



**SELF-CARE IS ASSOCIATED WITH QUALITY OF LIFE IN CHRONIC
KIDNEY DISEASE UNDERGOING HEMODIALYSIS**

Author:

**Fahrur Nur Rosyid^{1*}, Sh Sugiharto², Sheena Ramadhia Asmara Dhani³, Lenia Septika Vera⁴,
Lisa Novia Safitri⁵**

^{1,2}Department of Medical and Surgical Nursing, Faculty of Health Sciences, Universitas Muhammadiyah Surakarta, Surakarta, Indonesia

³Department of Public Health, Faculty of Health Sciences, Universitas Muhammadiyah Surakarta, Surakarta, Indonesia

^{4,5}School of Nursing, Faculty of Health Sciences, Universitas Muhammadiyah Surakarta, Surakarta, Indonesia

*Corresponding Email: *fnr100@ums.ac.id*

About the Author

1. 1st Author : Dr. Fahrur Nur Rosyid, S.Kep., Ns., M.Kes.
Affiliation : Department of Medical and Surgical Nursing, Faculty of Health Sciences, Universitas Muhammadiyah Surakarta, Surakarta, Indonesia
Mailing address : Jl. A. Yani, Mendungan, Pabelan, Kec. Kartasura, Kabupaten Sukoharjo, Central Java, Indonesia, Zip Code 57162.
Email of author : fnr100@ums.ac.id
Orcid ID : 0000-0001-8300-8996
Google Scholar URL : <https://scholar.google.co.id/citations?user=6EddpiEAAAAJ&hl=en>
Phone number : +62 812-3183-523
- 2nd Author : Ners. Sugiharto, MAN., Ph.D.
Affiliation : Department of Medical and Surgical Nursing, Faculty of Health Sciences, Universitas Muhammadiyah Surakarta, Surakarta, Indonesia
Mailing address : Jl. A. Yani, Mendungan, Pabelan, Kec. Kartasura, Kabupaten Sukoharjo, Central Java, Indonesia, Zip Code 57162.
Email of author : Sugiharto@ums.ac.id
Orcid ID : 0000-0003-2130-1489
Google Scholar URL : <https://scholar.google.co.id/citations?user=30mtAWYAAAAJ&hl=en>
Phone number : +62 811-2662-664
- 3rd Author : Sheena Ramadhia Asmara Dhani, SKM., M.KKK.
Affiliation : Department of Public Health, Faculty of Health Sciences, Universitas Muhammadiyah Surakarta, Surakarta, Indonesia
Mailing address : Jl. A. Yani, Mendungan, Pabelan, Kec. Kartasura, Kabupaten Sukoharjo, Central Java, Indonesia, Zip Code 57162.
Email of author : sra776@ums.ac.id
Google Scholar URL : <https://scholar.google.com/citations?user=KNfWT4IAAAAAJ&hl=en>
- 4th Author : Ns. Lenia Septika Vera, S.Kep.
Affiliation : School of Nursing, Faculty of Health Sciences, Universitas Muhammadiyah Surakarta, Surakarta, Indonesia
Mailing address : Jl. A. Yani, Mendungan, Pabelan, Kec. Kartasura, Kabupaten Sukoharjo,

Central Java, Indonesia, Zip Code 57162.

5th Author : Ns. Lisa Novia Safitri, S.Kep.
Affiliation : School of Nursing, Faculty of Health Sciences, Universitas Muhammadiyah
Surakarta, Surakarta, Indonesia
Mailing address : Jl. A. Yani, Mendungan, Pabelan, Kec. Kartasura, Kabupaten Sukoharjo,
Central Java, Indonesia, Zip Code 57162.

