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Self-Care Management, Hemodialysis Duration, and Mental Well-Being in Hemodialysis Patients**Woro Astuti Hestiningrum**^{1(CA)}, **Betie Febriana**², **Wahyu Endang Setyowati**³^{1,2,3} Sultan Agung Islamic University, SemarangCorrespondence author's email (CA): woroastuti85@gmail.com

ABSTRACT

Hemodialysis patients are at high risk of psychological disturbances that compromise their mental well-being, yet the contribution of self-care management and treatment duration to this outcome remains insufficiently described in Indonesian hospital settings. This study aimed to examine the correlation between self-care management and mental well-being, and between hemodialysis duration and mental well-being, among hemodialysis patients. A cross-sectional correlational design was used with a total sampling technique, involving 114 respondents from Sari Asih Karawaci and Sari Asih Sangiang Hospitals. Mental well-being was measured using the validated Psychological Well-Being Scale (PWBS), and self-care management was measured using the validated Hemodialysis Patients Self-Care Management Scale; hemodialysis duration was obtained from medical records. Data were analyzed using Somers' Gamma test. Results showed a significant moderate correlation between self-care management and mental well-being ($p = 0.000$; $R = 0.596$) and between hemodialysis duration and mental well-being ($p = 0.014$; $R = 0.419$). These findings indicate that better self-care management and longer hemodialysis duration are associated with improved mental well-being. Nurses are recommended to strengthen self-care education for hemodialysis patients, and future research should explore additional psychosocial factors influencing mental well-being using longitudinal designs.

Keyword: Hemodialysis; self-care management; hemodialysis duration; mental well-being

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INTRODUCTION

Mental well-being is a critical yet frequently overlooked outcome among patients undergoing hemodialysis, as the demanding nature of long-term renal replacement therapy exposes patients to psychological burdens such as anxiety, hopelessness, and diminished self-acceptance [1]. Disturbances in mental well-being not only affect patients' emotional stability

but may also undermine their adherence to therapy and overall quality of life, making it an essential focus of nursing care for hemodialysis patients [2].

Globally, chronic kidney disease affects approximately 10–15% of the population and is associated with around 1.2 million deaths annually, with more than 1.5 million individuals receiving hemodialysis therapy [1]. In Indonesia, the Ministry of Health reported 713,783 patients with chronic kidney disease requiring hemodialysis in 2021, with 254,028 recorded deaths [3]. Alongside this growing burden, prior studies report that a substantial proportion of hemodialysis patients experience only moderate psychological well-being, with anxiety and depressive symptoms commonly identified during long-term treatment [4], indicating that the rising number of cases is paralleled by an unresolved mental health concern at the facility level.

Previous studies indicate that the mental well-being of hemodialysis patients generally falls into the moderate category and is shaped by several interacting factors, including self-care ability, disease severity, comorbidities, and the duration of hemodialysis therapy [5], [6]. Patients with limited self-care ability tend to report lower personal satisfaction, while those who have undergone hemodialysis for a longer period generally show greater disease acceptance and more adaptive coping [2]. These findings suggest that self-care management and treatment duration are two factors with direct relevance to patients' mental well-being status.

Several studies have examined the relationship between self-care management and quality of life [7], [8], and between hemodialysis duration and quality of life or depression [9], [10], yet most of this research treats quality of life or depression as the primary outcome rather than mental well-being as a distinct psychological construct. Few studies have simultaneously analyzed self-care management and hemodialysis duration in relation to mental well-being within a single Indonesian hospital population. This study addresses that gap by examining both predictors concurrently, offering a more comprehensive picture of the psychological condition of hemodialysis patients than previously reported.

Therefore, this study aimed to analyze the correlation between self-care management and mental well-being, as well as the correlation between hemodialysis duration and mental well-being, among hemodialysis patients at Sari Asih Karawaci and Sari Asih Sangiang Hospitals.

METHODS

This study used a cross-sectional correlational design. The population comprised 114 hemodialysis patients receiving treatment at Sari Asih Karawaci and Sari Asih Sangiang Hospitals; the total sampling technique was applied, so the entire population served as the sample. Inclusion criteria were chronic kidney disease patients undergoing hemodialysis who

Self-Care Management, Hemodialysis Duration, and Mental Well-Being in Hemodialysis Patients

were conscious (*compos mentis*), free of cognitive impairment, and able to read and write, while patients who declined to participate, withdrew during the study period, or were uncooperative were excluded.

