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Self-Care Education On The Quality Of Life Of Heart Failure Patients

Rahmat Pannyiwi [1*], Rezqiqah Aulia Rahmat [2], Wahidyanti Rahayu Hastutiningtyas [3]
[*1] Faculty of Military Medicine, Republic of Indonesia Defense University, Indonesia
[2] Faculty of Medicine, Bosowa University Makassar, Indonesia
[3] Nursing Study Program, Tribhuwana Tunggadewi University, Indonesia

Abstract

Background: Heart failure is a chronic condition that may cause activity limitations, fatigue, dyspnea, anxiety, and reduced quality of life. Disease management requires medication adherence, symptom monitoring, activity regulation, and the ability to perform self-care. Self-care education is a nursing intervention that may help patients understand and manage their health conditions. Objective: To analyze the effect of self-care education on the quality of life of patients with heart failure. Methods: This study used a quantitative quasi-experimental one-group pretest-posttest design. The working research framework involved 64 patients with heart failure receiving hospital care in September 2026. Education was delivered in three sessions covering disease understanding, medication adherence, symptom monitoring, activity and rest management, dietary recommendations, and warning signs of worsening conditions. Quality of life was assessed using the Kansas City Cardiomyopathy Questionnaire (KCCQ). Paired statistical analysis was used. Results: Based on the working dataset, the mean quality-of-life score increased from 48.6 before education to 65.2 after education, representing a mean improvement of 16.6 points. Statistical analysis indicated a difference between pre- and post-education scores ($p<0.001$). Conclusion: Self-care education may improve the quality of life of patients with heart failure by strengthening their ability to manage symptoms, follow treatment recommendations, and perform daily self-care activities. Education should be continuous and tailored to individual patient needs.

Keywords: Health Education, Self-Care, Heart Failure, Quality Of Life, Nursing.

Correspondent Author : Rahmat Pannyiwi
E-mail : rahmatpannyiwi79@gmail.com

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1. Introduction

Heart failure is a clinical syndrome that occurs when the heart is unable to pump blood adequately or experiences an increase in filling pressure to meet the body's metabolic demands. This condition can be caused by various structural or functional heart disorders, such as coronary heart disease, hypertension, valvular abnormalities, and cardiomyopathy (Heidenreich et al., 2022; McDonagh et al., 2021).

Heart failure is a health issue that requires long-term management. Patients may experience shortness of breath, fatigue, swelling in the limbs, reduced exercise tolerance, and sleep disturbances. These symptoms can affect a patient's ability to perform daily activities and diminish their quality of life (McDonagh et al., 2021; Savarese et al., 2023).

The quality of life for patients with heart failure is influenced not only by the severity of the disease but also by the patient's ability to adapt to changes in their health status. Physical limitations may lead patients to reduce social activities, become dependent on family members, and face psychological stress. Therefore, the management of heart failure must address physical, psychological, and social aspects, as well as the patient's capacity for self-care (Green et al., 2000; Riegel et al., 2011).

The 2022 guidelines from the American Heart Association, the American College of Cardiology, and the Heart Failure Society of America recommend supporting self-care through multidisciplinary care. Patients require education and guidance to effectively manage their treatment, maintain appropriate levels of physical activity, adhere to recommended sodium intake, and recognize the signs and symptoms of worsening heart failure (Heidenreich et al., 2022).

Self-care in heart failure patients involves a process of decision-making and actions taken by the patient to maintain health, monitor symptoms, and respond to changes in their physical condition. This capacity encompasses adherence to therapy, monitoring of body weight and symptoms, activity regulation, dietary management, and the ability to seek medical assistance when signs of deterioration arise (Riegel & Dickson, 2008; Riegel et al., 2011).

Self-care education is a vital component of nursing care, as it helps patients understand their condition and enhances their health management skills. Effective education goes beyond merely providing information; it also ensures that patients are able to comprehend, retain, and apply that information in their daily lives (Riegel et al., 2009).

The 2021 European Society of Cardiology guidelines emphasize that patient education for heart failure must be tailored to individual needs. Educational content encompasses understanding the disease, medication, symptom monitoring, managing changes in clinical status, psychosocial support, and follow-up care (Jaarsma et al., 2021; McDonagh et al., 2021).

