



## Self-Efficacy in Relation to Personal Care and The Health-Related Quality of Life of Hemodialysis Patients

### *Efikasi Diri dalam Hubungannya dengan Perawatan Diri dan Kualitas Hidup Pasien Hemodialisis*

Diyah Candra Anita<sup>1\*</sup>, Adelia Rizky Brilianti<sup>1</sup>, Dwi Astuti<sup>1</sup>, Sitti Fadhillah<sup>2</sup>, Wantonoro<sup>1</sup>, Tuan Van Nguyen<sup>3</sup>

<sup>1</sup>Nursing Program, Faculty of Health Sciences, Universitas 'Aisyiyah Yogyakarta, Indonesia

<sup>2</sup>Nursing Program, Faculty of Health Sciences, Universitas Respati Yogyakarta, Indonesia

<sup>3</sup>Department of Nursing, Faculty of Nursing and Technology, Can Tho University of Medicine and Pharmacy, Vietnam

\*Email korespondensi: [diyah.candra@unisayogya.ac.id](mailto:diyah.candra@unisayogya.ac.id)

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#### ABSTRACT

Self-efficacy is important to ensure self-care to improve the health-related quality of life for hemodialysis patients. This study aimed to determine the relationship between self-efficacy and self-care and the health-related quality of life in hemodialysis patients. The research method was a quantitative correlation design with a cross-sectional approach. The instrument of the study was a questionnaire. A total sampling technique for 64 hemodialysis patients at RSUD (Regional Public Hospital) Wates Kulonprogo was used. Data analysis was conducted through the Kendall Tau test. It showed that 41 respondents (64.1%) were in the moderate category of self-efficacy, while 50 respondents (78.1%) were in the moderate category for the self-care aspect. The results of Kendall Tau analysis showed that self-efficacy was significantly associated with self-care ( $p=0.004$ ) and the health-related quality of life ( $p=0.041$ ) for hemodialysis patients. It is expected that the nurse will periodically assess the biological and psychological aspects of hemodialysis patients.

#### ABSTRAK

*Efikasi diri penting untuk memastikan perawatan diri untuk meningkatkan kualitas hidup pasien hemodialisis. Penelitian ini bertujuan untuk mengetahui hubungan antara efikasi diri dan perawatan diri dengan kualitas hidup pada pasien hemodialisis. Metode penelitian yang digunakan adalah desain kuantitatif korelasi dengan pendekatan cross sectional. Instrumen penelitian adalah kuesioner. Teknik pengambilan sampel menggunakan teknik total sampling berjumlah 64 pasien hemodialisis di RSUD Wates Kulonprogo. Analisis data menggunakan uji Kendall Tau. Hal ini menunjukkan bahwa 41 responden (64,1%) berada pada kategori efikasi diri sedang, sedangkan 50 responden (78,1%) berada pada kategori sedang untuk aspek perawatan diri. Hasil analisis Kendall Tau juga menunjukkan bahwa efikasi diri berhubungan bermakna dengan perawatan diri ( $p=0,004$ ) dan kualitas hidup ( $p=0,041$ ) pasien hemodialisis. Diharapkan perawat secara berkala mengkaji aspek biologis dan psikologis pasien hemodialisis.*

## INTRODUCTION

Chronic Kidney Disease (CKD) is a condition where kidney function decreases slowly (chronic). CKD is characterized by a glomerular filtration rate of about 15 mL/minute/1.73m<sup>2</sup>.<sup>1</sup> The prevalence of CKD is on the increase year after year, with approximately 2,600,000 patients on dialysis worldwide.<sup>2</sup> The global increase in this disease is driven mainly by the increased prevalence of diabetes mellitus, hypertension, obesity, and aging. However, in some areas, CKD is caused by other factors such as infection, herbal, and environmental pollution.<sup>3</sup> WHO has recognized CKD as a global health problem that has adverse effects on health-related quality of life, cardiovascular health, and results in increased mortality. CKD creates a huge burden on the health care system.<sup>4</sup>

In recent reports from Asia, 40-50% of all cases of renal illness lead to end-stage renal disease (ESRD).<sup>5</sup> The number of people with kidney failure in Indonesia has also increased. The results of Riset Kesehatan Dasar (Riskesdas) in 2013 and 2018 show that the prevalence of kidney failure based on a doctor's diagnosis in Indonesian patients more than 15-year-old increased from 0.2% in 2013 to 0.38% in 2018.<sup>6</sup>

