

The Relationship Between Family Support and Self-Care Management in Chronic Kidney Disease Patients Undergoing Hemodialysis at Sekarwangi Regional Public Hospital

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ABSTRAK

Introduction: Chronic Kidney Disease (CKD) is a progressive and irreversible health condition that often requires patients to undergo hemodialysis to sustain life. The complexity of treatment and lifestyle adjustments makes patient support, particularly from family, a critical factor in improving self-care capabilities.

Objectives: This study aimed to determine the relationship between family support and self-care management among CKD patients undergoing hemodialysis at Sekarwangi Regional Public Hospital.

Methods: A correlational study with a cross-sectional design was conducted involving 109 CKD patients receiving hemodialysis treatment in 2024. The Perceived Social Support – Family (PSS-Fa) questionnaire was used to measure family support, while a modified self-care management questionnaire assessed the patients' self-care abilities. Data analysis included univariate analysis to describe respondent characteristics and bivariate analysis using Fisher's Exact Test to assess the relationship between variables.

Results: The majority of respondents (78.9%) reported good family support, and 91.7% demonstrated good self-care management. Statistical analysis revealed a significant relationship between family support and self-care management ($p = 0.019$). Among patients with good family support, 95.3% showed good self-care management, compared to only 21.7% in those with lower levels of support.

Conclusions: The findings highlight that family support is significantly associated with improved self-care management in CKD patients undergoing hemodialysis. Strengthening family involvement in the care process may enhance treatment adherence and health outcomes. Healthcare providers are encouraged to incorporate family-based strategies in the clinical management of CKD.

Introduction

Chronic Kidney Disease (CKD) is a progressive and irreversible condition characterized by the gradual loss of kidney function over time. The clinical consequences of CKD are substantial, ranging from fluid overload, electrolyte imbalance, to end-stage renal disease requiring renal replacement therapies such as hemodialysis (Yan et al., 2021). A clinical case at RSUD Sekarwangi illustrates this: a 47-year-old male with a history of uncontrolled hypertension and diabetes mellitus underwent emergency hospitalization due to uremic symptoms. He required urgent hemodialysis and, since then, has been undergoing dialysis twice weekly. Despite adequate clinical management, his adherence to diet, fluid restrictions, and medication is heavily influenced by the presence and involvement of his family. This case highlights the importance of family support in the management of CKD.

According to data from the World Health Organization (WHO), in 2019, chronic kidney disease (CKD) affected 15% of the global population and caused 1.2 million deaths. Data from 2020 reported 254,028 deaths due to CKD. In 2021, the number of CKD-related deaths was over 843.6 million, with projections suggesting a 41.5% increase in deaths by 2040. These high



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numbers indicate that chronic kidney disease ranks 12th among all causes of death (Vaidya & Aeddula, 2024).

In Indonesia, the incidence of chronic kidney disease is recorded at 0.38% of the population, which, based on Indonesia's population of 252,124,458, equates to 713,783 people suffering from CKD (Kemenkes RI, 2018). In West Java, specifically in Sukabumi Regency, data from the Sukabumi Health Profile (2018) shows several hospitals treating CKD patients, one of which is Sekarwangi Regional Public Hospital in Sukabumi. Administratively, RSUD Sekarwangi is located in Cibadak District, Sukabumi Regency.

RSUD Sekarwangi has an inpatient ward dedicated to chronic kidney disease patients in the Aisyah Room, which spans two floors. The first floor is for class 3 patients, while the second floor is designated for class 1 and class 2 patients. The hemodialysis room or Hemodialysis Installation at RSUD Sekarwangi has been operational since 2014. Data from the hospital shows that in 2024, 163 CKD patients underwent hemodialysis, with an age range of 30-50 years, and most received treatment twice a week.

