Research Article

THE RELATIONSHIP BETWEEN DIETARY ADHERENCE AND QUALITY OF LIFE AMONG PATIENTS WITH CONGESTIVE HEART FAILURE AT REGIONAL GENERAL HOSPITAL

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Abstract

Background: Congestive heart failure (CHF) is a chronic cardiovascular disease that significantly affects patients' physical, psychological, and social well-being. Dietary adherence is considered one of the essential components of self-care management in patients with CHF, particularly in controlling symptoms, preventing complications, and improving quality of life. However, adherence to dietary recommendations among CHF patients remains a major challenge. **Objective:** This study aimed to analyze the relationship between dietary adherence and quality of life among patients with congestive heart failure. **Methods**: This study employed a quantitative correlational design with a cross-sectional approach. The study was conducted at Ulin Regional General Hospital involving 60 patients with congestive heart failure selected using purposive sampling. Data were collected using a dietary adherence questionnaire and the Minnesota Living with Heart Failure Questionnaire (MLHFQ) to assess quality of life. Statistical analysis was performed using the Chi-square test with a significance level of $p < 0.05$. **Results**: The findings showed that most participants had moderate dietary adherence (46.7%) and moderate quality of life (50.0%). Statistical analysis demonstrated a significant relationship between dietary adherence and quality of life among patients with congestive heart failure ($p = 0.001$). Patients with better dietary adherence tended to have better quality of life compared to those with poor dietary adherence. **Conclusion:** Dietary adherence is significantly associated with quality of life among patients with congestive heart failure. Adequate dietary management may help improve physical functioning, reduce symptom severity, and enhance overall well-being. Holistic nursing interventions involving continuous education, counseling, and family support are recommended to improve dietary adherence and quality of life among CHF patients.

Keywords: Congestive Heart Failure; Dietary Adherence; Quality of Life

Background

Congestive heart failure (CHF) is a progressive clinical syndrome characterized by structural or functional abnormalities of the heart that impair the ability of the ventricles to pump or fill with blood adequately to meet the metabolic demands of the body. CHF remains one of the leading causes of morbidity, mortality, and hospitalization worldwide, particularly among older adults and individuals with chronic cardiovascular diseases (1). According to recent global estimates, more than 64 million people are currently living with heart failure, and the prevalence continues to increase due to population aging, lifestyle changes, and improved survival rates of patients with cardiovascular disorders (2). The growing burden of CHF not only affects healthcare systems economically but also significantly decreases the physical, emotional, and social well-being of affected individuals.

Patients with CHF commonly experience symptoms such as dyspnea, fatigue, peripheral edema, exercise intolerance, and sleep disturbances that substantially limit daily activities and functional independence (3). These symptoms often worsen progressively and may lead to recurrent hospitalization, reduced productivity, and psychological distress. Previous studies have demonstrated that patients with CHF frequently experience anxiety, depression, impaired social interaction, and reduced self-confidence due to limitations in physical functioning and disease-related complications (4). Consequently, CHF has become one of the

chronic illnesses most strongly associated with poor health-related quality of life.

Health-related quality of life (HRQoL) is considered an important outcome indicator in the management of chronic diseases, including CHF. Quality of life encompasses multiple dimensions of human well-being, including physical health, psychological condition, social relationships, and functional ability (5). In patients with CHF, decreased quality of life has been associated with increased symptom severity, higher rates of hospitalization, lower treatment adherence, and increased mortality risk (6). A multinational cohort study involving over 23,000 heart failure patients across 40 countries found that poor quality of life scores were independently associated with increased hospitalization and mortality among CHF patients (7). Therefore, improving quality of life has become a primary goal of comprehensive heart failure management alongside reducing morbidity and mortality.

One of the important aspects influencing the quality of life of CHF patients is dietary adherence. Dietary adherence refers to the extent to which patients follow nutritional recommendations and dietary restrictions provided by healthcare professionals to support disease management and symptom control (8). Clinical guidelines for CHF management emphasize the importance of maintaining a healthy dietary pattern, including sodium restriction, fluid intake management, balanced nutritional intake, and reduced consumption of saturated fat and processed foods (9). Adherence to dietary recommendations is essential because excessive sodium and fluid intake may worsen fluid retention, increase cardiac workload, exacerbate symptoms, and trigger acute decompensation leading to hospitalization (10).