According to data from DIY (Special Region of Yogyakarta), there are 3,307 hemodialysis patients of whom 98.5% are routine, 1.3% are acute hemodialysis patients, and 0.2% are extra hemodialysis patients.<sup>7</sup> The prevalence of CKD in the Kulonprogo Regency (0.3%) is the second-highest in DIY, after Yogyakarta City and Gunung Kidul Regency (0.5%).<sup>8</sup>

Hemodialysis therapy is one of the methods of extending the lifespan of CKD patients. This therapy can change the pattern of life, both for the patients and their families, with changes including diet, sleep patterns, drug therapy, and daily activities.<sup>9</sup> The patient also complains of physical changes such as a blackening of the skin that looks thin and pale. These physical changes have an impact on body image. Previous research also mentions complaints of changes in sexuality, affecting sexual desire and satisfaction. These changes can reduce the patient's health-related quality of life.<sup>10</sup>

These changes in the life pattern increase the patients' dependence on family. However, hemo-

dialysis patients should still have the ability to perform self-care independently, though self-care is not fully carried out by the patient concerned alone.

Self-care behavior of a patient involves self-monitoring of current health status. It is expected that hemodialysis patients will be able to evaluate the advantages and disadvantages of their various self-care activities. Self-care has many advantages, namely: (1) patients will have control and freedom in hemodialysis treatment; (2) patients will have the enthusiasm for a better understanding of CKD and how to deal with it; (3) such understanding will then lead to the improvement in their health-related quality of life, and (4) the chance of complications will be reduced, in turn reducing the mortality rate.<sup>11</sup>

According to the moderate range theory of chronic illness, factors that influence self-care are experience and skills, motivation, beliefs and cultural values, and self-efficacy. Self-efficacy is the belief in a person's ability to successfully achieve something and is very important for managing chronic diseases like CKD.<sup>12</sup>

Good self-efficacy enables hemodialysis patients to be more actively involved in self-care management. It also improves the health-related quality of life, level of cooperation with the family and paramedics, communication, and medication adherence.<sup>13</sup>

Research exists on self-efficacy in hemodialysis patients. Though there are studies that qualitatively measure patients' self-efficacy,<sup>14</sup> connect with self-care,<sup>15,16</sup> or apply the OREM theory,<sup>15</sup> there are none that link these two factors to the health-related quality of life of hemodialysis patients. Therefore, researchers are interested in measuring these three factors.

The purpose of this study was to determine the relationship between self-efficacy and self-care and health-related quality of life (HRQOL) in hemodialysis patients at RSUD Wates Kulonprogo. The results of this are expected to enable health workers to collaborate with patients to develop strategies for will improving the patient's HRQOL, such as minimizing depression as their disease evolves.<sup>10</sup> Such strategies are developed with a focus on increasing knowledge, understanding, motivation, experience, and self-confidence, which can improve self-efficacy and patient self-care management.

## MATERIAL AND METHOD

The research design of this study was a quantitative correlation method with a cross-sectional approach. The samples of this study comprised 64 respondents acquired through the total sampling technique. Saturated sampling was adopted because the total population is less than 100.<sup>18</sup>

The instrument of this study was the Generalized Self-efficacy Scale (GSE) questionnaire written in Indonesia;<sup>19</sup> the translated self-care of CKD index,<sup>20</sup> and WHOQoL SF-36. Data analysis used the Kendal tau correlation test because the sample size was >60 and the data scale used was categorical (ordinal data scale). Univariate data was presented to determine the frequency distribution, and bivariate data to test the correlation between the two variables.<sup>21</sup>

This research obtained an ethical permit from the Ethics Commission of Universitas 'Aisyiyah Yogyakarta number 763/KEP-UNISA/XII/2018. The study was conducted between 14<sup>th</sup> and 19<sup>th</sup> January 2019, in the hemodialysis room of RSUD Wates, Kulonprogo.

## RESULTS

Table 1 shows that most of the respondents are in the age range of 46-55 (32.8%) and 56-65 (31.3%), most of the respondents in this study are male (57.80%). Based on the marital status (Table 1), the married respondent's number 60 (93.8%), thirty-three respondents (51.6%) have elementary and junior high school education, and based on occupation, jobless respondents 26.6%.

Table 2 shows that 64.1% of the respondents have a moderate level of self-efficacy and considered their activities not difficult, but also not easy to perform, and most of the respondents also have a moderate level of self-care (78.1%). Table 2 further indicates that the majority of respondents have a moderate HRQOL (67.2%) and none of them have a good HRQOL.