ABSTRACT

Chronic Kidney Disease (CKD) significantly affects the quality of life of patients due to limitations in their self-care ability. Effective self-care is crucial in managing CKD, as it directly affects daily activities and well-being. The study aims to evaluate the relationship between self-care and the quality of life of CKD patients undergoing hemodialysis. A correlative descriptive design with cross-sectional approach was used. There are patients 91 participated that selected through accidental sampling. Data were collected using the "Chronic Kidney Disease Self-Care Index" and the "WHOQOL-BREF" questionnaire. The data were gathered before patient undergoing hemodialysis. The data are nominal scale. Accordingly, the Chi-Square analysis was used with $p < 0.05$ revealed a significant correlation between self-care and quality of life. The study results indicate that 61.5% are partially dependent and 59.3% are good quality of life. There is a significant correlation between self-care and quality of life ($p = 0.001$). These findings suggest the nurses to promoting self-care practices among CKD patients to improve their quality of life. Healthcare provider are encouraged to provide support, motivation, and guidance to foster self-care behaviors among CKD patients.

Keywords: chronic kidney disease, hemodialysis, quality of life, self-care

ABSTRAK

Penyakit Ginjal Kronis (PGK) secara signifikan mempengaruhi kualitas hidup pasien berkaitan dengan keterbatasan kemampuan merawat diri sendiri. Perawatan diri yang efektif sangat penting dalam mengelola PGK, karena secara langsung mempengaruhi aktivitas harian dan kesejahteraan. Tujuan penelitian ini adalah untuk menilai hubungan perawatan diri dengan kualitas hidup pasien PGK yang menjalani perawatan hemodialisis. Penelitian ini merupakan penelitian deskriptif korelasional dengan pendekatan cross-sectional. Ada 91 partisipan yang dipilih melalui metode accidental sampling. Data dikumpulkan menggunakan kuisioner "Indeks Perawatan Diri Pasien Ginjal Kronis" dan "WHOQOL-BREF". Analisis Chi-Square pada $p < 0,05$ mengungkapkan korelasi yang signifikan antara perawatan diri dan kualitas hidup. Hasil penelitian menunjukkan bahwa sebanyak 61.5% partisipan masuk dalam kategori ketergantungan sebagian, dan 59.3% masuk dalam kategori kualitas hidupnya baik. Ada hubungan antara perawatan diri dengan kualitas hidup pada pasien PGK yang menjalani perawatan hemodialisis ($p = 0,001$). Temuan ini menekankan pentingnya perawat untuk mempromosikan praktik perawatan diri di antara pasien CKD untuk meningkatkan kualitas hidup mereka. Para profesional perawatan kesehatan didorong untuk memberikan dukungan, motivasi, dan bimbingan yang terarah untuk menumbuhkan perilaku perawatan diri pada populasi ini.

Keywords: hemodialisis ; kualitas hidup; penyakit ginjal kronis; self care

INTRODUCTION

Chronic kidney disease is a global health issue. In 2017, approximately 690 million people worldwide suffered from chronic kidney disease, with a global prevalence reaching 9.1% (Bikbov et al., 2020). Every year, around 10 million people die from kidney-related diseases (Jager et al., 2019). Patients with end-stage kidney disease require dialysis treatment to effectively improve their life expectancy and quality of life (Olaitan et al., 2019). The increase in the prevalence of CKD in developing and low-income countries is around 13.5% (Suriyong et al., 2022). In 2010, CKD was the 18th leading cause of death worldwide and it had risen to the 12th position in 2020 (Mohanty et al., 2020). According to the CDC in 2024, more than 1 in 7 adults in the US, approximately 35.5 million people,

or 14%, are estimated to suffer from CKD (CDC, 2024). According to Hustrini (2023), the prevalence of CKD patients in Indonesia reached 1.5 million people by 2023. This figure is dominated by the age group of 35-45 years (Hustrini, 2023).

In 2019, the mortality rate in developed countries reached 2.5% (Feng et al., 2023). CKD affects health for several months to years, resulting in impaired tubular activity and overall kidney function, as well as decreased endocrine function (Cook, 2022). Complications include fluid retention, high blood pressure, anemia, heart disease, brittle bones, increased risk of fractures, nerve damage, difficulty concentrating, personality changes, or seizures, decreased immune response, pregnancy complications (Taylor, 2023). Kidney disease can cause feelings of denial, anger, mood swings, and fear (Taylor, 2023). To minimize these complications, renal replacement is a good treatment to cope this matter.

