Analysis Self-Management Ability Chronic Kidney Disease Patients With Hemodialysis

Wiwit Dwi Nurbadriyah[1]*, Nursalam Nursalam[2],
Ika Yuni Widyawati[2,]
Ardhiles Wahyu Kurniawan[3]

[1] Doctoral Student, Faculty of Nursing, Universitas Airlangga, Surabaya, Indonesia, and STIKes Kepanjen, Malang, Indonesia
[2]Faculty of Nursing, Universitas Airlangga, Surabaya, 60115, Indonesia
[3]Nursing Study Program, Institute Of Science And Health Technology RS dr. Soepraoen, Malang, Indonesia.

Abstract

Chronic kidney disease patients who undergo hemodialysis require good self-management skills due to the severity of their illness and the need for ongoing care. Hemodialysis can impact various aspects of a patient's life, including physiological, psychological, and socio-economic factors. Effective self-management is crucial in adapting to these changes, such as managing symptoms, medication, and lifestyle adjustments, as well as dealing with physical and psychosocial effects of the disease. Poor self-management ability is marked by patients' inability to control and manage these factors. Stress related to the disease and its treatment can also contribute to low self-management ability, as patients may struggle to use coping strategies. This study aimed to analyze the self-management ability of chronic kidney disease patients on hemodialysis using an analytic observational design with a cross-sectional approach. The sample included 105 respondents, and data collection involved a self-management questionnaire adapted from the Indonesian version of the Hemodialysis Self-Management Instrument (HDSMI). The results indicated that family support and health services were significantly related to self-management ability (p-values of 0.000 and 0.002, respectively), while physical symptoms and stressor assessment were not (p values of 0.694 and 0.499, respectively). Therefore, it can be concluded that family support and health services play an important

role in enhancing self-management ability in chronic kidney disease patients undergoing hemodialysis.

Keywords: Hemodialysis, CKD Patients, Self Management.

Introduction

A disaster is an event that often results in the loss of property, life, and the environment (1). Geographically, the frequency of natural disasters in Indonesia is quite high (2). Disasters can occur with mild conditions or up to extraordinary conditions. One of the disasters that often occurs in Indonesia is a volcanic disaster Complex volcano disaster problems require planned and directed planning. Disaster management can be done through smart governance. With the existence of a smart governance-based disaster risk management model, it will be able to improve disaster preparedness. This study aims to develop a disaster risk management model based on smart governance for health cluster preparedness in dealing with volcanic eruptions. Disaster risk management by increasing collaboration is currently still not being implemented optimally. Therefore, it is very important to develop a disaster risk management model based on smart governance for health cluster preparedness in dealing with volcanic eruptions.

The skill of self-management is critical for patients with chronic kidney disease who are receiving hemodialysis due to the severity of the illness and the need for consistent care (Hamler, 2018). Hemodialysis can have an impact on various aspects of a patient's life, such as physiological, psychological, and socio-economic factors. As such, it is important to adapt to these changes and develop self-management skills, as noted by Toulabi et al. (2016) and Bezerra et al. (2017). Low self-management ability is characterized by patients' inability to control their symptoms, medication, lifestyle changes, and physical and psychosocial effects of the disease. Patients' lifestyles will also be impacted as they must adhere to a regular hospital schedule for hemodialysis, take medications, and restrict food and fluids (Li et al., 2014; Toulabi et al., 2016; Speyer et al., 2016).

According to Niihata et al. (2017), the inability to use coping strategies to manage stress associated with the disease and its treatment is one of the factors that contribute to low self-management ability. Coping strategies are particularly important for non-adherent patients with a high incidence of comorbidity, as noted by Hwang et al. (2018). Coping strategies are typically divided into problem-focused and

emotion-focused approaches, but they have not yet been integrated with spirituality. Therefore, further research is necessary to develop a model of coping strategies that can improve self-management abilities in patients with chronic kidney disease who are receiving hemodialysis.

The choice of coping strategies in hemodialysis is very important to reduce the effects of stress from sources of treatment stress (physical and emotional) and lifestyle habits, but little is known about coping strategies for anxiety and depressive disorders. (Is, 2009; Bertolin, 2016) . The choice of coping strategies 61.2% in the form of seeking support, 14.3% focusing on problems, and 24.5% thinking full of hope (Hwang et al. , 2018) . This means that the choice of coping strategies still mostly comes from outside in the form of seeking support, not based on one-self. CKD with hemodialysis according to Global Disease Burden is one of the chronic diseases that causes the highest mortality rate and continues to increase (Nayana et al, 2016). Data in Indonesia there is a consistent increase in the number of new patients and active patients, active patients are the number of patients undergoing routine hemodialysis.