The lowest average value in the self-efficacy questionnaire domain is in the sub-generality, namely the individual's belief and ability to perform various kinds of activities (mean 4.95; Table 3). The physical condition of CKD patients is

one of decreased function, resulting in reduced confidence in their ability to perform daily physical activities. If not treated immediately, this could lead to depression.<sup>7</sup> Most of the respondents had a high average value of strength, namely 10.20. Table 3 indicates that the domain of self-care management has the lowest value (average of 17.77).

Table 4 shows that the lowest respondents' HRQOL domains are general health (2,090), mental health (2,176), vitality (2,321), and social functioning (2,705).

**Table 1. Characteristic of Respondents**

Characteristic	n=64	%
<b>Age (Years)</b>		
17-25	1	1.6
26-35	7	10.9
36-45	6	9.4
46-55	21	32.8
56-65	20	31.3
≥ 65	9	14.1
<b>Sex</b>		
Male	37	57.8
Female	27	42.2
<b>Marital Status</b>		
Married	60	93.8
Unmarried	4	6.2
<b>Background of Education</b>		
None	2	3.1
Primary and Moderate School	33	51.6
High School and Higher Education	29	45.3
<b>Occupation</b>		
Unemployed	17	26.6
Housewife	16	25.0
Entrepreneur	11	17.2
Civil Servant/Army Police Officers	5	7.8
Retired	5	7.8
Others	10	15.6

Source: Primary Data, 2019

**Table 2. Distribution Frequency of the Self-Efficacy, Self-Care, And Health-Related Quality of Life**

Variable	n=64	%
<b>Self-Efficacy</b>		
Low	11	17.1
Moderate	41	64.1
High	12	18.8
<b>Self-Care</b>		
Low	7	10.9
Moderate	50	78.1
High	7	10.9
<b>Health-Related Quality of Life (HRQOL)</b>		
Low	21	32.8
Medium	43	67.2
Good	0	0.0

Source: Primary Data, 2019

**Table 3. Respondent's Self-Efficacy and Self-Care Domain**

Variable	Mean	Median	SD	Min-Max	95%CI
<b>Self-Efficacy Domain</b>					
Magnitude	9.72	9	3.201	4-16	8.96-10.47
Generality	4.95	5	1.847	2-8	4.49-5.41
Strength	10.20	10	2.824	4-16	9.50-10.91
<b>Self-Care Domain</b>					
Self-Care Maintenance	21.67	21	4.511	13-35	20.55-22.80
Self-Care Management	17.77	18	3.903	6-24	16.79-18.74
Self-Care Confidence	24.09	25	5.188	9-34	22.80-25.39

Source: Primary Data, 2019

**Table 4. Average Domain of Respondents' Health-Related Quality of Life (HRQOL)**

Domain of Life Quality	Mean	SD	SEM
General Health	2.090	16.720	2.090
Physical Function	3.473	27.787	3.473
Physical Role	4.366	34.930	4.366
Body Pain	3.277	26.212	3.277
Vitality	2.321	18.570	2.321
Social Function	2.705	21.644	2.706
Emotional Role	4.311	34.490	4.332
Mental Health	2.176	17.412	2.176

Source: Primary Data, 2019

The results of the correlation analysis in Table 5 show the value of  $p=0.041$  ( $p<0.05$ ); Hence, there is a correlation between self-efficacy and the HRQOL of patients undergoing hemodialysis. The results of the Kendall Tau correlation analysis in Table 5 show ( $p=0.004 < \text{Level of Significance} = 0.05$ ) a significant relationship between self-efficacy and self-care.

**DISCUSSION**

The mean of CKD sufferers is moderate adults (> 45 years and over). Aging would cause a decrease in the mean plasma flow in the glomerular capillaries, due to vascular endothelial dysfunction. Conditions associated with vascular endothelial dysfunction are: (1) increased oxidative stress that initiates systemic inflammation; (2) the presence of glycocalyx disassembly; (3) the presence of endothelial cell death that destroys the tissue surface barrier; (4) increased adhesion and extravasation of leukocytes; and (5) the induction of pro-coagulants and anti-fibrinolytics. Many previous studies have found the relationship between CKD and aging to be reciprocal. Chronic diseases such as CKD will also affect the repair of endothelial cells.<sup>22</sup>

