

Family Support and Self-Efficacy in Hemodialysis Patients With Chronic Kidney Disease: A Cross-Sectional Study

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Abstract. Patients who suffer from chronic kidney disease (CKD) are required to undergo hemodialysis therapy on an ongoing basis throughout their whole lifetimes. The purpose of this research was to investigate the relationship between self-efficacy and family support in patients with chronic kidney disease who were undergoing hemodialysis. A research involving 133 participants was conducted at a Regional Hospital in Banten, Indonesia, using a cross-sectional design. The participants were selected by a process of successive sampling. When doing the analysis of the data and determining the nature of the connection between self-efficacy and family support, chi-square tests were used. A statistically significant link was found, as evidenced by an odds ratio (OR) of 263.455 ($p < 0.001$). Those who had limited support from their families were 263.455 times more likely to report low levels of self-efficacy as compared to those who had strong support from their families. Based on these findings, it is clear that the involvement of family members is critical to the improvement of patient outcomes. Family members are encouraged to participate in training programs that focus on hemodialysis treatment, chronic kidney disease management, and effective communication. This is done with the goal of enhancing the ability of healthcare providers to provide support to patients.

Keywords: chronic kidney failure, family support, self-efficacy.

1 Introduction

Over the past two decades, chronic kidney disease (CKD) has become one of the leading non-communicable diseases contributing to increased global mortality. Data from Kidney International Supplements, based on a meta-analysis of 100 global studies, report a CKD prevalence of 13.4%, equivalent to approximately 843.6 million people worldwide [1]. However, more recent data from The Lancet Global Health, which analyzed healthcare systems in 165 countries, indicated a lower prevalence of 9.5%, highlighting disparities in diagnosis and access to healthcare services, particularly in low-income countries [2]. In Indonesia, data from

the 2023 Indonesian Health Survey show an estimated 638,178 people living with CKD, with approximately 27,784 of them residing in Banten Province [3].

CKD is defined as the progressive loss of kidney function, resulting in the inability of the kidneys to maintain metabolic balance and regulate fluid and electrolyte levels [4]. Consequently, individuals with CKD require renal replacement therapy, such as hemodialysis or kidney transplantation, to sustain life [5]. Hemodialysis is the most commonly used modality to manage uremia and must be performed regularly. Patients with CKD often undergo lifelong hemodialysis to maintain residual kidney function, improve survival rates, and enhance their quality of life [6].

However, long-term hemodialysis may lead to significant psychological distress [7]. This distress often stems from the lengthy and repetitive nature of treatment, which can make patients feel uncomfortable and socially limited [8]. To promote psychological resilience in patients, adequate support is essential—particularly from family members. Family support plays a vital role in helping individuals cope with chronic illness. During treatment, patients benefit from the presence of family members, as they are the closest and most influential part of the patient's environment [9]. Family support not only contributes to better health outcomes but also boosts self-confidence and motivation, which are critical for managing the disease effectively.

Enhanced confidence supports improved self-management, which in turn strengthens self-efficacy—an essential factor for patients with CKD undergoing hemodialysis [7]. Self-efficacy refers to an individual's belief in their capacity to maintain motivation, apply cognitive skills, and take action to meet the demands of a particular situation. For CKD patients, strong self-efficacy is crucial in maintaining self-discipline and treatment adherence during hemodialysis [10]. A preliminary observation conducted at a type B regional hospital found that approximately 50 CKD patients undergo outpatient hemodialysis daily, with each patient receiving treatment twice a week.

2 Methods

This study employed a quantitative design with a cross-sectional approach. The research was conducted from May to June 2025 in the hemodialysis unit of Dr. Dradjat Prawiranegara Regional General Hospital. The study population included patients with chronic kidney disease (CKD) undergoing outpatient hemodialysis therapy at the hospital. In 2025, the average number of outpatients receiving hemodialysis therapy was 175 patients. A total of 133 respondents were selected using consecutive sampling based on predefined inclusion and exclusion criteria. The inclusion criteria were: (1) willing to participate and provide informed consent, (2) patients with compos mentis consciousness level, (3) able to communicate verbally, and (4) able to read and write. The exclusion criteria were: (1) unwilling to participate, and (2) patients with impaired consciousness.

This study used two instruments: a family support questionnaire and a self-efficacy questionnaire. The family support questionnaire was adapted from Agustin (2019) and validated through expert review, showing high reliability (Cronbach's $\alpha = 0.920$). The self-efficacy questionnaire was based on the CKD-SE scale by Lit et al [12], translated into Indonesian by Wulandari [13], with a validity range of 0.56–0.97 and Cronbach's α between 0.833–0.835. The study procedure involved respondent screening, questionnaire distribution, data analysis, and report writing. Data were analyzed using the chi-square test to assess the relationship between family support and self-efficacy in chronic kidney disease patients undergoing hemodialysis. Ethical approval was obtained from the institutional ethics committee and the

research site (Approval No: 002678/UNIVERSITAS FALETEHAN/2025 and 800/Tim Kordik/190/V/2025).