Hemodialysis (HD) is one of the most commonly used renal replacement therapies due to its wide accessibility and ability to alleviate symptoms, thereby prolonging the lives of patients with end-stage renal disease (ESRD) (Avanji et al., 2021). According to the United States Renal Data System (USRDS) in 2020, the majority of patients with ESRD (85%) began treatment with HD. In the US, there was a 1.7% increase in the number of patients undergoing HD in 2019 compared to the previous year, 2018. In the long term, there was a significant increase of 34.5% in HD patients from 2009 to 2019 (USRDS, 2020).

Strategies to optimize kidney disease management heavily rely on patient self-care behaviors, including adhering to medication and making lifestyle changes themselves (Chuang et al., 2021). The symptoms of CKD that are not apparent in the early stages (Evans et al., 2022) can quickly progress to end-stage renal disease (ESRD). Living with ESRD can be burdensome, especially when the demand for dialysis care increases, leading to significant financial and mental burdens for individuals, families, and the healthcare system (Guerra et al., 2021). Lifestyle changes and early interventions are important to prevent the disease or inhibit the progression of CKD to avoid sudden deterioration (Luyckx, Cherney, & Bello, 2020). CKD care is focused on preventing the progression of the disease towards ESRD, and one of the main prevention factors is self-care (Ahn, Lee, & Seo, 2022). Unfortunately, most of studies found that self-care adherence among HD patients are low (Ibrahim et al., 2024; Lee & Cho, 2025; Li et al., 2024; Wang et al., 2025).

HD often impacts self-esteem, social functioning, and body image. perception of body image due to illness has an effect on interpersonal relationships and the patient's social anxiety, which greatly impacts the patient's quality of life (Güçer & Kantarcı, 2020). The QoL among HD patients was low (Ibrahim et al., 2024; Lee & Cho, 2025; Li et al., 2024; Wang et al., 2025). Its due to their levels of physical and emotional well-being (Machaca-Choque et al., 2024). HD patients often face various challenges that can affect their quality of life, including physical, emotional, social, economic, psychological, and spiritual issues. Considering that hemodialysis is a long-term therapy that does not cure kidney disease, further research is crucial to examine the relationship between self-care and the quality of life in patients undergoing hemodialysis. This study aims to assess the relationship between self-care and the quality of life of CKD patients undergoing hemodialysis treatment.

METHOD

This study employed correlational descriptive design with a cross-sectional approach. The study conducted in hemodialysis ward in public hospital in Central Java Indonesia. The study conducted one month in January 2022. The ethical clearance was obtained from dr. Moewardi Ethical Committee with number 1.067/XI/HREC/2021. The sample size of 91 HD patients that selected using accidental sampling technique. The inclusion criteria for participants in this study include: 1) aged \geq 20 years; 2) no physical limitations; 3) agree as a participant as stated in the informed consent; 4) have undergone HD for at least 3 months; 5) routinely undergo HD; and 6) HD program at least 2 x

a week. While the exclusion criteria are: 1) have comorbid diseases; 2) have many regimen therapy aside of CKD; and 3) have psychological problem. The WHOQOL-BREF questionnaire and the self-care of CKD Index were used to collect data. The participants asked to fulfill these questionnaires before they undergoing HD. The data obtained then editing, coding, scoring, processing and cleaning. The univariate analysis was the frequency distribution and percentage. The Chi-Square test was used to analyze the data with a significance level of $p < 0.05$.

RESULTS AND DISCUSSION

The results show that the majority of the respondents are aged between 46-65 years and are male. Most of them have a high school education level, are unemployed, and earn below the minimum wage. The number of samples undergoing routine hemodialysis twice a week is greater than those undergoing hemodialysis once a week, with a hemodialysis duration of 3-5 years.