A previous study also finds that the majority of hemodialysis patients are male, numbering 4.17% per mil.<sup>23</sup> Men suffer from CKD more than women due to several factors, such as (1) ana-

tomy of the male urinary system and related diseases, such as benign prostate hypertrophy; (2) lifestyle; (3) the presence of the hormone estrogen and (4) the presence of matrix metalloprotease (MMP) which accelerates glomerular basement membrane damage, renal scarring, and fibrosis during the development of kidney disease. MMP is an important factor causing microalbuminemia.<sup>24</sup>

Hemodialysis patients who had a partner or were married would have higher self-esteem and have an adequate coping mechanism through their partners.<sup>25</sup> Married hemodialysis patients were proven to have higher hemoglobin levels and more successful management of their disease.<sup>26</sup>

Previous research had shown that the higher the level of education, the higher are the level of knowledge, mindsets, attitudes, and behavior. Higher levels of education are associated with the increased survival of dialysis patients and a decrease in mortality.<sup>24</sup>

One of the changing social roles in hemodialysis patients is job changes. The physical condition of the respondents becomes weak due to chronic kidney failure. It is also initiated by factors associated with unemployment such as lower education level, older age, female gender, and comorbidities.<sup>25</sup>

Self-efficacy in hemodialysis CKD patients is the patient's confidence to communicate with caregivers and have partnerships in caring. Thus, other people were still needed in making every decision to increase confidence in every activity. Self-confidence had a positive impact on medication adherence, effective disease control, and reducing mortality.<sup>26</sup>

There were several factors related to the self-efficacy of hemodialysis patients, namely, the level of education, duration of hemodialysis therapy, and adequacy.<sup>27</sup> Self-care is one of the

dimensions of self-management behavior which derives partly from the patient empowerment approach. The empowerment perspective revealed the patient’s acquiring knowledge, skills, and responsibility for changing actions and effects that would enhance their personal health care.<sup>28</sup>

Previous research has found the level of CKD to be closely related to the level of quality of life. Patients with stage 4 CKD have a better quality of life than those with stage 5 CKD. Some reasons for this are physical complaints that increase with the course of the disease, unstable mental conditions associated with toxic uremia, and boredom in undergoing treatment.<sup>28</sup>

Individuals who have a poor or moderate HRQOL will experience negative symptoms of dialysis therapy, such as pain, sleep disturbances, fluctuations in blood pressure, and abdominal pain, all of which can impact the patients’ ability to do their job and result in socio-economic disturbances. Routine hemodia-lysis therapy carried out for a long time will prompt a sense of saturation in the patient and family. Family support is crucial for CKD patients. Previous studies have shown that the life expectancy of CKD patients is higher when accompanied by family. This support will have an impact on motivation and expectations from the therapy undergone.<sup>29</sup>

The domain of strength was related to the strength of an individual's trust in his own abilities. Weak trust could be caused by bad experiences. Someone who had a bad experience would have better hopes for the future.<sup>30</sup> The strong trust of CKD patients was usually influenced by harmonious relations with their family and environment. Self-care management focuses on efforts to maintain health or a healthy life-

style. The low mean value of self-care management is due to efforts to maintain health such as diet and fluid adherence, still needing assistance from other parties, especially family and nurses. This is due to CKD being a chronic disease involving prolonged treatment, thus requiring significant support and motivation from caregivers.<sup>31</sup> Nevertheless, patients still need to participate in the treatment and care process to reduce complications and improve their HRQOL.

Table 4 shows that the lowest respondents' HRQOL domains are general health, mental health, vitality, and social functioning. This result is in line with previous research which identified the main factors causing a decline in the quality of life of hemodialysis patients were physical complaints, such as blackened facial skin and pale appearance, damaged teeth, thin/weak body, and being fatigued quickly. In addition, the feelings and emotional turmoil they complain about are non-acceptance and fear of death, a feeling of helplessness and uselessness, and fear of being abandoned by their partner due to decreased sexual and functional abilities in the family.<sup>32</sup>

An important part of the treatment process is the maintenance and restoration of independent functions in daily life. Nurses, in this case, as medical personnel who interact with patients most often and for long, must be able to respect patients as independent individuals and make decisions related to their therapy.<sup>7,32</sup>

In chronic disease, the HRQOL depends on the type of disease, duration of suffering, the intensity of symptoms, treatment options, side effects of treatment, limitations due to disease, patient’s age, and self-care abilities. Good HRQOL will contribute to a better response to treatment and thus a longer life expectancy.<sup>7</sup>

**Table 5. The Correlation Between Self-Efficacy, Self-Care and Health-Related Quality of Life with the Kendall Tau Test**