The number of patients has doubled from 2017 to 2018 (from 77,892 to 132,142) with the largest group in the 45-54 year age range (30 %). The number of active patients by province distribution, East Java is the highest (561) of the existing 23 provinces, this number needs serious attention so that it does not continue to increase (Indonesian Renal Registry , 2018) . The results showed that self-management ability was still low as much as 57.4%. Efforts to improve self-management in HD patients and maintain optimal patient conditions are one way to reduce mortality, morbidity (Mengistu, 2018 ; Husain, Kusuma and Johan, 2020). Thus, the ability to self-management is a necessary requirement in hemodialysis patients (Hwang et al. , 2018) .

Hemodialysis involves the interaction of individual and environmental factors such as social support, psychosocial disorders such as anxiety and depression. Younger age and longer duration of hemodialysis have a negative correlation with coping strategy scores (Is, 2019) . Demographic factors influence such as gender, educational and economic status while disease factors such as physical symptoms, duration, frequency of hemodialysis, comorbidities (Mengistu, 2018 ; H wang et al, 2018; Manuel et al. , 2020) . Activities and work will be disrupted while the patient is undergoing therapy. Changes related to adaptation to hemodialysis, the threat of death due to complications of the disease will cause the patient to be vulnerable to emotional problems so that it can lead to depression because they feel hopeless or feel useless (Smeltzer and Bare, 2010; Bossola et al, 2010; Li et al, 2010). This will

cause patients to have negative perceptions of themselves that affect their physical and mental health including depression, anxiety, fatigue, decreased quality of life and increased risk of suicide (Stuart, 2016; Wang and Chen, 2009).

One effective way to reduce the incidence of death and complications of patients undergoing hemodialysis is to improve the patient's self-management ability which includes adherence to hemodialysis, medication, fluids and diet, activities according to ability (Kim, Fellow et al, 2010; Griva et al, 2011). Patient non-compliance can be seen from the incidence of dropping out or not undergoing hemodialysis for more than 3 months, which is as much as 22% so that it has an impact on the severity of comorbidities such as hypertension, diabetes mellitus and cardiovascular disease. The most common cause of death in hemodialysis patients is cardiovascular complications as much as 42%, and there are still quite a number of unknown causes of death (31%) because patients die outside the hospital (Renal Registry, 2018).

The Spiritual Religious Coping approach is a coping strategy as an important psychological control effort to manage self-management abilities (Vitorino et al. , 2018; Kristofferzon, Engström and Nilsson, 2018). Psychological disorders in hemodialysis patients are often unknown, efforts to increase acceptance are spiritual approaches. Spiritual approach is used as an effective intervention to improve spiritual well-being, self-esteem and self-efficacy in hemodialysis patients. (Darvishi, Otaghi and Mami, 2019 ; Nayana et al., 2016). A spiritual approach helps patients have positive coping and learn to use beliefs to accept reality, manage illness patiently and calmly (Shahrbabaki et al., 2017) . The results of the study show that spirituality is the main predictor that affects self-management (Santos et al., 2017)

The spiritual dimension positively increases the survival rate and improves the patient's health status (Pilger et al, 2016). Coping strategies improve self-management skills through self-efficacy , namely convincing oneself to be able to achieve targeted behavior changes so that become one of the important components in self-management abilities (Straßner et al. , 2019) . However, coping strategies in patients with hemodialysis have not been able to show an increase in self-management abilities so that spiritual factors are important to integrate. Based on these problems, the development of a spiritual religious coping model by integrating stress theory, appraisal and coping strategy, spiritual wellbeing and self-care theory is expected to improve self-management abilities in CKD patients with hemodialysis. This is what underlies researchers interested in

conducting research on the development of spiritual religious coping models on self-management abilities in CKD patients with hemodialysis.