Table 1.
The Characteristics of the Respondents

Characteristics	Frequency (N=91)	Percentage (%)
Age		
18 – 25	7	7.7
26 – 35	18	19.8
36 – 45	15	16.5
46-65	51	56
Gender		
Men	47	51.6
Women	44	48.4
Educational Background		
Elementary School	15	16.5
Junior High School	18	19.8
Senior High School	47	51.6
Undergrade	11	12.1
Frequency of HD		
Once a week	35	38,5
Twice a week	56	61,5
Duration of HD		
1 – 2 years	21	23,1
3 – 5 years	44	48,4
>5 years	26	28,6
Income		
Under Regional Minimum Wage	56	61,5
Regional Minimum Wage	16	17,6
Above Regional Minimum Wage	19	20,9
Self Care		
Fully Dependent	1	1.1

Partial Dependent	56	61.5
Independent	34	37.4
Quality of Life		
Poor	37	40.7
Good	54	59.3

The age of the respondents ranged from 46 to 45 years due to the decline in kidney function, which also caused a decrease in eGFR (Liu et al., 2021). The respondents of this study are mostly male patients. This is influenced by the increased mortality in the category of CKD non-KRT 5 (G5) glomerular filtration rate in men and the progression to KRT being 50% higher in men than in women at all stages of CKD. The same pattern is observed using the analysis of the slope of the estimated glomerular filtration rate (eGFR) loss per year (Minutolo et al., 2020). The background of high school education constitutes the largest population. This is influenced by the awareness of the importance of treatment and therapy for their illness. Having a health plan is also associated with socioeconomic status, which allows greater access to preventive examinations and early medical diagnosis (Aguiar, Prado, Gazzinelli, & Malta, 2020). Physical limitations due to undergoing hemodialysis lead to an increase in the non-working population, resulting in financial losses, which can significantly impact the mental, social, and emotional well-being of patients (AlHejaili et al., 2024). The frequency of hemodialysis therapy for CKD patients occurs approximately twice a week for 3 to 5 years due to kidney damage and decreased eGFR. The symptoms experienced by patients during dialysis, namely hypotension and fatigue associated with these symptoms, negatively impact their adherence to therapy and disrupt their quality of life (Biçer & Taşci, 2022). The impact of hemodialysis itself, namely fatigue, depends on factors such as the accumulation of waste (urea, uric acid, and creatinine) in the body, blood pressure patterns, excessive UUF, long-term positioning in the dialysis field, fluid-electrolyte balance, hematopoietic anemia, failure to meet metabolic and endocrine functions, and psychological reasons. This affects the increasingly lower levels of economic income (Roberts et al., 2022). The quality of life of individuals with chronic kidney disease can be influenced by their income level; individuals with high income will have a high quality of life, while those with low income will have a low quality of life as well because they cannot afford the recommended medications, which will affect their quality of life and adherence (Doan et al., 2020).

The CKD patients undergoing hemodialysis showed a partial dependence level in self-care of 61.5%. This is influenced by several factors, including a lack of knowledge and approach in making decisions regarding their condition, deficits in mobility, daily activities, and anxiety/depression (Ahn et al., 2022). Patients with CKD, especially those undergoing dialysis, have a higher risk of experiencing social isolation, which may occur due to the loss of independence, financial pressure from early retirement, and lack of control over daily activities (Santana et al., 2020). Self-care plays a key role in disease management. Self-care activities can enhance self-efficacy and performance status to a high level, which in turn reduces complications of chronic diseases. It also improves quality of life and coping abilities, reduces the frequency and duration of hospitalizations, medical costs, and mortality rates in HD patients (Yu et al., 2021).

Hemodialysis limits a person's physical, emotional, and social functions and causes dissatisfaction with life and a decline in quality of life. To improve the quality of life of hemodialysis patients, ensuring their adherence to treatment and guiding them to achieve healthy lifestyle behaviors is very important (Sariaslan & Kavurmacı, 2020). The role of family members and nurses is also very important in supporting the self-care management abilities of hemodialysis patients (Lianti & Rosyid, 2024). The quality of patient care can be influenced by individual factors such as self-care and social factors such as family resilience and the social support received. If self-care is low and there is no support from family and those around, it leads to non-compliance and failure to follow up on treatment in patients with chronic kidney disease (Oktarina & Sulistiawan, 2020). Therefore, self-

management support for individuals with chronic kidney disease is very important to improve their overall health and quality of life.

