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The Relationship Between Family Support and Self-Care in Heart Failure Patients: A Cross-sectional Study in Garut City, Indonesia

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ABSTRACT

Heart failure is a pathophysiological condition due to impaired heart function in pumping blood that is chronic and progressive, and contributes to high morbidity and mortality rates. Reducing these rates requires a treatment strategy that maintains the health and well-being of patients, one of which is through effective self-care management. In its implementation, the role of family is an important aspect as a source of non-medical support that can motivate patients to undergo treatment. This study aimed to analyze the relationship between family support and self-care practices among individuals with heart failure attending polyclinics in Garut City. A quantitative cross-sectional design was employed, involving 105 participants who were selected through purposive sampling. Data were collected using a family support questionnaire the Caregiver Contribution to Self-Care of Heart Failure Index version 2 (CC-SCHFI v.2), then The Spearman rank correlation test was used for data analysis. The results showed that most participants had high levels of family support (81%), and demonstrated moderate self-care practice (88,6%). There was a strong and significant positive correlation between family support and self-care behavior ($r = 0.680$; $p < 0.001$), suggesting that better family support is associated with improved self-care practices among heart failure patients. Family support significantly enhances self-care behavior in heart failure patients. Involving family members in disease management programs is essential to promote better health outcomes.

Key Messages:

- Family support had a significant association with self-care behaviors of heart failure patients, with a strong correlation ($p = 0.000$; $r = 0.680$).
- Most patients reported received high levels of family support and demonstrated adequate self-care, reflecting the important role of family in supporting chronic disease management.

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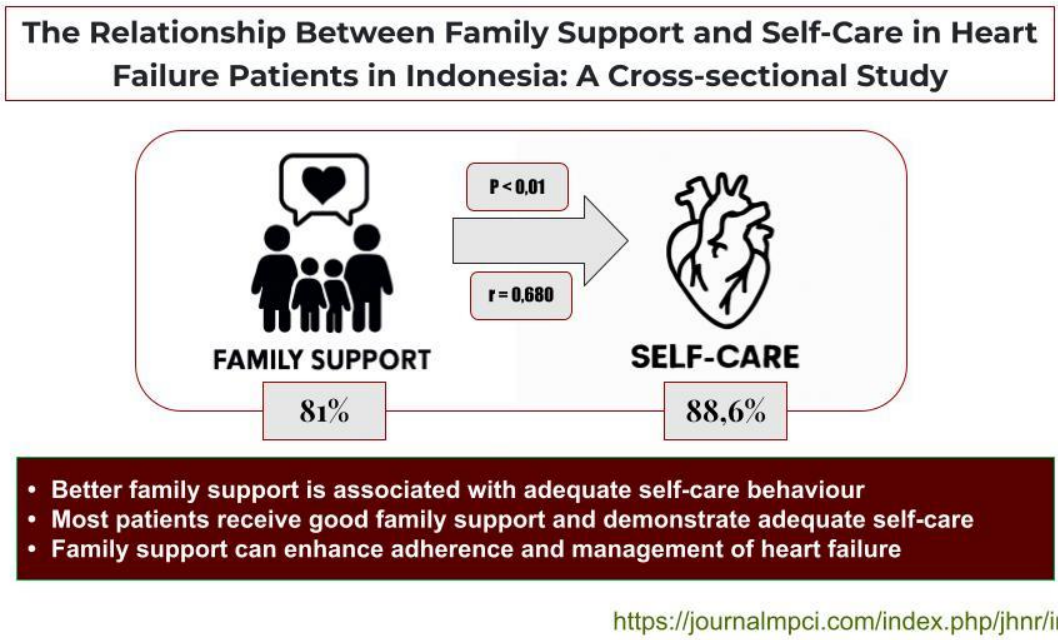
GRAPHICAL ABSTRACT



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INTRODUCTION

Heart failure is a condition in which the heart is unable to pump blood efficiently, resulting in poor circulation and inadequate oxygen supply to the body's organs, thereby impairing their optimal function (1). Hypertension and coronary artery disease are the primary causes of heart failure, with the latter involving the narrowing of the arteries that supply blood to the heart muscle due to the buildup of plaque (1). Cardiovascular diseases represent the primary cause of mortality worldwide, responsible for approximately 17.9 million deaths annually, which constitutes about 32% of all global deaths (2). In Indonesia, heart disease ranks as the second most common cause of mortality, with a reported prevalence rate of 1.5% (3).

To reduce the prevalence and mortality rates of heart failure, a comprehensive management approach that combines pharmacological and non-pharmacological therapies is essential to achieve optimal patient outcomes. One key component of non-pharmacological management is family involvement, which plays a crucial role in supporting the stability and maintaining the stability of the patient's health status. Evidence suggests that family support significantly contributes to improving adherence to treatment regimens, enhancing patients' ability to recognise symptoms, and fostering independent self-care (4).