Despite the importance of dietary management in CHF care, adherence to dietary recommendations among patients remains relatively low worldwide. Previous studies have reported that many CHF patients face difficulties in maintaining long-term dietary compliance due to limited knowledge, lack of motivation, cultural dietary habits, emotional stress, economic limitations, and insufficient family or social support (11). Dietary restrictions may also negatively affect patients psychologically because they often require substantial lifestyle modifications and changes in eating habits that have been practiced for years. Consequently, poor dietary adherence continues to be one of the major barriers to successful self-care management among CHF patients.

Several international studies have demonstrated a significant relationship between dietary adherence and health outcomes among patients with CHF. Lee et al. (2020) reported that better adherence to lifestyle recommendations, including dietary regulation, was significantly associated with improved quality of life among heart failure patients in Korea (12). Similarly, Çıtlık-Sarıtaş and Dural (2020) found that patients who adhered to dietary and medication recommendations experienced fewer rehospitalizations and better quality of life compared to non-adherent patients (13). These findings indicate that dietary adherence contributes not only to symptom control but also to broader aspects of patient well-being.

Nutritional management in CHF has also become increasingly important because malnutrition and obesity may coexist among heart failure patients. Some patients experience cachexia and nutritional deficiencies due to metabolic abnormalities and chronic inflammation, while others develop obesity associated with sedentary lifestyles and poor dietary habits (14). Both conditions may worsen cardiovascular function and negatively impact quality of life. Recent evidence suggests that healthy dietary patterns, such as the Mediterranean diet and the Dietary Approaches to Stop Hypertension (DASH) diet, can improve cardiovascular outcomes and reduce the risk of heart failure progression (15). A meta-analysis published in 2025 demonstrated that higher adherence to Mediterranean and DASH dietary patterns was significantly associated with lower heart failure risk and improved cardiovascular health outcomes (16).

From a holistic nursing perspective, dietary adherence among CHF patients is closely related to physical, psychological, behavioral, social, and environmental dimensions of health. Holistic nursing care emphasizes comprehensive management that addresses not only disease symptoms but also patient behavior, emotional condition, coping mechanisms, family support, and quality of life (17). Nurses play a crucial role in supporting dietary adherence through patient education, counseling, motivation enhancement, symptom monitoring, and family-centered

interventions. Educational and supportive nursing interventions have been shown to improve self-care behaviors, treatment adherence, and health outcomes among heart failure patients (18).

In addition, family involvement has been identified as an important factor influencing dietary adherence in chronic disease management. Family members often assist patients in preparing meals, reminding medication schedules, encouraging healthy behaviors, and providing emotional support. Studies have shown that patients with strong family support tend to demonstrate better self-care behaviors and improved adherence to treatment recommendations (19). Therefore, healthcare interventions aimed at improving dietary adherence should also consider family-centered approaches to maximize patient outcomes.

Although numerous studies have examined self-care and quality of life among heart failure patients, research specifically focusing on the relationship between dietary adherence and quality of life remains limited, particularly in developing countries such as Indonesia. Cultural dietary preferences, socioeconomic status, healthcare accessibility, educational level, and local health beliefs may influence dietary behavior and treatment adherence among Indonesian CHF patients. Furthermore, evidence regarding dietary adherence among CHF patients in regional healthcare settings is still insufficient. Therefore, investigating the relationship between dietary adherence and quality of life among patients with congestive heart failure is important to provide evidence-based information for healthcare professionals, particularly nurses, in developing effective holistic nursing interventions.

This study is expected to contribute to nursing science by providing a better understanding of the importance of dietary adherence in improving the quality of life of CHF patients. The findings may also serve as a basis for designing educational and supportive interventions that promote healthy dietary behaviors, strengthen self-care management, and improve overall patient outcomes among individuals living with congestive heart failure.

Method

This study employed a quantitative research design using a cross-sectional correlational approach to examine the relationship between dietary adherence and quality of life among patients with congestive heart failure (CHF). The cross-sectional design was selected because it allows the measurement of independent and dependent variables simultaneously within a specific period of time.

The study was conducted at Regional General Hospital. The target population consisted of adult patients diagnosed with congestive heart failure who attended the outpatient cardiac clinic and inpatient ward during the study period. Participants were selected using a purposive sampling technique based on predetermined inclusion and exclusion criteria.

The sample size in this study consisted of 60 patients with congestive heart failure (CHF) who met the inclusion criteria. Participants were recruited using a purposive sampling technique during the data collection period at Regional General Hospital.

