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DOI: [10.31965/infokes.Vol22.Iss3.1570](https://doi.org/10.31965/infokes.Vol22.Iss3.1570)Journal homepage: <https://jurnal.poltekkeskupang.ac.id/index.php/infokes>**RESEARCH****Open Access****Family Support and Degree of Heart Failure in Consumption of a Low Salt Diet in Rehospitalization****Angelica Lolita Al Vieta<sup>1a</sup>, Suryani Manurung<sup>1b\*</sup>, Tarwoto<sup>1c</sup>**<sup>1</sup> Department of Nursing, Health Polytechnic Jakarta 1, South Jakarta, DKI Jakarta, Indonesia<sup>a</sup> Email address: [lolivina25@gmail.com](mailto:lolivina25@gmail.com)<sup>b</sup> Email address: [suryanimanurung19@gmail.com](mailto:suryanimanurung19@gmail.com)<sup>c</sup> Email address: [tarwoto\\_spp@yahoo.com](mailto:tarwoto_spp@yahoo.com)

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**Abstract**

Heart failure is the most common health problem experienced by both the global and Indonesian population. Improving the quality of life of heart failure patients is paramount and depends heavily on the treatment undertaken. The number of relapses that result in re-hospitalization of heart failure patients indicates a lack of adherence to therapy. Some of the risk factors for re-hospitalization of heart failure are age, gender, degree of disease, and comorbidities. Non-compliance with medication therapy, excessive physical activity, non-adherence to medical care, failure to recognize clinical manifestations of heart failure, and violation of low-salt dietary restrictions will result in rehospitalization due to recurrence. Patients without family members may have higher non-compliance, as they lack the support needed to change their behavior. The purpose of this study was to analyze the relationship between family support and the degree of heart failure disease in consuming a low salt diet on the incidence of re-hospitalization. This research design uses a cross-sectional design of analytic survey research. The population of this study were heart failure patients who sought treatment at Pasar Rebo Hospital with a sample of 75 people. Sampling using purposive sampling. Data analysis using univariate and bivariate tests. In this study, there is a relationship between family support in the consumption of a low-salt diet on the incidence of re-hospitalization based on the degree of disease. The results of the bivariate test (Person Chi-Square) showed that there was a significant relationship between family support in the consumption of a low-salt diet and the incidence of re-hospitalization for heart failure ( $p < 0.05$ ). In this study it was found that there was a significant relationship between family support and the degree of heart failure in consuming a low salt diet in the event of re-hospitalization, Most of the respondents' degree of heart failure re-hospitalization were in class I and class II degrees of disease as many as 72 (96%) and class I and II degrees of disease were in emotional family support, information and appreciation 5-14 (15-62%) Researchers suggest that future researchers can add patient respondents who experience re-hospitalization for heart failure.

**Keywords:** Heart Failure, Family Support, Re-Hospitalization.**Corresponding Author:**

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## 1. INTRODUCTION

DKI Jakarta is one of the provinces that has a heart failure prevalence rate higher than the national average of 1.9% (Kementerian Kesehatan Republik Indonesia, 2018). Lee et al. (2020) mainstay of heart failure (HF) patients by reducing the prevalence of re-hospitalization for HF and readmission, because  $\geq 20\%$  of re-admissions admitted to hospital for HF were readmitted within 30 days and readmission rates remained high despite efforts. Toyyibah and Adi, (2021) said improving the quality of life of HF patients is important and very dependent on the treatment being undertaken. The number of relapses that result in hospitalization of heart failure patients again, shows that there is still a lack of adherence to therapy.