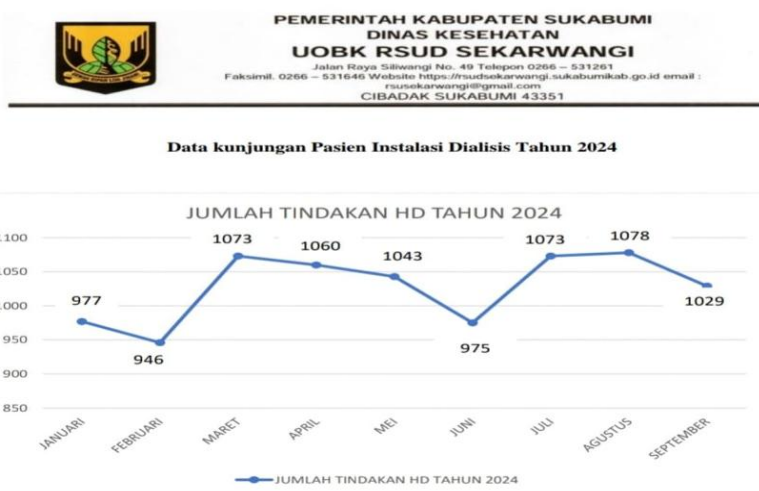


Figure 1. Data on Hemodialysis Patient Visits

Chronic kidney disease (CKD) occurs when kidney function declines and the kidneys can no longer maintain the body's balance. CKD is a non-communicable disease with a prolonged course and is irreversible. Damaged nephrons can no longer function properly (Naber & Purohit, 2021). CKD is caused by kidney tissue damage, typically resulting from long-term diseases such as diabetes and hypertension (Novita et al., 2022).

Hemodialysis (HD), or dialysis, is a medical procedure to cleanse the blood of waste products and excess fluids when the kidneys can no longer function effectively. Patients usually require hemodialysis when they experience CKD, a condition in which the kidneys lose their ability to filter waste from the blood efficiently. The effects of hemodialysis include nausea, vomiting, cramps, itching, dry skin, headaches, and back pain. These complications leave patients weak and fatigued, particularly after undergoing dialysis.

Research by Kim & Kim (2019) identified several factors that affect self-care management in hemodialysis patients, including economic status, anxiety, social interaction, and family support. Family support is particularly crucial for CKD patients undergoing hemodialysis, as it helps them cope with psychological pressure and stress from their environment. Patients who receive family support are generally better able to manage the psychological effects of their condition compared to those who lack such support.

Family support is an interpersonal relationship that families provide to patients, including affection, love, and empathy. CKD patients require self-care abilities. Families can play a major

role in influencing patients' beliefs, values, and treatment decisions (Saputra, 2021). Self-care management is vital, encompassing activities such as diet management, stress management, and adherence to medical instructions. For CKD patients undergoing hemodialysis, family involvement is essential to enhance their self-care management. The effectiveness of family involvement is needed to guide patients in managing their self-care tasks (Whitehead et al., 2018).

Research by Shalahuddin & Rosidin (2018) found that family support is significantly related to self-care management in CKD patients undergoing hemodialysis. The findings align with a study by Wahyudi & Cusmari (2022), which concluded that CKD patients who received family support in managing their self-care, including financial assistance, transportation, and emotional support, had improved self-care management. Family support can improve patients' self-care abilities, whether in instrumental, informational, or emotional aspects, due to the complexity of the challenges faced by CKD patients undergoing hemodialysis (Lianti & Rosyid, 2024). Given the high prevalence, chronic burden, and complex nature of CKD, this study is conducted to explore the relationship between family support and self-care management among patients undergoing hemodialysis at RSUD Sekarwangi. The findings are expected to inform healthcare strategies in enhancing family-based interventions and improving the quality of life in CKD patients.

This study aims to explore the relationship between family support and self-care management in CKD patients undergoing hemodialysis at Sekarwangi Regional Public Hospital. Based on the description above, the researcher is interested in investigating the "Relationship Between Family Support and Self-Care Management in Chronic Kidney Disease Patients Undergoing Hemodialysis at Sekarwangi Regional Public Hospital." The purpose of this research is to identify the connection between family support and self-care management in CKD patients undergoing hemodialysis.

Metode

This research design is a correlational study aimed at uncovering the relationship between the independent variable (family support) and the dependent variable (self-care management). The approach used is a cross-sectional method, which emphasizes the timing of data collection/observation for both the independent variable (family support) and the dependent variable (self-care management). The population in this study includes all chronic kidney disease (CKD) patients undergoing hemodialysis in 2024, totaling 163 patients in the hemodialysis unit at Sekarwangi Regional Public Hospital, Sukabumi Regency. The sample size taken for this study is 109 patients.