Family support in heart failure patients allows them to play an active role in increasing knowledge that supports health and helps patient adaptation in daily life, including attitudes, actions, and family acceptance, which is manifested in the form of services provided to family members suffering from heart failure (5). An individual's capacity for self-care encompasses the awareness and confidence required to achieve, maintain, or improve their overall health and well-being (6). Self-care is a fundamental component in the management of chronic diseases, involving a range of competencies, behaviours, and proactive measures performed by individuals to maintain and enhance their health (7).

An essential strategy in managing heart failure involves empowering patients to engage in effective self-care. This includes medication adherence, implementation of lifestyle modifications, routine monitoring of symptoms, and appropriate responses to any clinical changes that arise (8). Research shows the importance of these behaviours in improving symptom control and reducing complications, while also highlighting the role of patient responsibility in managing conditions beyond mere treatment compliance (9).

However, despite the recognized importance of self-care and family support, preliminary findings from the current study revealed gaps in behaviour and knowledge. Based on the results of the preliminary study, it shows that 7 out of 10 patients do not know how to identify the signs of symptoms that appear, the

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diet that must be followed, and do not monitor their body weight. In addition, 3 other patients needed assistance in carrying out activities at home. These findings indicate significant deficiencies in symptom recognition, dietary adherence, and functional independence domains that are strongly influenced by the presence or absence of adequate family support.

In this context, healthcare professionals play a crucial role in assessing the level of family support and evaluating self-care practices among patients with heart failure. This is necessary to understand the patient's understanding and behaviour to maintain physical stability, avoid behaviours that can worsen conditions, and detect possible worsening of heart failure. Building on this context, the present study aims to examine the association between family support and self-care behaviours among patients with heart failure attending a polyclinic in Garut.

METHODS

This study analyzed demographic data, analyzed respondent characteristics data, and analyzed each variable. The data will be presented using a frequency distribution table in the main variable analysis. The collected data is then calculated as the value of the score. This study employed a quantitative approach with a cross-sectional design, involving a population of outpatients who had been diagnosed with heart failure at the Polyclinic in Garut City, totaling 141 patients. Inclusion criteria for the sample included individuals over 18 years of age, patients diagnosed with heart failure for more than six months, and those receiving outpatient care at the Polyclinic in Garut City. A purposive sampling technique was applied, resulting in a sample size of 105 participants.

Data collection was conducted using two standardized questionnaires. The family support questionnaire, developed by Sampelan (2023) which assessed four indicators, including emotional support, instrumental support, informational support, and overall support, with a total of 15 items on a Likert scale (10). Scoring interpretation is categorized as poor (56%), fair (56-75%), and good (75-100%). The questionnaire has previously been validated and has shown reliability in a similar context.

The self-care behavior of heart failure patients was measured using the Caregiver Contributions to Self-Care of Heart Failure Index (CC-SCHFI) version 2 by Lainsamputty, covering maintenance, symptom perception, and management domains (11). Comprising 29 questions, and using a 5-point Likert scale. The instrument showed good validity (CVR = 0.793) and reliability (α = 0.705–0.790; test-retest r = 0.73–0.92). Scores were classified as adequate (>70) or inadequate (<70) and analyzed as ordinal data. The analysis used to test the two variables used the Spearman rank test, as both datasets were not normally distributed. Data were analyzed using SPSS version 25.

The characteristics of respondents analyzed in this study included gender, age, highest level of education, occupation, marital status, duration of heart failure, New York Heart Association (NYHA) classification, presence of comorbidities, and family responsibilities. These demographic data were collected using a structured questionnaire developed by the researchers and presented as frequency distributions.

CODE OF HEALTH ETHICS

The Research Ethics Committee of STIKes Karsa Husada Garut, with approval number 00715/KEP STIKes Karsa Husada Garut/2024.

RESULTS

The study sample consisted of patients aged over 18 years, who had been diagnosed with heart failure for more than six months and were receiving outpatient care at the Polyclinic in Garut, totalling 105 participants. The respondents were categorized according to variables such as gender, age, highest level of education, occupation, marital status, duration of heart failure, NYHA classification, comorbidities, and family responsibilities.