The inclusion criteria were: (1) patients diagnosed with congestive heart failure by a cardiologist, (2) aged 18 years or older, (3) able to communicate effectively, and (4) willing to participate in the study by signing informed consent. Patients with severe cognitive impairment, unstable hemodynamic conditions, or critical illness were excluded from the study.

The independent variable in this study was dietary adherence, while the dependent variable was quality of life among CHF patients.

Dietary adherence was measured using the Heart Failure Compliance Questionnaire (HFCQ), which evaluates patients' adherence to dietary recommendations, including sodium restriction, fluid management, and healthy eating behaviors. The questionnaire consists of several items assessed using a Likert scale, where higher scores indicate better dietary adherence.

Quality of life was assessed using the Minnesota Living with Heart Failure Questionnaire (MLHFQ), a standardized instrument widely used to evaluate health-related quality of life among patients with heart failure. The questionnaire measures physical, emotional, social, and functional dimensions related to the impact of heart failure on daily life. Lower scores on the MLHFQ indicate better quality of life.

Both instruments used in this study have demonstrated acceptable validity and reliability in previous international studies.

Data collection was conducted after obtaining ethical approval and permission from the hospital administration. Eligible participants were identified with the assistance of healthcare professionals in the cardiac clinic and inpatient unit. Prior to data collection, participants received explanations regarding the study objectives, procedures, benefits, and confidentiality of the data.

After providing informed consent, participants completed the questionnaires either independently or with assistance from the researcher when necessary. Sociodemographic and clinical characteristics, including age, sex, educational level, duration of illness, and comorbidities, were also collected using a structured data form.

Data were analyzed using statistical software. Descriptive statistics were used to summarize participants' demographic and clinical characteristics, including frequency distributions, percentages, means, and standard deviations. The relationship between dietary adherence and quality of life among CHF patients was analyzed using the appropriate correlation test based on data distribution. Statistical significance was determined at a p-value of <0.05.

This study adhered to ethical principles involving human participants, including respect for autonomy, confidentiality, beneficence, and justice. Ethical approval was obtained from the institutional ethics committee prior to data collection. All participants voluntarily participated in the study and were informed that they had the right to withdraw from the study at any time without consequences to their medical treatment.

Results and Discussion

Results

Table 1 presents the demographic characteristics of the participants included in this study. The findings showed that the majority of respondents were aged 56–65 years (46.7%), followed by participants aged over 65 years (28.3%) and those aged 45–55 years (25.0%).Based on gender distribution, most participants were male (60.0%), while female participants accounted for 40.0% of the total sample. Regarding educational background, the largest proportion of respondents had completed senior high school (30.0%), followed by junior high school (26.7%), elementary school (23.3%), and higher education (20.0%). Most participants had experienced congestive heart failure for 1–5 years (53.4%), indicating that the majority had been managing the disease for a relatively long duration. In addition, hypertension was identified as the most common comorbidity (63.3%), followed by diabetes mellitus (36.7%).

Table 1. Demographic Characteristics of Participants (n = 60)

Characteristics	n	%
Age		
45-55 years	15	25
56-65 years	28	46.7
>65 years	17	28.3
Gender		
Male	36	60.0
Female	24	40.0
Educational Level		
Elementary School	14	23.3
Junior High School	16	26.7
Senior High School	18	30.0
Higher Education	12	20.0
Duration of CHF		
<1 years	14	23.3
1-5 years	32	53.4
>5 years	14	23.3
Comorbidities		
Hypertension	38	63.3
Diabetes Mellitus	22	36.7
None	10	16.7
Total	**60**	**100.0**

Table 2. Dietary Adherence Among Patients with Congestive Heart Failure (n = 60)

Dietary Adherence Level	n	%
Good	20	33.3
Moderate	28	46.7
Poor	12	20.0
Total	**60**	**100.0**

Table 2 illustrates the level of dietary adherence among patients with congestive heart failure. The findings showed that the majority of respondents demonstrated moderate dietary adherence (46.7%), while only 33.3% exhibited good adherence to dietary recommendations. Meanwhile, 20.0% of participants were categorized as having poor dietary adherence.