The instrument used in this study to measure family social support was the Perceived Social Support – Family (PSS-Fa) questionnaire. This questionnaire consists of 20 statements related to family support and has been translated into Indonesian through a back-translation process. The statements in this questionnaire are closed-ended and use a Guttman scale, with response options of "yes," "no," and "don't know." This instrument aims to assess the extent to which chronic kidney disease (CKD) patients undergoing hemodialysis perceive support from their families in emotional, informational, and instrumental aspects (Notoatmodjo, 2018).

To measure self-care management, a modified questionnaire was used, specifically designed to assess the ability of CKD patients to manage their own care during hemodialysis. This questionnaire consists of 6 items divided into three aspects: symptom recognition, care implementation, and care evaluation. One item was used to assess symptom recognition ability, rated using a Likert scale ranging from 1 (not quick to recognize) to 4 (very quick to recognize). Four items were used to measure the aspect of care implementation, such as adherence to medication, dietary management, and fluid intake control, using a frequency scale ranging from 1 (never) to 4 (always). Another item assessed care evaluation using a self-confidence scale ranging from 1 (not confident) to 4 (very confident).



The total score range on this questionnaire is between 10 and 24, where a higher score indicates better self-care management ability. Validity testing showed a correlation value of 0.361 and reliability (Cronbach's alpha) of 0.787, indicating that this instrument is valid and reliable for use. During the development process, modifications were made by removing three items from the self-care maintenance dimension (items 8, 9, and 10) because they caused confusion among respondents during the initial pilot test. The results of the validity test yielded a value of 0.361, and the reliability score was 0.787. These results indicate that the 20 items in the questionnaire are meaningful and valid. Modifications were made by reducing the number of self-care questionnaire items from 28 to 25. Items number 8, 9, and 10 in the self-care maintenance dimension were removed because they caused confusion among respondents.

The self-care management questionnaire consists of six items covering three main dimensions. One item is used to assess symptom recognition using a Likert scale ranging from 1 (not quick to recognize) to 4 (very quick to recognize). The other four items evaluate treatment implementation, such as adherence to medication, dietary management, and fluid control, using a frequency scale ranging from 1 (never) to 4 (always). The final item measures treatment evaluation using a self-confidence scale ranging from 1 (not confident) to 4 (very confident). The total score ranges from 10 to 24, with higher scores indicating better self-care management ability. For data analysis, two main approaches were used: univariate and bivariate analysis. Univariate analysis was used to describe respondent characteristics and the distribution of each research variable, such as age, gender, occupation, education level, family support level, and self-care management level. Meanwhile, bivariate analysis was used to test the relationship between the independent variable (family support) and the dependent variable (self-care management). Since the data is categorical and there are cells with small expected frequencies (<5), Fisher's Exact Test was used as the statistical method to measure the significance of the relationship between variables. The results of this test were used to determine whether there was a statistically significant relationship between family support and self-care management in chronic kidney failure patients undergoing hemodialysis (Ghozali, 2018).

Results

1. Univariate Analysis

a. Respondent Characteristics

Before explaining the research findings, the researcher first describes the identities of the selected respondents based on their demographic groups. The selected respondents are patients in the hemodialysis unit at Sekarwangi Regional Public Hospital, Sukabumi Regency, as follows:

Table 1. Distribution of Respondents Based on Age, Gender, Occupation, and Education

Characteristic	Frequency (f)	Percentage (%)
History		
Age Group		
19-44 (Adult)	38	34,9%
45-59 (Pre-Senior)	48	44,0%
60 ke atas (Senior)	23	21,1%
Total	109	100,0%
Gender		
Male	49	45%
Female	60	55%
Total	109	100,0%
Occupation		



Housewife	61	56,0%
Private Sector	14	12,8%
Laborer	15	13,8%
Retired	7	6,4%
Chef	3	2,8%
Confectionary	2	1,8%
Worker		
Teacher	6	5,5%
Police	1	0,9%
Total	109	100,0%

Education		
Junior High School	61	56,0%
Senior High School	40	36,7%
Higher Education	8	7,3%
Total	109	100,0%

Based on Table 1 above, the majority of the sample in this study is in the age group 45-59 years (44.0%). The majority of respondents are female, with 60 respondents (55%). The largest occupation group is housewives (IRT), totaling 61 respondents (56.0%). As for the highest level of education, most respondents have a junior high school education (56.0%).

b. Family Support

Table 2. Distribution of Respondents Based on Family Support

Family Support	Frequency (f)	Percentage (%)
Good	86	78,9%
Moderate	23	21,1%
Total	109	100,0%