The independent variables in this study were self-care management and hemodialysis duration, while the dependent variable was mental well-being. Mental well-being was measured using the Psychological Well-Being Scale (PWBS), and self-care management was measured using the Hemodialysis Patients Self-Care Management Scale; both instruments have previously demonstrated good validity and reliability (Cronbach's $\alpha > 0.70$). Hemodialysis duration was obtained from patients' medical records and expressed in months.

Data were analyzed using Somers' Gamma correlation test at a significance level of 0.05, processed using SPSS software

RESULT

Table 1 Frequency Distribution of Respondent Characteristics (n=114)

Characteristics	Frequency (f)	Percentage (%)
Age		
Young Adult (20-24 years)	1	0.9
Adult (25-59 years)	91	79.8
Older Adult (60-74 years)	22	19.3
Gender		
Male	62	54.4
Female	52	45.6
Education level		
No formal education	0	0.0
Elementary School	23	20.3
Junior High School	22	19.5
Senior High School	42	37.2
Diploma Degree or Bachelor's Degree	26	23.0
Employment		
Others	15	13.2
Unemployed	69	60.5
Self-employed	19	16.7
Civil servant	11	9.6
Income		
< IDR. 1.000.000	69	60.5
IDR. 1.000.000 – IDR. 1.750.000	14	12.3
> IDR. 1.750.000	31	27.2
Duration of Chronic Kidney Disease		
<12 months (new)	24	21.1
12-24 months (medium)	65	57.0
>24 months (long)	25	21.9
Hemodialysis Duration		
<12 months (new)	22	19.3
12-24 months (medium)	72	63.2
>24 months (long)	20	17.5
Self-care Management		
Low (<50)	10	8.8
Medium (51-75)	74	64.9
High (76-100)	30	26.3
Psychological Well-Being		

Self-Care Management, Hemodialysis Duration, and Mental Well-Being in Hemodialysis Patients

Characteristics	Frequency (f)	Persentase (%)
Medium (37-54)	71	62.3
High (55-72)	43	37.7

Table 1 presents the characteristics of respondents. The majority of hemodialysis patients were adults aged 25–59 years, male, and had completed high school education. Most respondents were unemployed, had a low monthly income (< IDR 1,000,000), and had been diagnosed with chronic kidney disease for 12–24 months. The majority of respondents had a moderate duration of hemodialysis (12–24 months), moderate self-care management, and moderate levels of mental well-being.

Table 2. Cross-Tabulation Of The Relationship Between Self-Care Management And Mental Well-Being Of Hemodialysis Patients At Sari Asih Hospital

Self-care Management	Psychological Well-Being								<i>p</i> Value= 0.000 <i>Gamma</i> = 0.596
	Low (18-36)		Medium (37-54)		High (55-72)		Total		
	f	%	f	%	f	%	f	%	
Low (<50)	0	0	7	6.1	3	2.6	10	8.8	
Medium (51-75)	0	0	55	48.2	19	16.7	74	64.9	
High (76-100)	0	0	9	7.9	21	18.4	30	26.3	
Total	0	0	71	62.3	43	37.7	114	100	

The results of the analysis showed that the majority of respondents had moderate self-care management with moderate mental well-being, namely 55 respondents (48.2%). Somers' Gamma test yielded a *p*-value < 0.05 (0.000) with a correlation coefficient of 0.596, indicating a positive relationship with moderate strength between self-care management and patients' mental well-being. This suggests that an increase in self-care management contributes to an improvement in patients' mental well-being.

Table 3. Cross-Tabulation Of Hemodialysis Duration And Mental Well-Being Of Hemodialysis Patients

Hemodialysis Duration	Kesejahteraan Mental								<i>p</i> Value= 0.014 <i>Gamma</i> = 0.419
	Low (18-36)		Medium (37-54)		High (55-72)		Total		
	f	%	f	%	f	%	f	%	
New (<12 months)	0	0	16	14	6	5.3	22	19.3	
Medium (12-24 months)	0	0	48	42.1	24	21.1	72	63.2	
Long (>24 months)	0	0	7	6.1	13	11.4	20	17.5	
Total	0	0	71	62.3	43	37.7	114	100	

The results of the analysis showed that the majority of respondents had a moderate duration of hemodialysis with moderate mental well-being, namely 48 respondents (42.1%). The correlation test yielded a *p*-value < 0.05 (0.014) with a correlation coefficient of 0.419, indicating a positive relationship with moderate strength between hemodialysis duration and patients' mental well-

being. This suggests that the duration of hemodialysis contributes to an improvement in patients' mental well-being.