Fluid and salt restriction is the focus of nutritional and dietary therapy in heart failure. Yartin, Syahrul, & Sjattar, (2019) said sodium plays an important role in regulating muscle contractions, blood volume, blood acidity, and body fluids. However, high sodium levels can trigger hypertension, swelling, pulmonary edema, and of course impaired kidney function. HF patients who consume a low-salt diet will be able to relieve symptoms and reduce the worsening of symptoms Billingsley, Hummel, & Carbone (2020). Rehman, Siddiqui, & Hashim (2019) said heart failure patients experience frustration when family members do not understand dietary restrictions and do not respect the patient's need to comply with the diet. Niga (2021) in HF patients, a low-salt diet helps in regulation of plasma volume, fluid balance, osmolarity, and blood pressure. Fluid accumulation does not occur when a low-salt diet is followed by limiting sodium consumption, salt, which contains a lot of sodium, can cause fluid retention in the body if intake is not limited. This has an impact on increasing the volume of fluid in the body, which can increase the strain on the heart and increase fluid retention, the patient's signs and symptoms worsen, so that the patient must be re-hospitalized.

Putri & Simanungkalit (2022) said the purpose of low-salt food is to reduce the increase in salt or water retention in body tissues. Indonesia with its habit of consuming excess salt which is a culture of using excess salt. Non-adherence to medication therapy, excessive physical activity, non-adherence to medical care, non-recognition of clinical manifestations of heart failure, and patients violating low-salt dietary restrictions will result in rehospitalization due to recurrence, hence the important role of family members in supervising medication therapy. Patients without family members may have higher non-compliance, as they lack the necessary support to change their behavior. Putranto, Lumadi, & Maulidia (2022) said that people with heart disease who lack family support cannot fully actualize themselves so that it can worsen the emotional and psychological state of the sufferer. Mangera, Dwi, & Rusman (2019) said family support is the interaction between the family and the surrounding community. The process of receiving family support lasts throughout life, the stage of the family life cycle is influenced by the source and type of family support. Milia & Rosyidah (2020) said the types of family support include emotional support, information, instrumental, and appreciation. Nurhayati et al., (2021) the most important aspect in assisting family members in facilitating the inability to deal with a disease whether chronic or not. Help from family can reduce the dangers of anxiety on one's health, and also have a direct positive impact on one's health. Karim and Dewi, (2019) In addition, the more severe the degree of heart failure, the higher the risk of re-hospitalization. The higher the severity or complexity of heart failure, the greater the risk of re-hospitalization. The more severe the degree of the disease and the longer the hospital stay, the greater the risk of re-hospitalization.

This research has a novelty from previous research which lies in the type of family support for the degree of heart failure and wants to see the relationship of family support in low salt consumption to the incidence of heart failure re-hospitalization. Based on this, the purpose of this study was to analyze the relationship between family support and the degree of heart failure in consuming a low-salt diet in the event of re-hospitalization. This research is expected to provide information about the degree of disease and the importance of family support in consuming a low-salt diet so as to minimize the incidence of heart failure re-hospitalization

after the patient is hospitalized and prevent recurrence which results in heart failure re-hospitalization.

## 2. RESEARCH METHOD

This research design is an analytic survey with a cross-sectional approach. The population in this study were all patients who had been re-hospitalized for heart failure. The sample in this study amounted to 91 using the Slovin formula. Sample inclusion criteria were patients diagnosed with heart failure, heart failure patients aged > 17 years, patients willing to become respondents, and patients who had or were being re-hospitalized for heart failure at Pasar Rebo Hospital. Sampling was done by purposive sampling. Data from all variables was obtained through interviews with instruments that have been distributed.

The research was conducted at Hospital South Jakarta with a research time of >30 days. Instrument data collection consisted of demographic instruments, re-hospitalization, and family support. The research instrument has been tested for validity and reliability on 30 respondents with a range of validity test values (0.674 -0.944) and reliability tests with Cronbach alpha values (0.674- 0.943). Before data collection, informed consent will be given as a form of consent and the participation of respondents in filling out the instrument that has been given.

Data analysis was performed using SPSS type 22. Frequency and correlation tests with a significance value of  $p < 0,05$  means the null hypothesis ( $H_0$ ) is rejected. Correlation test statistical analysis using Chi-Square. This research has passed the ethical test number 251/KEPK-TJK/IV/2023.