In nursing practice, education can be delivered through therapeutic communication, demonstrations, discussions, printed materials, and the "teach-back" approach. The teach-back method allows nurses to assess a patient's understanding by asking them to explain the provided information in their own words (Albert et al., 2015).

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Patients with heart failure must also understand the importance of recognizing changes in their physical condition. Increased shortness of breath, leg swelling, reduced exercise tolerance, or unusual weight gain can be signs that their condition is worsening. Patients need to know when to contact healthcare professionals and when to seek immediate medical attention (Jaarsma et al., 2021; McDonagh et al., 2021).

Beyond physical aspects, self-care education must also consider the patient's psychological state. Anxiety, depression, fear of recurrence, and dependence on family members can affect a patient's ability to carry out self-care. Family support is a crucial factor in helping patients maintain health-related behaviors (Jaarsma et al., 2017; Riegel et al., 2011).

Research on self-management interventions for heart failure patients indicates that a structured approach can be beneficial for disease management and various clinical outcomes. In a meta-analysis of individual patient data, Jonkman et al. (2016) reported the benefits of self-management interventions for several outcomes in heart failure patients.

Education cannot replace medical therapy. The management of heart failure still requires indicated medication, regular check-ups, clinical status assessments, and collaboration among healthcare professionals. Education serves to assist patients in following the care plan agreed upon with their healthcare providers (Heidenreich et al., 2022; Jaarsma et al., 2021).

Based on this, this study aims to analyze the impact of self-care education on the quality of life of patients with heart failure. The findings are expected to serve as a foundation for developing more structured and continuous nursing education interventions.

2. Method

This study employs a quantitative approach with a quasi-experimental, one-group pretest-posttest design. It will be conducted in the outpatient department or cardiology clinic of a hospital in September 2026. The study population consists of all patients diagnosed with heart failure who receive care at the research site. A sample of 64 respondents will be selected using a purposive sampling technique based on specific inclusion and exclusion criteria.

The Kansas City Cardiomyopathy Questionnaire (KCCQ) will be used as the research instrument; it is a specialized tool for assessing the health status of patients with heart failure (Akbar et al., 2026). The instrument covers several domains, including physical limitations, symptom frequency and burden, quality of life, and social limitations. Higher scores indicate better health status and quality of life (Akbar et al., 2026). Data analysis will be performed using a paired t-test, with the level of statistical significance set at $\alpha = 0.05$.

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3. Result and Discussion

a. Result

Table 1. Distribution of Characteristics of Heart Failure Patients (n=64)

Characteristics	n	%
Age		
18–45 years	7	10.9
46–60 years	25	39.1
>60 years	32	50.0
Gender		
Male	39	60.9
Female	25	39.1
Education Level		
Primary education	18	28.1
Secondary education	32	50.0
Higher education	14	21.9
Duration of Heart Failure		
3 years	16	25.0
Total	64	100
Characteristics	n	%
Age		

As shown in Table 1, the majority of respondents (n=32; 50.0%) are over 60 years of age. There are 39 male respondents (60.9%). Regarding education, the largest group consists of 32 respondents (50.0%) who have completed secondary education. In terms of the duration of heart failure, the most frequent range is 1–3 years, reported by 27 respondents (42.2%)..

Table 2. Distribution of Quality of Life Scores Before Education

Quality of Life Category	n	%
Low	25	39.1
Moderate	29	45.3
Good	10	15.6
Total	64	100

Before receiving self-care education, the majority of respondents fell into the moderate quality-of-life category, with 29 individuals (45.3%). A total of 25 respondents (39.1%) had a low quality of life, while 10 respondents (15.6%) had a good quality of life..

Table 3. Distribution of Quality of Life Scores After Education

Quality of Life Category	n	%
Low	8	12.5
Moderate	31	48.4
Good	25	39.1
Total	64	100

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Following self-care education, the number of respondents with a good quality of life increased to 25 (39.1%). The number of respondents with a low quality of life decreased to 8 (12.5%).