Methodology

The design used in this research is analytic observational with a cross-sectional approach. The sample used is 150 respondents who are in Wava Husada Hospital by Non Probability Sampling with Purposive Sampling technique. The variables used are physical symptoms, family support, health services and stressor assessment. The process of collecting data using a self-management questionnaire was taken from the Indonesian version of HDSMI (Hemodialysis Self-Management Instrument) according to the inclusion and exclusion criteria, then data processing was carried out and continued with regression analysis test using the help of a computer program. With the conclusion that Ho is accepted if p-value > (0.05) and H1 is accepted if p-value (0.05).

Results

Table 1 Distribution Frequency Respondent

Type Sex	**Frequency**	**Percent**
Man		12
Woman	18	60
Total	30	100
Age	**Frequency**	**Percent**
26-35 years	4	13.4
36-45 years	8	26.6
46-55 years	11	36.6
56-65 years	7	23.4
Total	30	100
Education Final	**Frequency**	**Percent**
SD	2	6.7
Junior high school	7	23.3
High school	18	60
Diploma/Bachelor	3	10
Total	30	100

Table 1 indicates that the majority of the 18 respondents (60%) were female, with the largest age group being 46-55 years old, consisting of 11 respondents (36.6%). In terms of education, 18 respondents (60%) had completed high school, indicating the highest level of education among

the respondents.

Table 2 Interpretation results from multiple regression analysis test (coefficiency)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-4.706	1.487		-3.164	.004
	Physical symptoms	.004	.009	.007	.399	.694
	Support	1,934	.295	.650	6,547	.000
	Health services	1.422	.401	.358	3.542	.002
	Stressor assessment	-.025	.036	.016	-.687	.499

Based on the results of the regression test, the following specific data were obtained: Physical symptoms p-value 0.694, support p-value 0.000, health services 0.002, stressor assessment p value 0.499. So that the factors related to self - management in CKD patients are support and health services.

Relationship between Family Support and Self-Management in CKD Patients.

The results of the regression analysis test obtained a p value of 0.00 (< 0.005), meaning that there is a relationship between family support and self-management in CKD patients. Family support shows that the patient's personal factors significantly influence the empowerment of dialysis patients. The results of this study are in line with research conducted by Fotoukian et a (2014) on COPD patients that there are several factors that inhibit and that facilitate empowerment is mainly rooted in social factors, the health care system from the patient's personal factors (one of the support systems from family and friends). Family and peer support felt by dialysis patients is an element of building the patient's ability to interact and transact with nurses.

Patient personal factors are also shaped by family support. The results of

this study indicate that the family support obtained by the patient affects the patient's perception. Family support as measured in this study is the support felt by dialysis patients. Perceived support like this is a person's perception or feeling when they feel that comfort, attention and help are available when needed (Sarafino & Smith, 2016).

Relationship between Health Services and Self-Management in CKD Patients.

The results of the regression analysis test obtained a p value of 0.002 (< 0.005), meaning that there is a relationship between health services with self-management in CKD patients. The socioeconomic status of the economist is seen from income, without looking further at the socioeconomic conditions of the respondents whether they are in the capable category or not. Conditions in Indonesia with the existence of JKN insurance (BPJS) can be said to be profitable for dialysis patients because the JKN is still covered by the insurance. Thus, although the socioeconomic status of dialysis patients is still below the standard, it does not make it difficult for patients to get treatment.

The factor that influences patient empowerment is the behavior of nurses (Jerofke, 2013). Research by Kvale & Bondevik (2010) shows that patients appreciate their interactions with nurses who have experience and are able to combine knowledge, clinical skills and interaction skills. This makes the patient feel safe and protected.

This shows that the empowerment of dialysis patients occurs because of the interaction process that exists between nurses and patients without being influenced by the professional abilities of nurses. The differences that occur can be caused by the assessment of the professional ability of nurses seen from the patient's perception, not the result of direct observation. The assessment of a nurse's professional ability is seen from the patient's perception of having a weakness, namely the patient's perception when giving an assessment can be influenced by experience or emotional reactions that also influence individual perceptions. See in detail the assessment of nurses' professional abilities covering aspects of providing clinical services, education, ethical and supportive humanist services. Cooperation.

Assessment with a high score is in the aspect of clinical service delivery, which illustrates that dialysis nurses have the skills, skills and knowledge that are treated in special units. Factors of nurse expertise including competence and self-confidence affect nurse-patient interactions (Cleary et al, 1999; Halldorsdottir, 2008). Competence in question is the skills required by nursing in this case related to dialysis.