## 3. RESULTS AND DISCUSSION

Data collection was carried out on 75 respondents. The data is then analyzed as follows:

**Table 1.** Characteristics of Respondents Based on Age, Gender, Degree of Heart Failure, and Heart Failure Rehospitalization (n=75)

Variable		n	%
Age	Late teens- Adults (17-45 years old)	24	32.0
	Elderly (> 45 years old)	51	68.0
Gender	Female	21	28.0
	Male	54	72.0
Heart Failure Rehospitalization	High Risk	21	28.0
	Moderate Risk	25	33.0
	Low Risk	29	39.0
Disease Degree	Class I and II	59	79.0
	Class III and IV	16	21.0

Table 1 explained that the majority of respondents who were re-hospitalized for heart failure were elderly as many as 51 (68%), with male sex as many as 54 (72%), rehospitalization for heart failure had a low risk of 29 respondents (39%). Most of the respondents' degrees of heart failure re-hospitalization were in class I and class II disease degrees of 59 (79%).

**Table 2.** Support for Family Distribution in Consumption of a Low Salt Diet in the Incidence of Heart Failure Rehospitalization (n = 75)

Family Support	Sufficient		Good/ Very Good		Total	
	n	%	n	%	n	%
Emotional	33	44.0	42	56.0	75	100
Informational	32	43.0	43	57.0	75	100
Instrumental	55	73.0	20	27.0	75	100
Appreciation	28	37.0	47	63.0	75	100

Table 2 explained that types of family support such as emotional support, information, and appreciation had good/very good percentages with values of 56%, 57%, and 63%.

**Table 3.** Support for Family Relations in Consuming a Low-Salt Diet in Heart Failure Rehospitalization.

Family Support		Heart Failure Rehospitalization						Total		p-Value
		High Risk (<3 month)		Moderate Risk (3-5 month)		Low Risk (>5 month)		n	%	
		n	%	n	%	n	%			
Emotional	Sufficient	15	46.0	11	33.0	7	21.0	33	100	.004
	Good/ Very Good (VG)	6	14.0	14	33.0	22	52.0	42	100	
Informational	Sufficient	14	44.0	11	34.0	7	22.0	32	100	.011
	Good/ Very Good	7	16.0	14	33.0	22	51.0	43	100	
Instrumental	Sufficient	19	35.0	19	35.0	17	31.0	55	100	.040
	Good/ Very Good	2	10.0	6	30.0	12	60.0	20	100	
Appreciation	Sufficient	14	50.0	9	32.0	5	18.0	28	100	.002
	Good/ Very Good	7	15.0	16	34.0	24	51.0	47	100	

Table 3 explained that emotional support, information, instrumental, and rewards in consuming a low-salt diet for high-risk re-hospitalization were in the sufficient category of 14-19 (35-50%). Statistical test results showed that there was a significant relationship between emotional, informational, instrumental, and family support in consuming a low-salt diet with the incidence of re-hospitalization ( $p < 0.05$ ).

**Table 4.** Relationship of Family Support in Low-Salt Diet in Heart Failure Rehospitalization Incidence Based on Disease Degree

Disease Degree	Family Support	Heart Failure Rehospitalization						Total		p-value	
		High Risk (<3 month)		Moderate Risk (3-5 month)		Low Risk (>5 month)		n	%		
		n	%	n	%	n	%				
Class I and II	Emotional	Sufficient	14	54.0	7	27.0	5	19.0	26	100	0.006
		Good	5	15.0	13	39.0	15	46.0	33	100	
		Total: 59									
Class I and II	Informational	Sufficient	13	50.0	8	31.0	5	19.0	26	100	0.022
		Good	6	18.0	12	36.0	15	46.0	33	100	
		Total: 59									
Class I and II	Instrumental	Sufficient	18	35.0	18	35.0	16	31.0	52	100	0.346
		Good	1	14.0	2	29.0	4	57.0	7	100	
		Total: 59									