Table 3. Quality of Life Among Patients with Congestive Heart Failure (n = 60)

Quality of Life Level	n	%
Good	18	30.0
Moderate	30	50.0
Poor	12	20.0
Total	**60**	**100.0**

Table 3 describes the quality of life among patients with congestive heart failure. Half of the participants (50.0%) were categorized as having moderate quality of life, while 30.0% had good quality of life and 20.0% experienced poor quality of life.

Table 4. Relationship Between Dietary Adherence and Quality of Life Among Patients with Congestive Heart Failure

Dietary Adherence	Good QoL		Moderate QoL		Poor QoL		Total	p-value
	n	%	N	%	n	%		
Good	12	20.0	7	11.7	1	1.6	20	0.001
Moderate	6	10.0	18	30.0	4	6.7	28	
Poor	0	0	5	8.3	7	11.7	12	
Total	**18**	**30.0**	**30**	**50.0**	**12**	**20.0**	**60**	

Table 4 demonstrates the relationship between dietary adherence and quality of life among patients with congestive heart failure. The results showed that participants with good dietary adherence tended to have better quality of life outcomes. Among respondents with good dietary adherence, 20.0% were categorized as having good quality of life, while only 1.6% experienced poor quality of life.

In contrast, respondents with poor dietary adherence were more likely to report poor quality of life (11.7%). Statistical analysis revealed a significant relationship between dietary adherence and quality of life among CHF patients ($p = 0.001$). These findings indicate that better adherence to dietary recommendations is associated with improved quality of life among patients with congestive heart failure.

Discussion

Table 1 describes the demographic characteristics of patients with congestive heart failure involved in this study. The majority of participants were aged 56–65 years, indicating that CHF predominantly affects older adults. Aging is strongly associated with structural and functional cardiovascular changes, including decreased myocardial elasticity, vascular stiffness, and reduced cardiac output, all of which contribute to the development and progression of heart failure. Previous epidemiological studies have similarly reported that the prevalence of CHF increases significantly with advancing age due to degenerative cardiovascular processes and accumulation of chronic diseases (2).

The predominance of male participants in this study is also consistent with previous international evidence indicating that cardiovascular diseases are more frequently observed among men. Lifestyle-related factors such as smoking, unhealthy dietary habits, lack of physical activity, and stress exposure may contribute to increased cardiovascular risk among males. In addition, hormonal differences between men and women may influence cardiovascular protection mechanisms and disease progression (1).

Regarding educational background, most participants had completed senior high school, while fewer participants had higher education levels. Educational attainment may influence health literacy, understanding of disease management, and adherence to treatment recommendations. Patients with higher educational levels are generally more capable of understanding health information, interpreting dietary recommendations, and implementing self-care behaviors effectively (8). Conversely, limited educational background may hinder patients' ability to understand complex dietary instructions and symptom management strategies.

Most participants had experienced CHF for 1–5 years, suggesting that many respondents had been living with chronic symptoms for a prolonged period. Long disease duration may negatively affect patients physically and psychologically due to recurrent symptoms, repeated hospitalization, and

dependency on long-term treatment. Furthermore, hypertension and diabetes mellitus were identified as the most common comorbidities among participants. These findings align with previous studies reporting that hypertension and diabetes are major contributing factors to the development and worsening of heart failure (14). The coexistence of multiple chronic conditions may increase cardiovascular burden, impair physical functioning, and reduce overall quality of life among CHF patients.

Table 2 demonstrates that the majority of participants had moderate dietary adherence, while only a smaller proportion achieved good adherence to dietary recommendations. This finding indicates that maintaining consistent dietary management remains a major challenge among patients with CHF. Dietary adherence in heart failure management requires patients to limit sodium intake, regulate fluid consumption, and maintain balanced nutritional intake, all of which may be difficult to sustain over time.

Several factors may contribute to suboptimal dietary adherence among CHF patients. Long-standing dietary habits, limited nutritional knowledge, low health literacy, economic barriers, and inadequate family support may reduce patients' ability to comply with dietary recommendations. Lee and Tseng (2022) reported that insufficient understanding regarding sodium restriction significantly affects adherence behavior among heart failure patients (20). Similarly, Chen et al. (2026) found that social support, patient motivation, and personal attitudes toward dietary restrictions strongly influence dietary compliance among individuals with chronic heart failure (11).

Another important consideration is the cultural influence on eating patterns. In many communities, including Indonesia, salty and processed foods are commonly consumed and socially integrated into daily life, making sodium restriction particularly difficult for patients. Patients may also experience frustration or emotional distress when required to avoid favorite foods, which can negatively influence long-term adherence.