Based on Table 2 above, it shows that family support for hemodialysis patients in the hemodialysis unit at Sekarwangi Regional Public Hospital is good for 86 respondents (78.9%), while a small number (23 respondents, or 21.1%) reported poor family support.

c. Self care management

Table 3. Distribution of Respondents Based on Self-Care Management

Self-Care Management	Frequency (f)	Percentage (%)
Good	100	9,7%
Moderate	9	8,3%
Total	109	100

Based on Table 3 above, the results show that self-care management in the hemodialysis unit at Sekarwangi Regional Public Hospital is good for 100 respondents (91.7%), while 9 respondents (8.3%) showed moderate self-care management.

2. Bivariate Analysis

Relationship Between Family Support and Self-Care Management in Chronic Kidney Disease Patients Undergoing Hemodialysis

Table 4. Chi-Square Test Results for the Relationship Between Family Support and Self-Care Management in Chronic Kidney Disease Patients Undergoing Hemodialysis

Family Support	Self-Care Management			P-VALUE
	Good	Moderate	Total	

	F	%	F	%	N	%	
Good	82	95,3%	4	4,7	86	100%	0,019
Moderate	18	78,3	5	21,7	23	100%	
Total	100	91,7	9	9,0	109	100%	

Based on Table 4 above, the statistical test results using the chi-square test indicate that chi-square cannot be used because 25% of the contingency table cells have an expected count of less than 0.5. Therefore, the researcher used the Fisher's Exact Test, which resulted in a p-value of 0.19, which is smaller than $\alpha = 0.05$. This suggests a significant relationship between family support and self-care management, indicating a relationship between family support and the level of self-care management in the respondents.

The crosstabulation data highlights several key points regarding the categories of family support and self-care management. Respondents with good family support showed the highest rate of good self-care management, with 82 respondents (95.3%) managing their care well. This indicates that good family support, such as emotional attention, help with daily activities, and motivational encouragement, significantly aids individuals in managing their self-care optimally. Only 4 respondents (4.7%) in this group had moderate self-care management, which may be influenced by other factors such as health conditions or personal limitations. Respondents with poor family support showed that most of them still managed their self-care well, with 18 respondents (78.3%) achieving good self-care management. However, 5 respondents (21.7%) in this category had moderate self-care management. This suggests that although family support is lacking, it may still be a challenge for some individuals to maintain optimal self-care. Overall, of the 100 respondents, 91.7% had good self-care management, while 8.3% had moderate self-care management. This shows that the majority of respondents, regardless of the level of family support, were able to manage their self-care adequately. However, good family support clearly contributed to better self-care management outcomes.

Discussion

Univariate Analysis

a. Family Support in Chronic Kidney Disease Patients

Based on the research conducted in the hemodialysis unit at Sekarwangi Regional Public Hospital, the data show that most family support for Chronic Kidney Disease (CKD) patients undergoing hemodialysis is categorized as good, with 78.9% of patients receiving strong family support. This highlights the critical role that family plays in the care process for patients with chronic conditions such as CKD. Family support encompasses emotional, informational, and practical aspects, helping patients manage their condition effectively. These findings align with previous studies indicating that strong family support can enhance the quality of life and adherence to hemodialysis treatments (Aditama, Kusumajaya, 2023). A good support system helps patients feel more at ease, which improves their overall well-being. This is evident when families accompany patients during therapy sessions or even just help with transportation. Family members are also attentive to the patients' needs, such as providing food and water, and offer encouragement by understanding their health challenges (Bellasari, 2020).

Family support is not merely a supplementary aspect but a core component in chronic disease management. In clinical practice, health workers should actively involve and empower families through education and counseling, as strong family involvement can significantly increase treatment adherence, reduce patient stress, and ultimately improve health outcomes.

b. Self-Care Management in Chronic Kidney Disease Patients

The majority of respondents (91.7%) displayed good self-care management. This includes managing their diet, adhering to hemodialysis schedules, and monitoring their health condition



independently. Good self-care management indicates that patients are taking an active role in maintaining their health, despite living with a chronic illness.