Class III and IV	Appreciation	Sufficient	13	62.0	5	24.0	3	14.0	21	100	0.001
		Good	6	16.0	15	40.0	17	45.0	38	100	
	Total: 59										
	Emotional	Sufficient	1	14.0	4	57.0	2	29.0	7	100	0.111
		Good	1	11.0	1	11.0	7	78.0	9	100	
	Total: 16										
	Informational	Sufficient	1	17.0	3	50.0	2	33.0	6	100	0.348
		Good	1	10.0	2	20.0	7	70.0	10	100	
	Total: 16										
	Instrumental	Sufficient	1	33.0	1	33.0	1	33.0	3	100	0.442
		Good	1	8.0	4	31.0	8	61.0	13	100	
	Total: 16										
	Appreciation	Sufficient	1	14.0	4	57.0	2	29.0	7	100	0.111
		Good	1	11.0	1	11.0	7	78.0	9	100	
	Total: 16										

Table 4 explains the relationship of family support in the consumption of a low-salt diet to the incidence of high-risk re-hospitalization based on the degree of disease class I and II in emotional family support, information, and appreciation 5-14 (15-62%).

This study shows that there is a relationship between family support in the consumption of a low-salt diet in the incidence of heart failure re-hospitalization. Lee et al. (2020) said the priority for HF was reducing the prevalence of re-hospitalization for HF and readmission, as  $\geq 20\%$  of re-admissions who were hospitalized for HF were readmitted within 30 days and readmission rates remained high despite efforts. Haswira et al (2019) said that in addition to the inability of patients and families regarding how to care at home, the lack of helping clients maintain or improve their health status and quality of life has an impact on health problems. This causes complications and results in re-hospitalization. The most respondents were the elderly ( $> 45$  years) as many as 51 (68%), Utomo et al. (2019) said because the age of over 40 years is a period of a person's life that has grown mature and intact. As a person gets older, they are at risk of experiencing heart failure due to increasing age, there is a decrease in heart function. This is because the body's ability, including the heart muscle and blood vessels, decreases so that the recovery rate will increase.

Utomo et al. (2019) said that generally, the majority of respondents were male because they had a greater risk than women and had attacks earlier in life than women because most of the risk factors did not want to be changed, such as smoking, alcohol, and lower HDL levels, and men do not experience menopause like women do because estrogen protects women from heart disease. Rahmawati et al., (2019) said that the role of the hormone estrogen can protect women from various cardiovascular diseases. Karim and Dewi, (2019) said the higher the severity or complications of congestive heart failure, the greater the risk of re-hospitalization. The more severe the degree of the disease and the longer the hospital stay, the greater the risk of re-hospitalization. Class I and II disease degrees are most often found in patients who go to the Cardiac Polyclinic for outpatient treatment, while functional class III and IV are most often found in inpatient rooms.

Family support is divided into four dimensions, namely emotional support, informational support, instrumental support and appreciation support. The results of the study showed that there was a very good relationship between the emotional support provided by the family

towards respondents being re-hospitalized for heart failure, Difa M (2019) Emotional support is an expression of empathy, compassion, love, trust, desire to listen and concern for the person concerned (eg feedback, affirmation). Rinawati and Marasabessy, (2022) said emotional support is a form of support that is given including empathy including listening, loving openly, showing trust in complaints, wanting to accompany, showing affection and attention. This theory is in line with existing forms of support in research.

The information support provided by the family includes providing information to the patient and if at any time the patient does not comply due to the patient's ignorance of the low salt diet, the family gives the best advice to the patient. Permana et al. (2021) said that information support includes support from the family in providing information about the disease and management of heart failure. Instrumental support in the form of lack of facilities or facilities for respondents such as helping patients if patients need assistance in daily activities. Rinawati and Marasabessyet, (2022) said that forms of support by providing medical care, paying for treatment and meeting the needs of respondents such as providing low-salt foods to sufferers, controlling diet, maintaining food intake consumed by sufferers, assisting in providing care, ensuring drug dosages are in accordance with doctor's instructions and controlling supplies medication and ensure that the patient always adheres to the drug. Appreciative support given by the family includes giving positive affirmations to patients such as encouragement and praise for adhering to dietary recommendations. Sulastini et al. (2018) Family support can strengthen each individual, creates family strength, enhances self-esteem, has the potential to be the main prevention strategy for the whole family in facing the challenges of everyday life and has relevance in societies that are in stressful environments.