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Table 1. Frequency Distribution of Respondent Characteristics of Heart Failure in the Polyclinic in Garut

Characteristic	Self-Care				N (%)
	Adequate		Inadequate		
	n	%	n	%	
Gender					
Male	30	28,6	8	7,6	39 (36,2)
Female	63	60	4	3,8	67 (63,8)
Age					
18-59 Years	51	48,6	8	7,6	59 (56,2)
>60 Years	42	40	4	3,8	46 (43,8)
Highest Level of Education					
Elementary School	55	52,4	6	5,7	61 (58,1)
Junior High School	17	16,2	6	4,8	22 (21)
Senior High School	15	14,3	1	1	16 (15,2)
College	6	5,7	0	0	6 (5,7)
Occupation					
Housewife	51	48,6	4	3,8	55 (52,4)
Laborer	22	21	6	5,7	28 (26,7)
Civil Servant	1	1	0	0	1 (1)
Farmer	8	7,6	1	1	9 (8,6)
Other	11	10,5	1	1	12 (11,4)
Marital Status					
Married	71	67,6	11	10,5	82 (78,1)
Single	22	21	1	1	23 (21,9)
Duration of Heart Failure					
<1 Years	49	46,7	7	6,7	56 (53,3)
1-2 Years	27	25,7	4	3,8	31 (29,5)
>2 Years	17	16,2	1	1	18 (17,1)
NYHA Classification					
Class I	15	14,3	3	2,9	18 (17,1)
Class II	58	55,2	9	8,6	67 (63,8)
Class III	17	16,2	0	0	17 (16,2)
Class IV	3	2,9	0	0	3 (2,9)
Comorbidities					
Any	55	52,4	3	2,9	58 (55,2)
None	38	36,2	9	8,6	47 (44,8)
Family Responsibilities					
Any	31	29,5	4	3,8	35 (33,3)
None	62	59	8	7,6	70 (66,7)

Based on the data in Table 1, respondents with the highest level of self-care (categorized as “adequate”) were predominantly female, accounting for 63 individuals or 60%, compared to 30 males (28.6%). The age group of 18–59 years showed a higher proportion of adequate self-care, with 51 individuals (48.6%), compared to those over 60 years. In terms of education, the majority of respondents with adequate self-care had only completed elementary school, totalling 55 individuals (52.4%), the highest among all educational levels.

Regarding occupation, housewives made up the largest group with adequate self-care, at 51 individuals (48.6%). Married respondents also demonstrated the highest percentage of adequate self-care, with 71 individuals (67.6%). Furthermore, those who had been living with heart failure for less than one year showed the highest proportion of adequate self-care, with 49 individuals (46.7%). According to the NYHA classification, respondents in Class II had the highest number with adequate self-care, reaching 58 individuals (55.2%). Respondents with comorbidities also made up a large portion of those with adequate self-care, totaling 55 individuals (52.4%). Lastly, those without family responsibilities constituted the highest group in terms of adequate self-care, with 62 individuals (59%).

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Table 2. Frequency Distribution of Respondents' Self-Care at the Polyclinic in Garut

Family Support	Self-Care				Total		*p-value*	*r*
	Adequate		Inadequate					
	n	%	n	%	n	%		
Low	3	2,9	2	1,9	5	4,8		
Enough	12	12,4	2	1,9	15	14,3	<0,001	0,680
High	77	73,3	8	7,6	85	81		

Based on the data presented in Table 1, the majority of respondents who demonstrated adequate self-care were those who received high levels of family support, amounting to 77 individuals or 73.3%. This was significantly higher compared to those with enough family support (12 individuals or 12.4%) and those with low support (only 3 individuals or 2.9%). The relationship between family support and self-care was found to be statistically significant, with a p-value of 0.000 and a correlation coefficient (r) of 0.680, indicating a strong positive correlation. This suggests that higher levels of family support are strongly associated with better self-care among respondents at the Polyclinic in Garut.

DISCUSSION

The findings indicated that the majority of heart failure patients reported that high levels of family support, accounting for 81.0%, with only 4.7% reporting low family support. This is consistent with previous research, which shows that most heart failure patients benefit from strong family support (5). The family has an important role in creating an environment that supports the involvement of family members, especially by normalizing and contextualizing health conditions, including in dealing with chronic diseases (12). In chronic diseases like heart failure, family support enhances self-care management by addressing patients' physical and emotional needs and providing continuous encouragement (13). Treatment in patients with chronic diseases does not only depend on pharmacological therapy, but also requires support from psychosocial factors, one of which is family support (14).

This contributes to the optimization of patient management, because the family support provided is in the form of emotional support by providing appreciation and praise by the family to the patient, as well as instrumental support by providing material provision assistance, as well as services provided to facilitate successful treatment and improve the quality of life for patients (15). In heart failure patients, support from the family becomes indispensable, because it can help patients undergo the treatment process more optimally and consistently (9). Family support is positively associated with self-care behaviors in heart failure patients, because family involvement in influencing patient behavior by providing positive emotional responses to increase patient confidence in optimizing patient self-care management, so that the greater the family support, the more effective and consistent the patient's self-care behaviors tend to be (16). Strong family support plays a critical role in lowering morbidity and mortality rates among patients with heart failure. Family involvement not only provides emotional support to the patient, also helps to reduce patient stress. In addition, information provided by the family in the form of knowledge about the disease and proper self-care management can strengthen patient self-management in controlling heart failure (10).