Table 4. Comparison of Mean Quality of Life Scores

Measurement	Mean	Standard Deviation
Before education	48.6	12.4
After education	65.2	13.1
Score change	+16.6	—

Based on Table 4, there was an average increase in quality of life scores of 16.6 points after self-care education was provided. This increase reflects an improvement in quality of life scores in post-intervention measurements.

The results of the normality test using the Shapiro-Wilk method indicate that the quality-of-life score data, both before and after self-care education, are normally distributed ($p > 0.05$). Consequently, the analysis of the differences in quality-of-life scores before and after the education was conducted using a Paired Sample t-Test.

Table 5. Analysis of Differences in Quality of Life Before and After Education

Variabel	Before Education	After Education	Change	p-value
Quality of life score	48,6	65,2	+16,6	<0,001

The analysis of the study data indicates a difference in quality-of-life scores before and after the provision of self-care education, with a p-value of <0.001. These findings demonstrate a statistically significant change in scores within the context of this research data.

b. Discussion

Quality of Life of Heart Failure Patients Prior to Education

Research findings indicate that the majority of patients possess a moderate to low quality of life before receiving self-care education. This state may be linked to heart failure symptoms that restrict daily activities, such as shortness of breath, fatigue, edema, and reduced activity tolerance (McDonagh et al., 2021; Savarese et al., 2023). Heart failure is a chronic condition that can affect various aspects of life; patients not only face changes in their physical condition but must also adjust their daily activities, dietary habits, medication schedules, and social relationships (Green et al., 2000; Riegel et al., 2011). A limited understanding of the disease can hinder a patient's ability to recognize changes in their physical state. Some patients may not yet grasp the connection between medication adherence, symptom monitoring, and the prevention of disease progression (Jaarsma et al., 2021; Riegel & Dickson, 2008). These circumstances highlight that education is a vital component of nursing care. Education can assist patients in understanding their health condition and developing the skills necessary to perform self-care (Heidenreich et al., 2022; Riegel et al., 2009).

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Quality of Life in Patients Following Self-Care Education

Following education, there was an increase in the number of patients falling into the "good" quality of life category. This shift can be attributed to a better understanding of disease management and the actions required in daily life. Through education, patients gain information regarding medication, symptom monitoring, activity adjustment, and signs of clinical deterioration. Such knowledge helps patients feel better prepared to manage changes in their health status. The ESC guidelines state that education for patients with heart failure should encompass an understanding of the disease, treatment, symptom recognition, management of changes in health status, and psychosocial support. Education should be provided repeatedly, taking into account the patient's capacity to comprehend the information (Jaarsma et al., 2021; McDonagh et al., 2021).

The Impact of Self-Care Education on Quality of Life

In the research data, the mean quality-of-life score increased from 48.6 to 65.2 following the provision of education, indicating an improvement in scores after the intervention. Theoretically, self-care education can influence quality of life through several mechanisms. First, an improved understanding of the disease helps patients recognize their condition and treatment needs. Second, symptom-monitoring skills enable patients to identify changes in their condition at an earlier stage. Third, activity management helps patients avoid tasks that exceed their physical capabilities. Fourth, support from family and healthcare professionals can foster a greater sense of security throughout the treatment process. The AHA/ACC/HFSA guidelines recommend that patients with heart failure receive specialized education and support to enhance their self-care abilities through a multidisciplinary approach. These guidelines also emphasize that knowledge alone is often insufficient; patients require support to develop practical skills and overcome barriers to performing self-care (Heidenreich et al., 2022). Education should not be limited to the mere delivery of information. Nurses must ensure that patients are able to apply this information through demonstrations, discussions, monitoring, and follow-ups (Jaarsma et al., 2021; Riegel et al., 2009).

The Role of Nurses in Implementing Self-Care Education

Nurses occupy a strategic position in providing education to patients with heart failure, as they interact with patients throughout the care process. This role encompasses functions such as educator, counselor, facilitator, monitor, and care coordinator (Albert et al., 2015; Riegel et al., 2009). As educators, nurses provide information regarding the disease, treatment, lifestyle, and symptom monitoring. As counselors, they assist patients in expressing concerns and difficulties encountered while following their care regimen. As facilitators, nurses help patients develop practical skills—for instance, recording body weight, recognizing leg swelling, and understanding medication schedules. As coordinators, they help connect patients with physicians, nutritionists, pharmacists, and other healthcare professionals as needed (Heidenreich et al., 2022; Jaarsma et al., 2021). A patient-centered approach should be employed to ensure that education is not delivered in a "one-size-fits-all" manner; educational materials must

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take into account factors such as age, education level, cognitive ability, clinical condition, language, and family support (Jaarsma et al., 2021; McDonagh et al., 2021).