3 Results

Table 1. Frequency Distribution of Family Support among Chronic Kidney Disease Patients Undergoing Hemodialysis

Family Support	Frequency (n)	Percentage (%)
Low	74	61.2
Good	47	38.8
Total	121	100.0

Table 1 shows that the majority of chronic kidney disease (CKD) patients undergoing hemodialysis had low family support, accounting for 74 respondents (61.2%), while 47 respondents (38.8%) reported good family support. This indicates that more than half of the patients perceived insufficient family support in managing their illness and treatment routines. Low family support may contribute to decreased motivation, poor treatment adherence, and lower psychological well-being among patients undergoing long-term dialysis.

Table 2. Frequency Distribution of Self-Efficacy among Chronic Kidney Disease Patients Undergoing Hemodialysis

Self-Efficacy	Frequency (n)	Percentage (%)
Low	64	52.9
High	57	47.1
Total	121	100.0

Table 2 indicates that more than half of the patients (52.9%) had low self-efficacy, whereas 47.1% demonstrated high self-efficacy. Self-efficacy reflects an individual's confidence in their ability to manage their illness, adhere to treatment, and maintain healthy lifestyle behaviors. The results suggest that many patients still lack confidence and self-control in managing their condition and dialysis regimen effectively

Table 3. The Relationship between Family Support and Self-Efficacy among Chronic Kidney Disease Patients Undergoing Hemodialysis

Family Support	Self-Efficacy				Total		OR (95% CI)	P-Value
	Low		High					
	n	%	n	%	n	%		
Low	63	85,1	11	14,9	74	100,0	263.455	0,000
Good	1	2,1	46	97,9	47	100,0	32,8 2113,2	
Total	64	52,9	57	47,1	121	100,0		

Table 3 demonstrates a very strong and statistically significant relationship between family support and self-efficacy among CKD patients undergoing hemodialysis. Among patients with

low family support, 85.1% had low self-efficacy, while only 14.9% had high self-efficacy. Conversely, among patients with good family support, 97.9% had high self-efficacy, and only 2.1% had low self-efficacy. The Odds Ratio (OR) = 263.455 (95% CI: 32.8–2113.2) indicates that patients with good family support were 263 times more likely to have high self-efficacy compared to those with low family support. The p-value = 0.000 ($p < 0.05$) confirms that this relationship is highly significant, suggesting that the association did not occur by chance.

4 Discussions

As shown in Table 1, the findings reveal that among 121 respondents, the majority (61.2%) reported inadequate family support. The measurement of family support in this study encompassed four domains: appraisal, emotional, informational, and instrumental aspects. Among these, informational support was identified as the most lacking. Specifically, families often did not accompany patients to healthcare facilities that provide health education regarding the disease. As a result, families relied solely on the information provided by healthcare professionals in the hemodialysis unit.

Furthermore, a lack of knowledge about the patient's health state also contributes to lack of informational support. Patients may also be less exposed to important information if their families believe that medical therapy is enough on its own and that further education is not necessary. The way to which a family can help a patient can also be influenced by some of other aspects, including social environment, education level, and financial condition [19].

This limited access to diverse sources of information hindered the family's ability to educate patients about their condition. Many did not seek additional resources such as printed materials or digital media. These findings align with previous study, which found that nearly half of patients with chronic kidney disease undergoing hemodialysis experienced low family support (52.8%) [14]. Family support plays a crucial role in the emotional, psychological, and social well-being of patients—factors essential for maintaining psychological resilience and independence during long-term treatment.

Lack of informational support can hinder patients' acquisition of essential knowledge to manage their illness effectively. It may also affect their treatment adherence and reduce their self-efficacy, as patients may feel less confident in making informed healthcare decisions [15]. Therefore, addressing inadequate family support—especially informational support—is critical. One effective approach is implementing educational interventions for family members. Family-based training programs have demonstrated effectiveness in improving patients' and families' understanding of the disease and enhancing their adaptability, communication, problem-solving skills, stress management, and overall quality of life [16].

According to the data in Table 2, the majority of the 121 respondents exhibited low self-efficacy (52.9%). Self-efficacy in this study encompassed four dimensions: autonomy, self-integrity, problem-solving, and seeking social support. The most frequently observed deficiency was in the problem-solving dimension. Patients with low self-efficacy, especially when it comes to problem-solving, frequently lack understanding the significance of their lab test results and only consult their doctors without seeking information from other sources. They struggle to plan their course of action when dealing with health issues, are uncertain about how to respond to circumstances that interfere with treatment, or are unclear about how to resolve issues that come up during therapy [13].