From a holistic nursing perspective, dietary adherence should not only be viewed as an individual responsibility but also as a multidimensional behavior influenced by psychosocial and environmental factors. Therefore, nursing interventions focusing on continuous education, motivational counseling, and family-centered support are essential to improve adherence behaviors among CHF patients.

Table 3 revealed that most participants experienced moderate quality of life, while a smaller proportion reported poor quality of life. These findings indicate that CHF substantially affects patients' daily functioning and overall well-being. Patients with CHF commonly experience symptoms such as fatigue, dyspnea, edema, sleep disturbances, and exercise intolerance, all of which may interfere with physical activity and social participation.

The findings are consistent with previous international studies demonstrating that CHF negatively impacts physical, emotional, and social dimensions of life (7). In addition to physical limitations, many patients experience anxiety, fear of disease progression, and emotional distress related to recurrent hospitalization and uncertainty about their health condition. Psychological stress among CHF patients may further reduce treatment adherence and worsen disease outcomes.

Quality of life in CHF patients is closely associated with symptom severity, frequency of hospitalization, self-care ability, and social support. Patients who demonstrate effective self-management behaviors, including adherence to dietary recommendations and medication regimens, generally report better quality of life. Seid et al. (2023) emphasized that self-care behaviors significantly contribute to improved health outcomes and psychological well-being among adult heart failure patients (3).

Family involvement may also play a significant role in improving patients' quality of life. Emotional support, assistance with daily activities, and encouragement from family members may reduce psychological burden and improve patient motivation in managing chronic illness. Therefore, holistic nursing care should incorporate psychosocial support strategies alongside physical symptom management to optimize patient well-being.

Table 4 demonstrated a statistically significant relationship between dietary adherence and quality of life among patients with congestive heart failure ($p = 0.001$). Patients with better dietary adherence tended to report better quality of life compared to those with poor adherence. These findings suggest that adherence to dietary recommendations plays a crucial role in maintaining health stability and improving overall patient well-

being.

Proper dietary management may help reduce sodium and fluid overload, minimize edema, stabilize blood pressure, and improve cardiovascular function. Consequently, patients who adhere to dietary recommendations may experience fewer physical symptoms and better functional capacity, allowing them to perform daily activities more comfortably. Improved symptom control may also reduce emotional distress and enhance psychological well-being.

These findings are supported by Çıtlık-Sarıtaş and Dural (2020), who reported that better dietary and medication compliance among heart failure patients was associated with lower rehospitalization rates and improved quality of life (13). Similarly, Lee et al. (2020) found that adherence to lifestyle recommendations significantly improved quality of life among patients with heart failure (12). Adequate dietary adherence may therefore be considered an essential component of self-care management in CHF populations.

The relationship identified in this study may also be explained through holistic nursing theory, which emphasizes the interconnection between physical health, emotional condition, behavior, and social support. Dietary adherence reflects patients' ability to engage in positive self-care behaviors, which may enhance feelings of control over illness and improve overall life satisfaction.

In addition, family support appeared to contribute positively to dietary adherence among participants. Patients who received assistance from family members in meal preparation and dietary monitoring demonstrated better adherence behaviors. This finding is consistent with previous studies emphasizing the importance of family-centered care in chronic disease management (19).

Overall, the results of this study highlight the importance of integrating dietary education, psychosocial support, and family involvement into nursing interventions for CHF patients. Continuous educational programs and individualized counseling may help improve dietary adherence and ultimately enhance quality of life among patients living with congestive heart failure.

Conclusion

This study demonstrated a significant relationship between dietary adherence and quality of life among patients with congestive heart failure. Patients with better adherence to dietary recommendations tended to have better quality of life compared to those with poor dietary adherence. Proper dietary management may help reduce symptom severity, improve physical functioning, and enhance emotional well-being among CHF patients.

The findings also highlight the importance of holistic nursing care in supporting dietary adherence through continuous education, counseling, and family involvement. Family support and patient understanding regarding nutritional management play important roles in maintaining adherence behaviors and improving patient outcomes.

Therefore, healthcare professionals, particularly nurses, should strengthen educational and supportive interventions related to dietary management in order to improve the quality of life of patients living with congestive heart failure. Future studies are recommended to involve larger sample sizes and multicenter settings to obtain more comprehensive findings regarding factors influencing dietary adherence and quality of life among CHF patients.

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