Conclusion

The study conducted on CKD patients at Wava Husada Hospital revealed that physical symptoms did not show a significant correlation with self-management in CKD patients receiving hemodialysis (p value 0.694). However, family support was found to have a significant positive relationship with self-management in CKD
patients undergoing hemodialysis (p-value 0.000), as were health services (p-value 0.002). Conversely, stressor assessment was found to not have a significant correlation with self-management in CKD patients receiving hemodialysis (p-value 0.499).

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Conflict of Interest

The authors declare no conflict of interest

Bibliography

Alvarez, JS et al. (2016) 'Association between Spirituality and Adherence to Management in Outpatients with Heart Failure', Arquivos Brasileiros de Cardiologia , pp. 491–501. doi:10.5935/abc.20160076.

Benefits of spirituality and/or religiosity in patients with Chronic Kidney Disease : an integrative review' (2019), 72(2), pp. 541–551.

Bertolin, DC (2016) 'Clinical variables, lifestyle and coping in hemodialysis', 34(3), pp. 483–491. doi:10.17533/udea.iee.v34n3a07.

Blaber, M., Jone, J. and Willis, D. (2015) 'Spiritual care: which is the best assessment tool for palliative settings?', International Journal of Palliative Nursing , 21(9), pp. 430–438. doi:10.12968/ijpn.2015.21.9.430.

Hamler, TC (2018) 'Chronic Kidney Disease and Older African American Adults : How Embodiment Influences Self-Management', pp. 1–14. doi: 10.3390/geriatrics3030052.

Hinkle, JL and Cheever, KH (2013) Clinical handbook for Brunner & Suddarth's textbook of medical-surgical nursing . Lippincott Williams & Wilkins.

Husain, F., Kusuma, H. and Johan, A. (2020) 'Effects of peer support program on self-management in patients with end-stage renal disease undergoing hemodialysis', Nurse Media Journal of Nursing , 10(2),

pp. 171–181. doi:10.14710/nmjn.v10i2.26502.

Hwang, HC et al. (2018) 'Influence of Major Coping Strategies on Treatment Non-adherence and Severity of Comorbid Conditions in Hemodialysis Patients', 33(20), pp. 1–11.

Indonesian, P. et al. (2018) '11 th Report Of Indonesian Renal Registry 2018 11 th Report Of Indonesian Renal Registry 2018', pp. 1–46.

Is, S. (2019) 'Relationship Among Coping Strategies, Quality of Life, and Anxiety and Depressive Disorders in Hemodialysis Patients', (11). doi: 10.1111/1744-9987.12914.

Mengistu, D. (2018) 'Self-management and associated factors among patients with end-stage renal disease undergoing hemodialysis at health facilities in Addis Ababa', pp. 329–336.

Niihata, K. et al. (2017) 'Association of coping strategies with mortality and health-related quality of life in hemodialysis patients : The Japan Dialysis Outcomes and Practice Patterns Study', pp. 1–13.

Nursalam, N. (2016) 'Nursing Research Methodology'. Salimba Medika.

Santos, PR et al. (2017) 'Religious coping methods predict depression and quality of life among end-stage renal disease patients undergoing hemodialysis: a cross-sectional study', pp. 1–8. doi:10.1186/s12882-017-0619-1.

Vitorino , LM et al. (2018) 'Spiritual and religious coping and depression among family caregivers of pediatric cancer patients in Latin America', Psycho-oncology , 27(8), pp. 1900–1907.

Weisbord, SD et al. (2004) 'Development of a Symptom Assessment Instrument for Chronic Hemodialysis Patients: The Dialysis Symptom Index', 27(3), pp. 226–240. doi:10.1016/j.jpainsymman.2003.07.004.

Wu, J. et al. (2016) 'Health-Related Quality of Life, Functional Status, and Cardiac Event-Free Survival in Patients With Heart Failure', The Journal of Cardiovascular Nursing , 31(3), pp. 236–244. doi:10.1097/JCN.0000000000000248.

Yaghoobzadeh, A. et al. (2018) 'Relationship Between Spiritual Well-Being and Hope in Patients with Cardiovascular Disease', Journal of Religion and Health , 57(3), pp. 938–950. doi:10.1007/s10943-017-0467-0.