Variable	Self-Efficacy						Total	p	Coef. Correlation
	Low		Moderate		High				
	n	%	n	%	n	%			
<b>Self-Care</b>									
Low	2	18.2	4	9.8	1	8.3	7 (10.9%)	0.004	0.208
Moderate	9	81.8	35	85.4	6	50.0	50 (78.1%)		
High	0	0.0	2	4.9	50	41.7	7 (10.9%)		
<b>Health-Related Quality of Life (HRQOL)</b>									
Low	7	63.6	12	29.3	2	16.7	21 (32.8%)	0.041	0.272
Medium	4	36.4	29	70.7	10	83.3	43 (67.2%)		
Good	0	0.0	0	0.0	0	0.0	0 (0.0%)		

Source: Primary Data, 2019

The results of the correlation analysis show there is a correlation between self-efficacy and the HRQOL of patients undergoing hemodialysis. Self-confidence is important in carrying out a variety of treatment regimens to control complications. Patients who have good confidence can accept the disease and try to carry out a well-programmed therapy. Patients with good self-efficacy also showed improved quality of cooperation, self-care, communication, and treatment adherence behavior. The health goals of patients with chronic kidney disease should focus on a level of health that guarantees their independent life.<sup>33</sup>

The results of the Kendall Tau correlation analysis a significant relationship between self-efficacy and self-care. Previous research suggests that hemodialysis patients who have high self-efficacy will be able to perform higher physical activity and psychosocial functions than those with low self-efficacy.<sup>34</sup>

The self-efficacy of hemodialysis patients can improve their self-care. A relationship can be found in this study between self-efficacy and self-care because patients have confidence in their ability to carry out daily self-care to maintain their health status or a healthy lifestyle. Self-efficacy is essential in developing simple and targeted implementations in supporting hemodialysis patients in managing their disease.<sup>35</sup>

One strategy to improve patients' self-efficacy is to build good communication between them and health workers. Nurses are in a key position to influence patients' self-efficacy and enhance their self-care activities. Therefore, to achieve these goals, nurses can provide necessary ins-

tructions to their patients to control stress and emotional and physical complaints. This strategy is implemented by permanent nurses with due consideration to the aspects of the patient's spiritual and cultural values.<sup>10</sup>

Previous research has shown that spiritual therapy can be used as an effective intervention to improve spiritual well-being, self-esteem, and self-efficacy in hemodialysis patients. There is no denying that spirituality plays an important role in shaping one's understanding of oneself and acceptance of one's condition. Meeting the spiritual needs of CKD patients is one way to increase meaning and life expectancy, improve quality of life, and reduce anxiety and fear of death.<sup>36</sup>

Self-care is the responsibility of the patient. In health care, self-care is a necessary human regulatory function under the control of the individual, is intentional, and self-initiated. Self-care is indispensable for the maintenance of health and well-being. CKD patients should be able to make decisions related to therapy and efforts to reduce their disease complaints.<sup>37</sup> Several factors affect self-care, such as information, self-efficacy, intention, support, and insurance. Health workers believe that patient self-care can improve clinical conditions, reduce the number of hospitalizations and the severity and complications of the disease, and improve HRQOL.<sup>38</sup> Self-efficacy assessment of patients receiving hemodialysis is very important in clinical practice. Medical personnel are advised to conduct self-efficacy training, to strengthen the confidence of hemodialysis patients in adopting self-care behaviors, which can lead to improvement in their HRQOL.



Source: Sorat W, 2018

**Figure 1. Concept of Self-Efficacy, Self-Management (Self-Care) and Health-Related Quality of Life**

According to Orem's theory of nursing, self-care is considered to be an activity a person undertakes to maintain, restore, or improve his or her health. Nurses must consider patients not merely as recipients of health services, but as strong, reliable, responsible, and capable of making decisions to take good care of their health.<sup>39,40</sup>

A limitation of this study is the use of the WHOQoL questionnaire which is less relevant for hemodialysis patients. It is advisable to measure the HRQOL in patients with renal impairment using the KDQoL (Kidney Disease HRQOL) questionnaire.

### CONCLUSION AND RECOMMENDATION

There is a correlation between self-efficacy and self-esteem ( $p=0.004$ ) and health-related quality of life ( $p=0.041$ ) in hemodialysis patients at Wates Kulonprogo Hospital. Through the results of this study, nurses are expected to conduct regular assessments of the biological and psychological aspects of hemodialysis patients and improve communication with them to increase their self-efficacy.

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