Based on the degree of disease class I and II explained that there is a relationship between family support in the consumption of a low-salt diet to re-hospitalization of heart failure has a significant test value including emotional, informational and appreciation in the consumption of a low-salt diet to the incidence of re-hospitalization of heart failure based on the degree of disease class I and II. Kunto et al., (2022) said other factors that could exacerbate the degree of NYHA were complications such as chronic kidney failure, diabetes mellitus, and pulmonary congestion. Nurhayati et al., (2021) the most important aspect in assisting family members in facilitating the inability to deal with an illness whether chronic or not, giving encouragement, warmth, love, information and praise related to health, is a form of support that is received and much needed by individuals depending on the degree of disease of each individual. Positive suggestions from the family in the form of emotional support help emotional mastery, not depressed, not bored with the illness experienced and feeling fine while with the family.

Asyura et al (2021) Information support occurs and is provided by the family in the form of advice, suggestions and discussions on how to overcome or solve existing problems. Perangin-angin et al (2023) said informational support in a family functions as a place to collect and disseminate information to all family members. The information provided reveals about a problem. Aspects of this support are suggestions, instructions and provision of information. Based on the results of the research and theory above, it can be concluded that informational support is a container of information that is useful for maintaining daily life in the family, containing advice, recommendations, suggestions, guidance, reminders and so on. So that with the information will be able to guide each family member in ethics and behavior. In this case, if there is treatment or medication carried out at home, the family members will be able to determine their attitudes and actions to make the condition of the disease even better.

Muthmainah (2022) said that appreciation support is support that occurs when there is an expression of a positive assessment of an individual. Individuals have someone to talk to about their problems, occurs through the expression of positive individual expectations to other individuals, encouragement, approval of one's ideas or feelings and positive comparisons of someone with other people, for example people who are less able. Khotimah & Masnina (2020) family support can help improve individual strategies with alternative strategies based on

experience that focus on positive aspects. Based on this information, it can be stated that the support of appreciation presented in the family environment will provide direction as well as a sense of enthusiasm in solving every problem, both health problems and other social problems. Positive appreciation support obtained, family members will be guided on the right behavior and attitude for every problem they face daily, in this case the positive appreciation support obtained will increase enthusiasm, a sense of struggle and confidence in maintaining a lifestyle and undergoing treatment for reduce symptoms.

#### 4. CONCLUSION

The information obtained is that there is a relationship between family support and the degree of heart disease that fails in consuming a low-salt diet in the event of re-hospitalization. Family support is divided into several types of support including emotional support, information, instrumental, and appreciation. Each type of support has a significant relationship in the consumption in the consumption of a low-salt diet on the incidence of heart failure re-hospitalization. Providing good emotional, informational, instrumental and appreciation support is the most important aspect given to patients to keep thinking positively and be able to carry out therapy as well as possible so as to minimize symptoms. As well as the existence of a relationship between family support in the consumption of a low-salt diet in the incidence of heart failure re-hospitalization based on the degree of disease, which is at grade I and II which includes emotional support, information, and appreciation. Emotional support helps emotional mastery so that the respondent does not feel depressed, or bored with what he is suffering because with positive suggestions from the family, the respondent can feel that he will be fine as long as he is with his family. The form of appreciation support presented in the family environment will provide a direction as well as a sense of enthusiasm in solving every problem, whether it is a health problem or other social problems. Informational support is a container for information that is useful for maintaining daily life in the family, containing advice, suggestions, advice, guidance, reminders, and so on. So that the information will be able to guide every family member in law.

Limitations of the research conducted, the distribution of questionnaires, where families did not know the types of family support so that further understanding is carried out for the family to understand it, so in this case is a long time to explain to the family time to provide an explanation to the family, The initial sample of 91 respondents in the field was only 75 respondents occurs because the expected sample when in the field is not appropriate so that the existing time limit is still not reached even though time has been added, The expected count result which is >20% is due to the small number of respondents small number of respondents. The results of this study are expected to be able to become one of the next strategic plans so that the incidence of recurrence can be reduced and health workers can pay more attention to the management of family support for patients in order to support recovery for patients.

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