Furthermore, patients could struggle to make treatment decisions, have trouble thinking rationally under pressure, or be unable to think about treatment alternatives during medical emergencies [18]. Patients' self-efficacy in managing everyday issues associated with chronic

renal illness may be further hampered by other factors such lack family support, exhaustion and emotional stress from prolonged hemodialysis treatment, and ignorance [21].

These findings are in line with previous study, who reported that 73.1% of respondents had low self-efficacy [17]. According to [21] theory, self-efficacy refers to an individual's belief in their capacity to adapt, their confidence, cognitive ability, and their effectiveness in taking action during challenging situations. Low self-efficacy indicates that patients doubt their ability to manage their illness, make treatment-related decisions, and cope with health-related stressors.

Patients with low self-efficacy are more likely to have negative expectations regarding treatment outcomes and feel powerless over their health and daily life. Additionally, factors such as physical limitations, dependency on others, and psychological distress (e.g., anxiety or depression) can further reduce self-efficacy [14]. Poor problem-solving skills can also limit a patient's autonomy in medical decision-making and reduce their active participation in care, ultimately diminishing their quality of life [13].

To address low self-efficacy—particularly in the area of problem-solving—educational interventions are necessary. Self-efficacy-based education programs have positive effects in enhancing self-care behaviors among hemodialysis patients. Therefore, healthcare professionals should provide tailored education and empowerment programs for patients and their families, enabling them to manage essential activities more effectively [20]. In addition to education, families can assist in managing medication schedules, ensuring adherence, monitoring patients' condition at home, and communicating any changes to healthcare providers. They can also play a vital role in helping patients adopt and maintain a healthier lifestyle, which can significantly enhance treatment outcomes and improve overall quality of life.

The findings presented in Table 3 reveal a significant relationship between family support and self-efficacy among patients with chronic kidney disease (CKD) undergoing hemodialysis. A bivariate analysis using the chi-square test demonstrated a statistically significant association between the two variables, with an odds ratio (OR) of 263.455 at a 95% confidence interval (CI). This indicates that patients with inadequate family support were 263 times more likely to exhibit low self-efficacy compared to those who received good family support. The extremely high OR reflects a strong relationship between family support and self-efficacy in this population.

In particular, inadequate family support—especially in the informational domain—was associated with diminished patient confidence, particularly in the area of problem-solving. When patients do not receive sufficient information about their condition, their confidence in managing the disease decreases. This lack of empowerment compromises their ability to make informed decisions regarding treatment. Thus, the relationship between family support and self-efficacy is mutually reinforcing: insufficient support can lead to reduced self-efficacy, and conversely, patients with low self-efficacy may also fail to engage their families meaningfully in the care process.

Engaging the family in chronic disease management serves not only as a therapeutic support system but also as a preventive strategy. A family empowerment model, which actively involves family members in the care process, has been shown to enhance self-care behaviors and encourage healthier lifestyles among patients undergoing hemodialysis [10].

In addition, strategies to boost patient motivation, reduce treatment-related stress, and enhance self-confidence are essential to ensure that patients are capable of managing their condition and making autonomous treatment decisions. Recent evidence highlights the need to incorporate family support as a critical component in the design of interventions aimed at enhancing patients' psychological resilience during hemodialysis [7].

CKD patients with poor family support had lower life expectancy and higher depression scores compared to those with strong family support. These results underscore the role of family support as a predictor of psychological resilience, which can strengthen patients' self-confidence and self-management skills—ultimately contributing to improved self-efficacy. In the context of CKD, self-efficacy refers to the patient's belief in their ability to adhere to treatment and achieve optimal health outcomes [14].

High self-efficacy plays a key role in improving the quality of life of patients on hemodialysis. Patients with higher self-efficacy are more likely to adhere to treatment schedules and demonstrate greater discipline in following medical regimens. In contrast, patients with low self-efficacy often experience physical, emotional, and psychological disturbances, such as hopelessness, negative thinking, irritability, and self-blame [19].

These results emphasize how crucial family support is for increasing patients' self-efficacy. However, this study is limited by its cross-sectional design, which cannot establish causality, and the use of ordinal data, which limits the precision of analysis. Nevertheless, these results align with the research studied by [8], which also discovered a significant correlation ($p = 0.002$) between family support and self-efficacy in patients with chronic kidney disease undergoing hemodialysis.

5 Conclusion

This study demonstrates a strong and significant association between family support and self-efficacy among patients with chronic kidney disease undergoing hemodialysis. Inadequate family support, particularly in providing information, was associated with lower self-efficacy, especially in the dimension of problem-solving. Strengthening family involvement through educational interventions may improve patients' confidence, decision-making ability, and treatment adherence. These findings support the integration of family-centered approaches into nursing care to enhance self-management and quality of life in hemodialysis patients.

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