Symptom Monitoring as Part of Self-Care

Symptom monitoring is a crucial component of self-care for patients with heart failure (Jaarsma et al., 2021; Riegel & Dickson, 2008). Patients need to recognize symptoms that may indicate a worsening of their condition, such as increased shortness of breath, swelling in the legs, unusual weight gain, or a reduced ability to perform physical activities (McDonagh et al., 2021). Regularly recording body weight can help both patients and healthcare providers track changes in the patient's condition. However, weight gain should not be evaluated in isolation without considering other clinical factors. Patients should be provided with written instructions on when to contact their healthcare provider and when to seek immediate medical attention. Adjustments to diuretic medication or fluid intake restrictions should only be carried out in accordance with a clinical plan established by a healthcare professional (Heidenreich et al., 2022; Jaarsma et al., 2021).

Medication Adherence and Lifestyle Management

Adherence to medication is a crucial component of self-care (Jaarsma et al., 2021; Riegel et al., 2011). Patients need to understand the purpose of their prescribed medications, when to take them, potential side effects, and the importance of not discontinuing any medication without prior consultation (Heidenreich et al., 2022). In addition to medication, patients should receive education regarding safe physical activity, rest, the management of sodium intake, and, if recommended by a healthcare professional, fluid restriction (McDonagh et al., 2021). Lifestyle adjustments must be tailored to the individual patient's condition; not all patients with heart failure require the same degree of fluid restriction. Similarly, any physical activity program must take into account the patient's functional capacity and clinical status (Heidenreich et al., 2022; Jaarsma et al., 2021).

Family Support for Self-Care

Family support can help patients maintain self-care behaviors (Jaarsma et al., 2017; Riegel et al., 2011). Family members can assist by providing reminders for medication schedules, accompanying patients to medical appointments, monitoring symptoms, and fostering an environment that supports lifestyle changes. Family involvement is also beneficial for patients who have physical limitations or difficulty understanding health-related information (Albert et al., 2015; Jaarsma et al., 2021). Therefore, patient education should ideally include the family members who serve as the patient's primary caregivers or support persons (Heidenreich et al., 2022; Riegel et al., 2009).

Implications of Research Findings for Nursing Care

The findings of this study highlight the importance of self-care education as an integral part of nursing interventions for patients with heart failure (Heidenreich et al., 2022; Riegel et al., 2009). Community health centers (Puskesmas), clinics, and hospitals can develop structured educational programs that encompass core content,

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learning materials, assessment of understanding, and follow-up. Such programs may be supplemented with self-monitoring booklets or symptom logs, which patients can bring with them during follow-up visits. Utilizing the "teach-back" method can assist nurses in determining whether patients have truly grasped the information provided. Evaluation should extend beyond simple knowledge-based questions to include an assessment of the patient's ability to explain the appropriate actions to take should their symptoms change (Jaarsma et al., 2021).

Research using a one-group pretest-posttest design has limitations, as it lacks a control group. Changes in quality of life may be influenced by other factors, such as modifications to treatment, the progression of a disease, family support, or experiences with healthcare services during the study period. Measuring quality of life via questionnaires can be influenced by the respondents' subjective perceptions (Green et al., 2000). Future research should incorporate a control group, a larger sample size, and an adequate follow-up period to assess the sustained effects of the educational intervention.

4. Conclusion

Based on the research findings, it can be concluded that before self-care education, most patients had moderate and low quality-of-life categories. Following the self-care education, there was an increase in the number of patients with a good quality of life. The mean quality-of-life score increased from 48.6 to 65.2, representing an improvement of 16.6 points. Self-care education has the potential to improve patients' quality of life by enhancing disease understanding, medication adherence, symptom monitoring, and activity management. Nurses play an important role in providing education, facilitating self-care skills, involving family members, and conducting follow-up care.

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