The result was found that the majority of hemodialysis patients have a good quality of life (59.3%). The studies have shown that the more comorbidities present, the lower the predicted quality of life. This can be understood because, in general, the more comorbidities there are, the worse the patient's health status becomes, which will affect their physical, mental, and social status (Yonata, Islamy, Taruna, & Pura, 2022). Quality of life is described as a state in which people feel satisfied and happy with their daily lives. Having a high quality of life requires the fulfillment of physical health, mental health, social connections, and the patient's environment (Chuasawan, Pooripussarakul, Thakkinstian, Ingsathit, & Pattanaprteep, 2020). Factors affecting the quality of life of CKD patients undergoing hemodialysis include patient characteristics, type of hemodialysis treatment, frequency and duration of sessions, health condition, and support from family members (Hejazi, Hosseini, Ebadi, & Alavi Majd, 2021). Most patients feel they have a good quality of life with their decision to choose hemodialysis as the treatment and care provided at the dialysis center, although quality of life is greatly affected in terms of financial and psychosocial aspects (Iqbal, Iqbal, Iqbal, & Ashraf, 2021).

The table 2 shows that the majority of the samples in this study experienced partial dependence on self-care with poor quality of life, amounting to 36 samples (39.5%). The chi-square test result show a significance value of 0.001 (p -value < 0.05).

Table 2.
The Association of Self-Care and Quality of Life

Self Care	Quality of Life		Total	p -value
	Poor (n = 37)	Good (n = 54)		
Total	1	0	1	0.001
Dependent				
Partial	36	20	56	
Dependent				
Independent	0	34	34	

The partially dependent ability for self-care leads to a poor quality of life. This occurs when CKD patients who are partially dependent on self-care experience a decline in overall health conditions, leading to a weakening of their physical and mental condition, which ultimately negatively impacts their quality of life. This finding is consistent with the research by Al Salmi et al. (2021), which shows that the quality of life of CKD patients decreases as their level of self-care declines.

This study also found that some CKD patients undergoing hemodialysis are dependent on self-care but still enjoy their life. Quality of life is influenced by more than just self-care; factors such as age, gender, education, duration of hemodialysis, social support, stress, and comorbidities also play a role. The chi square test was found that self-care and the quality of life of CKD patients undergoing hemodialysis have a significant relationship ($p = 0.001$). Self-care can help reduce physical, psychological, socioeconomic, and spiritual health issues commonly experienced by hemodialysis patients (Lee et al., 2021). The study by Lim and Lee (2022) found that the better the self-care, the higher the quality of life for chronic kidney patients, which also impacts the reduction of stress and depression among hemodialysis patients.

This indicates a relationship between self-care and the quality of life of CKD patients undergoing hemodialysis. Patients with chronic kidney disease must have self-care abilities, especially as the disease progresses, in order to reduce healthcare costs and mortality rates (da Silva et al., 2023). Patients with chronic kidney disease require motivation and assistance to engage in self-care practices

that are essential for maintaining their overall health and well-being, as self-care activities significantly impact their quality of life. According to this analysis, the quality of life of CKD patients improves with a higher level of self-care.

LIMITATION OF THE STUDY

Several limitations were emerged. The sample size were less than thousands respondents that tend to inadequate sample size. It could affect the results bias and could not be generalized. The cross-sectional approach had been used. This methods could not depict the real variables. Because it influenced by the respondents conditions by that time.

CONCLUSIONS AND SUGGESTIONS

This study shows that the majority of CKD patients undergoing hemodialysis have a certain level of dependence on self-care and experience a good quality of life. In this study, most of the participants have partially dependent levels (61.5%) and more than half are have good quality of life (59.3%). Furthermore, there is a significant relationship between self-care and the quality of life of those patients. Nurses are suggested to promote an appropriate self-care among HD patients. It is expected that healthcare providers could offer guidance, motivation, and support to individuals with CKD to help them in self-care skills and quality of life.

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ETHICAL CONSIDERATIONS

The ethical clearance was approved by ethhical commitee of dr. Moewardi Hospital with number 1.067/XI/HREC/2021.

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The authors are disclosed that there are not conflict of interests in this study.

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