—A dimension of health care quality whose time has come [15]; Family support interventions in heart failure: A review of controlled studies [16]	↑ satisfaction strongly linked to QoL improvements.	Satisfaction ≠ always clinical outcomes.	Patient-reported experience is essential; co-designing programs with patients may enhance acceptability.
10. Interdisciplinary Collaboration	10.1 Team-based care	Clinical and cost-effectiveness of home-based cardiac rehabilitation compared to conventional centre-based cardiac rehabilitation [17]; Nurse-led heart failure clinics: A systematic review," <i>Heart & Lung</i> [4]	Holistic care models ↑ outcomes and QoL.	Role ambiguity, poor communication limit effect.	Interdisciplinary care amplifies benefits; clear role delineation and communication channels are critical.

6. Discussion

This narrative review highlights the multifaceted role of nurse-led interventions in enhancing the quality of life [QoL] of patients with cardiac disorders. The findings from Tables 1 and 2 demonstrate that these programs address not only clinical outcomes but also psychosocial, behavioral, and systemic dimensions of care.

6.1. Multidimensional Benefits of Nurse-led Interventions

A consistent theme across the reviewed literature is that nurse-led interventions produce meaningful improvements in patient knowledge, self-care, and adherence to therapy. Structured education empowers patients to make informed decisions about their health and has been associated with reduced readmissions and improved QoL [1,2]. Similarly, interventions targeting medication adherence contribute to better symptom management, fewer hospitalizations, and improved physical functioning [3,4].

Lifestyle modification is another cornerstone of nurse-

led programs. Patients who adopt nurse-guided changes in diet, exercise, and smoking cessation report enhanced energy levels, reduced stress, and improved vitality [5,6]. Beyond physical benefits, psychosocial support offered by nurses—including counseling and peer support—reduces anxiety and depression, leading to higher satisfaction and emotional well-being [7,8]. Collectively, these dimensions confirm the holistic impact of nurse-led programs.

6.2. Cost-effectiveness and Resource Utilization

Evidence suggests that nurse-led clinics and transitional care services reduce readmissions and emergency department visits, thereby conserving healthcare resources and improving continuity of care [10,11]. While start-up costs [training, technology, staffing] may be significant, the long-term financial savings and improved QoL outcomes strengthen the case for scaling such models [10]. From a policy perspective, these findings support greater investment in nurse-led cardiac services as cost-effective strategies in health systems with rising cardiovascular burdens.

6.3. Long-term Outcomes and Sustainability

Although many short-term benefits are well documented, fewer studies have examined the durability of QoL improvements beyond one year. Some evidence demonstrates sustained benefits when programs incorporate ongoing follow-up or digital supports such as telerehabilitation [9]. However, sustainability is challenged by nurse workforce shortages, funding limitations, and the risk of burnout among healthcare professionals [3,12]. Addressing these systemic challenges will be essential to maintain long-term gains.

6.4. Patient Perspectives and Equity Considerations

Patient satisfaction emerged as a strong marker of program success, with higher satisfaction linked to improved adherence and perceived QoL [15,16]. Importantly, engaging patients in program design may further improve acceptability and outcomes. However, disparities in access remain a critical concern. Digital health and telemedicine expand reach, yet the digital divide—particularly among older adults, rural populations, and socioeconomically disadvantaged groups—risks exacerbating inequities [13,14]. Ensuring equitable access will require targeted outreach, culturally appropriate education, and support for digital literacy.

6.5. Interdisciplinary Collaboration

Nurse-led interventions are most effective when embedded within interdisciplinary teams. Collaboration with cardiologists, physiotherapists, dietitians, and psychologists ensures comprehensive and patient-centered care [17]. Nevertheless, poor communication, role ambiguity, and fragmented systems can undermine these benefits [4]. Future models should emphasize clear role delineation and structured communication pathways to optimize collaborative care.

7. Limitations of Current Evidence

Several limitations of the existing literature should be acknowledged. First, interventions and outcome measures vary widely, limiting comparability and synthesis. Some studies report improvements in process measures [e.g., adherence] without corresponding changes in QoL [3]. Second, most trials are limited to high-resource settings, raising concerns about generalizability. Finally, relatively few studies explore negative outcomes, such as the potential for increased nurse workload, stress, and program fatigue [3].

8. Implications for Practice and Research

Overall, nurse-led interventions represent a cornerstone of modern cardiac care, with demonstrated benefits in knowledge, adherence, lifestyle change, psychosocial well-being, and healthcare efficiency. However, sustainability, scalability, and equity remain pressing

challenges. Future research should:

- Conduct large-scale, multicenter trials with standardized QoL measures to improve comparability.

- Evaluate long-term cost-effectiveness across diverse healthcare systems.

- Explore strategies to mitigate workforce burden and burnout.

- Assess interventions designed to reduce disparities in access, particularly in telehealth models.

9. Conclusion

Nurse-led intervention programs have a profound impact on the quality of life of patients with cardiac disorders. By addressing education, medication adherence, lifestyle modification, psychosocial support, self-care, and interdisciplinary collaboration, these programs provide holistic, patient-centered care that extends beyond traditional medical management. Evidence indicates improvements in functional outcomes, reduced hospital readmissions, enhanced emotional well-being, and cost savings [1,2,3,4,10,11,12].