However, 8.3% of respondents exhibited poor self-care management, possibly due to a lack of understanding or education about their condition and the necessary treatments. Other factors, such as economic limitations, psychological stress, or minimal social support, could also influence a patient's ability to manage their care. This result is consistent with a study by Idzharrusman & Budhiana (2022), which found that self-care management in CKD patients undergoing hemodialysis is a positive effort for patients to engage with and participate in their healthcare, ultimately optimizing health, preventing complications, controlling symptoms, and minimizing disruptions to their life.

From the researcher's perspective, self-care for CKD patients undergoing hemodialysis is a process in which patients actively participate in managing their nutrition and diet, either independently or with support from family and healthcare providers. A higher level of self-care can enhance nutritional status and help prevent common health issues like shortness of breath, edema, and anemia. Patients who are well-informed about the benefits and potential impacts of hemodialysis are better able to adapt to their condition and manage their treatment effectively.

Hemodialysis patients require strong self-care because they often face life-altering challenges, such as difficulty performing daily activities and the need to adhere to strict limitations due to their dialysis treatments. On the other hand, patients with limited understanding of self-care may struggle with managing their diet and adhering to treatment recommendations, such as fluid, sodium, and protein intake restrictions, putting them at higher risk for complications.

Bivariate Analysis

a. Relationship Between Family Support and Self-Care Management in Chronic Kidney Disease Patients

Based on the Fisher's Exact Test results, there is a significant relationship between family support and self-care management in CKD patients undergoing hemodialysis (p -value = 0.019). This finding indicates that patients with good family support tend to have better self-care management (95.3%), while those with poor family support exhibit lower self-care management (21.7%). Family support plays a crucial role in boosting a patient's confidence in managing their disease. Positive interactions with family members provide emotional and logistical support, such as help with transportation to and from hemodialysis sessions or guidance on maintaining a special diet. Furthermore, family members often act as reminders to ensure medication adherence and to support a healthy lifestyle.

These findings are consistent with a study by Liawati et al., (2024), which showed that good family involvement contributes to better self-care management, meaning that the better the family involvement, the better the self-care management of hemodialysis patients. Hemodialysis patients must adhere to their treatment schedule, but some fail to do so for various reasons. The researcher believes that without family support and proper self-care management, patients will struggle to recover and may become non-compliant with their hemodialysis treatments, resulting in worsened health conditions.

Family support plays a vital role throughout the healing process, offering various forms of assistance, including informational, emotional, and instrumental support. As Idzharrusman & Budhiana (2022) noted, family support helps prevent the development of further complications, making it easier for patients to cope with and overcome challenges compared to those without family support. This enables patients to undergo regular hemodialysis treatment and live their lives to the fullest, ultimately improving their quality of life. Based on the research findings, it can be concluded that most CKD patients possess good self-care management. The importance of good self-care management lies in its ability to make patients more aware of the need for



compliance with their treatment, thereby avoiding complications. A crucial aspect of self-care management is diet regulation (Jaarsma et al., 2021).

CKD patients undergoing hemodialysis must have a good understanding of the appropriate diet, such as limiting fluid intake. This finding aligns with Oka (2023), who explored the relationship between family support and fluid restriction adherence in CKD patients undergoing hemodialysis at Tabanan Regional Public Hospital. Statistical analysis indicated a significant relationship between family support and adherence to fluid restriction, with a strong level of correlation. Monitoring protein intake is also essential to prevent overburdening the kidneys while still meeting the body's nutritional needs. Without good self-care management, CKD patients on hemodialysis are at risk of complications. Therefore, targeted interventions are necessary to improve patient understanding and reinforce the family's role in supporting long-term care (Smith et al., 2020).

Interaction between family support and self-care is synergistic; both must be strengthened simultaneously to achieve optimal health outcomes. Health professionals should actively educate and involve families in the treatment process, not only to increase adherence but also to foster patient independence. When families are empowered as caregivers, the burden of care is shared more effectively, and patients are more likely to sustain long-term lifestyle changes necessary for managing chronic illness.

Conclusion

Based on the research conducted on 109 respondents in the hemodialysis unit at Sekarwangi Regional Public Hospital from December 10–26, the findings indicate that family support is significantly related to self-care management in CKD patients undergoing hemodialysis. The results are as follows:

1. Most patients undergoing hemodialysis receive good family support.
2. Self-care management in CKD patients undergoing hemodialysis at Sekarwangi Regional Public Hospital is generally categorized as good.
3. There is a significant relationship between family support and self-care management in CKD patients undergoing hemodialysis at Sekarwangi Regional Public Hospital.

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