DISCUSSION

The present study examined the relationship between hemodialysis duration, self-care management, and mental well-being among patients with chronic kidney disease undergoing hemodialysis therapy. The findings demonstrated that both hemodialysis duration and self-care management were associated with patients' mental well-being, suggesting that clinical and behavioral factors play an important role in psychological adaptation during long-term treatment. Most participants were adults, male, unemployed, and had low income. These characteristics are consistent with previous studies reporting that chronic kidney disease is more prevalent among adults and males due to age-related physiological decline and lifestyle-related risk factors [11]. Furthermore, unemployment and low socioeconomic status may increase vulnerability to psychological distress because of financial burdens and reduced access to health resources [12].

The findings indicate that the duration of hemodialysis contributes to patients' mental well-being. Patients who had undergone hemodialysis for a longer period tended to demonstrate better psychological adaptation compared with those who had recently initiated treatment. This finding may be explained by the adaptation process experienced by patients over time. As patients become more familiar with treatment procedures, dietary restrictions, symptom management, and lifestyle modifications, they gradually develop coping mechanisms that facilitate acceptance of their condition. Similar findings have been reported by a previous study, which found that patients receiving hemodialysis for more than 24 months generally exhibited better treatment adherence and acceptance of their disease condition [13], [14]. However, prolonged hemodialysis does not necessarily eliminate psychological challenges. Long-term treatment remains associated with physical complications, dependency on dialysis machines, uncertainty regarding disease progression, and disruption of social activities [15]. Therefore, adaptation to treatment and psychological burden may coexist throughout the disease trajectory. This finding supports previous studies indicating that hemodialysis patients frequently experience anxiety, sadness, emotional distress, and concerns regarding their future health status [16].

Another important finding of this study is the relationship between self-care management and mental well-being. Patients with better self-care management tended to report higher levels of mental well-being. Effective self-care management includes adherence to

dietary restrictions, fluid control, medication management, attendance at dialysis sessions, and vascular access care [17]. These activities enable patients to actively participate in their treatment and maintain a sense of control over their health condition.

The association between self-care management and mental well-being may be explained through Orem's Self-Care Theory, which emphasizes the individual's ability to perform self-care activities to maintain health and well-being. Patients who successfully manage their treatment demands often develop greater self-efficacy and confidence in their ability to cope with illness-related challenges. Consequently, they experience lower levels of psychological distress and greater personal satisfaction. This interpretation is supported by a previous study, which reported that inadequate self-care was associated with significantly lower levels of personal satisfaction among hemodialysis patients [18].

Mental well-being is a multidimensional concept encompassing self-acceptance, autonomy, positive relationships, environmental mastery, purpose in life, and personal growth [19]. Although chronic kidney disease imposes substantial physical and psychological burdens, many patients are still able to achieve positive mental well-being through adaptive coping, acceptance of illness, and support from family and healthcare providers. Consistent with previous studies, patients who possessed strong self-acceptance and meaningful life goals tended to demonstrate better psychological adjustment despite the challenges of long-term hemodialysis therapy [20].

The findings of this study have important implications for nursing practice. Nurses should not focus solely on physical aspects of hemodialysis treatment but also promote psychosocial adaptation and self-management skills. Educational interventions, counseling, self-care training programs, and family involvement may strengthen patients' ability to manage their condition and improve mental well-being. Integrating psychological support into routine hemodialysis care may contribute to more holistic patient outcomes.

CONCLUSION

This study found a significant moderate correlation between self-care management and mental well-being, as well as between hemodialysis duration and mental well-being, among hemodialysis patients at Sari Asih Karawaci and Sari Asih Sangiang Hospitals. These findings confirm that both patients' active engagement in self-care and the length of time they have undergone hemodialysis therapy are associated with their psychological condition. Healthcare professionals are recommended to strengthen self-care education and psychological support as part of routine hemodialysis care, while future researchers are encouraged to explore additional

psychosocial determinants of mental well-being using longitudinal designs across multiple healthcare settings.

These findings suggest that nursing interventions targeting self-care capacity through structured education on diet, fluid management, and medication adherence may simultaneously improve patients' psychological well-being. Clinically, this points toward integrating brief psychological assessment into routine hemodialysis care, particularly for patients in the early treatment period who appear most psychologically vulnerable. Theoretically, the findings support viewing self-care management and treatment duration as interconnected determinants of mental well-being rather than independent predictors.

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