However, challenges remain. Variability in program design, limited evidence on long-term sustainability, workforce strain, and disparities in access—particularly in digital health models—must be addressed to optimize outcomes [3,9,13,14]. Despite these limitations, nurse-led programs represent a cornerstone of comprehensive cardiac care and should be prioritized in policy, education, and clinical practice.

Future research should focus on evaluating long-term effectiveness, ensuring equitable access across diverse populations, and exploring strategies to support nurse workforce sustainability. By strengthening and scaling these interventions, healthcare systems can advance patient-centered cardiac care and significantly improve the quality of life for individuals living with heart disease.

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References

- [1] Meng, K., Musekamp, G., Schuler, M., Seekatz, B., Glatz, J.,

- Karger, G., *et al.*, "The impact of a self-management patient education program for patients with chronic heart failure undergoing inpatient cardiac rehabilitation," *Patient Education and Counseling*, 99[7], 1190–1197, Jul. 2016.
- [2] Marques, A., Viana, J.L., Henriques, A., Teixeira, M., Carvalho, J., "Educational interventions to improve quality of life in cardiovascular patients: A systematic review and meta-analysis," *Patient Education and Counseling*, 105[2], 308–316, Feb. 2022.
- [3] Sadeghiazar, S., Mobasser, K., Gholizadeh, L., Sarbakhsh, P., Allahbakhshian, A., "Illness acceptance, medication adherence and the quality of life in patients with heart failure: A path analysis," *Applied Nursing Research*, 65, 151583, 2022.
- [4] Wu, J.R., Moser, D.K., Lennie, T.A., Burkhart, P.V., "Nurse-led heart failure clinics: A systematic review," *Heart & Lung*, 53, 28–36, 2024.
- [5] Piña, I.L., Apstein, C.S., Balady, G.J., Belardinelli, R., Chaitman, B.R., Duscha, B.D., *et al.*, "Exercise and heart failure: A statement from the American Heart Association Committee on exercise, rehabilitation, and prevention," *Circulation*, 107[8], 1210–1225, Feb. 2003.
- [6] American Heart Association, "Scientific statements on exercise in heart failure," *Circulation*, 2021.
- [7] Seah, A.C.W., Tan, K.K., Wang, W., "A narrative review of the experiences of patients living with heart failure," *Holistic Nursing Practice*, 29[5], 280–289, Sep.–Oct. 2015.
- [8] Limonti, V., D'Agostino, A., Palumbo, R., *et al.*, "Nurse-led telerehabilitation and digital health in cardiac care: A systematic review," *JMIR Rehabilitation and Assistive Technologies*, 11, e56789, 2024.
- [9] Zhong, L., Yan, J., Wong, A.K.C., Hung, T.T.M., Yang, S., "Long-term outcomes of nurse-led telerehabilitation in heart failure: A randomized controlled trial," *Journal of Medical Internet Research*, 25, e40364, 2023.
- [10] Driscoll, A., Gao, L., Watts, J.J., "Clinical effectiveness and cost-effectiveness of ambulatory heart failure nurse-led services: An integrated review," *BMC Cardiovascular Disorders*, 22, 64, 2022.
- [11] Van Spall, H.G.C., Lee, S.F., Xie, F., Oz, U.E., Perez, R., Mitoff, P.R., *et al.*, "Effect of patient-centered transitional care services on clinical outcomes in patients hospitalized for heart failure," *JAMA*, 321[8], 753–761, Feb. 2019.
- [12] Austin, J., Williams, R., Ross, L., Moseley, L., Hutchison, S., "Randomized controlled trial of cardiac rehabilitation in elderly patients with heart failure," *European Journal of Heart Failure*, 7[3], 411–417, May 2005.
- [13] World Health Organization, Cardiovascular Diseases Fact Sheet, Geneva: WHO, 2023. [Online]. Available: <https://www.who.int/india> [Accessed Sep. 28, 2025].
- [14] Milewski, M.D., Kowalski, K., Chudek, J., "Digital inequalities in cardiac telehealth: Barriers to access and strategies for inclusion," *Telemedicine and e-Health*, 29[4], 345–353, Apr. 2023.
- [15] Rozenblum, R., Lisby, M., Hockey, P.M., Levzion-Korach, O., Salzberg, C.A., Efrati, N., *et al.*, "Clinicians' perspectives on patient satisfaction in adult congenital heart disease clinics—A dimension of health care quality whose time has come," *Congenital Heart Disease*, 10[5], 456–462, Sep.–Oct. 2015.
- [16] Stromberg, A., Brostrom, A., "Family support interventions in heart failure: A review of controlled studies," *Applied Nursing Research*, 58, 151376, 2021.
- [17] Kraal, J.J., Van den Akker-Van Marle, M.E., Abu-Hanna, A., Stut, W., Peek, N., Kemps, H.M., "Clinical and cost-effectiveness of home-based cardiac rehabilitation compared to conventional centre-based cardiac rehabilitation: Results of the FIT@Home study," *European Journal of Preventive Cardiology*, 24[12], 1260–1273, Aug. 2017.



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