The results showed that most patients with heart failure had an adequate level of self-care, which amounted to 81.0%. This finding indicates that the majority of patients can carry out self-care actions according to their disease management needs. Self-care is a crucial component in the management of heart failure. Studies have demonstrated that self-care directly influences treatment outcomes and contributes to the reduction of symptoms in patients (17). Self-care in heart failure patients involves a naturalistic decision-making process, encompassing three key aspects: maintaining physiological stability (maintenance), enhancing symptom awareness, and addressing symptoms as they arise (management). These three components are interrelated and contribute to the successful management of chronic conditions in heart failure patients (18).

Family support and self-care management behaviors are correlated with the quality of life in heart failure patients, with higher levels of family support leading to improved patient quality of life (10). There

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is a correlation between family support, self-care management behaviors, and the quality of life in heart failure patients, with greater family support contributing to a better quality of life for the patient (1). Inadequate self-care management can lead to an increased recurrence rate in patients with heart failure (19). Effective self-care practices can assist individuals in preventing complications, and this process can be influenced by various factors, including knowledge, social support, self-efficacy, and physical activity (20). In addition to individual factors, the role of the family is an important component in supporting self-care in heart failure patients.

Family support is essential for helping patients adhere to the necessary restrictions, which in turn enhances the effectiveness of treatment and stabilizes the patient's condition. Beyond individual factors, family involvement is a key factor in supporting self-care among heart failure patients, significantly influencing adherence to treatment and lifestyle changes. Given the numerous restrictions patients must observe, family support is crucial for ensuring the success of treatment and self-care. Involvement of the family as a motivational source has been demonstrated to have a positive effect, particularly in improving treatment adherence and empowering patients to manage their health independently (4).

The study found a positive association between family support and the self-care abilities of heart failure patients, with statistical analysis revealing a significant relationship characterized by a strong correlation ($p = 0.000$; $r = 0.680$). This is supported because patients with low family support (4.8%) the majority have inadequate self-care (3.8%). In moderate family support (14.3%), there was a balance between inadequate (6.7%) and adequate (7.6%) self-care. In contrast, patients with high levels of family support (81.0%) mostly had adequate self-care (80.0%). Consistent with studies highlighting a significant and positive relationship between family support and self-care behavior in heart failure patients, the findings demonstrate that greater family support is associated with improved self-care behavior (5). This highlights how family support fosters patient motivation and autonomy in consistent self-care, which is essential for effective heart failure management.

Nurses play a role in facilitating active family involvement by providing motivation and education, both during the patient's treatment in the hospital and in the self-care process at home (21). Optimal family support contributes to the emotional stability of patients by fostering a sense of security and comfort in carrying out self-care while undergoing treatment (22). Family support acts as a strategic effort in helping heart failure patients carry out optimal self-care, thus enabling families to provide appropriate responses to self-care behavior, so that patients can carry out self-care activities and follow treatment programs consistently (23).

This study has several limitations that warrant consideration. The cross-sectional design precludes any inference of causality between family support and self-care management, the observed associations cannot determine whether family support directly influences self-care. Furthermore, the use of self-reported instruments as the primary data collection method presents risks of measurement bias. Participants may inaccurately report their levels of family support or self-care behaviors due to limitations in recall, misinterpretation of questionnaire items, or the tendency to respond in a socially desirable manner. Such biases may affect the accuracy and validity of the findings. Future studies are encouraged to incorporate multiple data sources, including objective clinical indicators or family assessments, to enhance data validity and reliability and strengthen the robustness of the results. The finding that self-care behaviors were not uniformly adequate among participants with moderate family support suggests the presence of other contributing factors, such as health literacy, psychological status, or access to health services. Recognizing these limitations and unexplored variables adds depth to the analysis and offers direction for future investigations.

CONCLUSION

This study demonstrated a statistically significant association between family support and self-care behavior among heart failure patients at the Polyclinic in Garut City ($p = 0.000$; $r = 0.680$). The majority of patients who received high levels of family support were found to have adequate self-care capabilities. These results highlight the importance of family support as a major non-medical factor in chronic disease management, especially in terms of patient motivation, confidence, and consistency in self-care practices.

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Given the mixed self-care results seen among those with moderate support, it is possible that other variables, such as psychological state, health literacy, and access to healthcare, may affect patient behaviors.

Future studies might concentrate on creating family-based interventions to improve self-care among heart failure sufferers in view of these results. Including regular family support assessment and organized family participation into patient care plans in clinical practice could help to enhance disease management results and the quality of life for this group.

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CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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