

Research Article

The Relationship of Duration of Hemodialysis with Coping Mechanisms of Chronic Kidney Disease Patients Underwent Hemodialysis

I Gusti Agung Tirta Dewayani^{1*}, Ketut Lisnawati¹, Ika Setya Purwanti²

¹Bachelor Degree of Nursing Program, STIKes Wira Medika Bali

²Medical Record and Health Information Program STIKes Wira Medika Bali

Article history:

Submission November 2021

Revised June 2022

Accepted June 2022

*Corresponding author:

E-mail:

tirtadewayani@gmail.com

ABSTRACT

Chronic Kidney Disease patients undergoing hemodialysis can cause stress to the patient. The longer the patient suffers from Chronic Kidney Disease, the more the patient has a variety of experiences with stressors due to the disease. These experiences can be used as an anticipatory effort in dealing with stressors experienced by patients. The purpose of this was the relationship between the duration of hemodialysis and the coping mechanism of patients with chronic kidney disease undergoing hemodialysis. This study used descriptive quantitative, with a correlation design and a cross-sectional approach. The sample was 111 patients with chronic kidney disease undergoing hemodialysis. Sampling technique used the purposive sampling technique. The data collection instrument used a jalowiec coping scale questionnaire and length of underwent hemodialysis. The results showed that most respondents underwent hemodialysis in the category <8 months (70.3%). The coping mechanisms in most patients were categorized as adaptive (55%). It was concluded that there was a relationship between the duration of hemodialysis and the coping mechanism in patients with chronic kidney disease undergoing hemodialysis ($p = 0,000$). The correlation strength value is 0.402 (moderate strength), and the direction of the correlation is negative, it shows that if the length of time is more than eight months, then the patient's coping mechanism becomes adaptive. The patient has accepted the situation he was undergoing, which is due to routine hemodialysis, which causes the patient to often meet other patients with the same problem so that by often telling each other they can share experiences and problems and encourage each other.

Keywords: Chronic Kidney Disease, Coping mechanism, Duration of hemodialysis

How to cite:

Dewayani, I. G. A. T., Lisnawati, K., & Purwanti, I. S. (2022). The Relationship of Duration of Hemodialysis with Coping Mechanisms of Chronic Kidney Disease Patients Underwent Hemodialysis. *Basic and Applied Nursing Research Journal*, 3(1), 24 – 29. doi: 10.11594/banrj.03.01.05

Introduction

Chronic Kidney Disease (CKD) is a disease of kidney damage for three months or more due to structural or functional abnormalities of the kidney with or without a decrease in the glomerular filtration rate (GFR) or a GFR level of less than 60 mL/min/1.73m² over three months with or without kidney damage [1]. Patients often feel uncertain symptoms, so the disease has entered an advanced stage, and kidney function has decreased. The delay in detection and treatment of the disease causes the prevalence of death from CKD in several countries to be relatively high [2].

CKD has now become a health problem in the world. The results of Basic Health Research (Riset Kesehatan Dasar) in 2013 and 2018 show that the prevalence 15 years of chronic kidney diseases in Indonesia based on a doctor's diagnosis in 2013 was 0.2%, and there was an increase in 2018 by 0.38% and 19.33% ever or on hemodialysis. In Bali Province, in 2018, the prevalence of chronic kidney failure was 0.44%, and the proportion of hemodialysis was 37.04% [3]. CKD patients undergoing hemodialysis at the Sanjiwani Hospital, Gianyar, in 2018 were 1,049 people. In 2019, there were 1,076 people, and in 2020 in the last three months, there were 140 people in June, 142 people in July, and 176 in August, while from January to August, there were 1,158 people [4].

CKD is classified into five stages. Stage V is the final stage of CKD, an end-stage renal disease (ESRD). In CKD stage V the GFR value is less than 15 ml/min, thus requiring renal replacement therapy in the form of peritoneal dialysis, kidney transplantation, or hemodialysis [5]. Hemodialysis is one of the treatment options in CKD Stage V patients [6]. Patients must undergo hemodialysis throughout their life (usually 1-3 times a week) or until they get a new kidney through kidney transplant surgery [7].

CKD patients undergoing hemodialysis can experience various problems resulting from kidney dysfunction and the hemodialysis process. The problems that occur are not only problems with decreasing body functions but also psychosocial problems. Patients can experience psychosocial problems such as

worrying about their unpredictable illness. They usually experience financial problems, difficulty keeping a job, decreased sex drive, depression due to chronic disease, and fear of death. Other psychosocial problems are role disorders, worries about relationships with partners, lifestyle changes, loss of enthusiasm due to restrictions, and feelings of isolation. Even young patients worry about their marriage, their children, and the burden it places on their families [8].

These problems can cause stress which causes a variety of stress response responses. This stress can interfere with the patient's way of solving problems, thinking in general, and one's relationship and sense of belonging. In addition, stress can interfere with a person's general view of life, attitudes toward loved ones, and health status. Prolonged stress will also affect the patient's quality of life, so patients need an effective problem-solving or coping mechanism to be able to reduce or overcome stress [9].

The results of Oktaviana, Verawati, & Putra [10] research revealed that of the 70 respondents of CKD patients undergoing hemodialysis, as many as 58 respondents (82.86%) experienced stress. Based on a preliminary study conducted by researchers on 10 CKD patients who underwent hemodialysis, nine people were still afraid and worried about when hemodialysis would be performed, and one person said they were resigned to the HD action they were undergoing and from these ten people as many as seven people who let the problem go and didn't tell their family and as many as three people said they always told the issue to their output members. The action taken by the hospital is to provide enthusiasm and improve the patient's problem-solving ability.

Many factors can contribute to the coping mechanisms of CKD patients undergoing hemodialysis, including internal and external factors. This study examined the contribution of patient characteristics (age, length of illness, duration of HD) and acceptance of stress experienced by patients. Factors that affect coping mechanisms need to be anticipated in order to determine effective coping management by taking into account the characteristics of these contributing factors [11].

The longer the patient suffers from CKD, the more stressors the patient experiences due to his illness. These experiences can be used as anticipatory efforts in dealing with the stressors experienced by the patient so that the patient can adapt to his condition. The research conducted by Tokala [12] showed a significant relationship between the length of hemodialysis and the level of anxiety in the Hemodialysis Unit of Prof. RSUP. dr. R. D. Kandou Manado, North Sulawesi. Chronic illness is very stressful and can make patients to experience psychological problems. Patients undergoing hemodialysis usually experience psychosocial issues such as anxiety, depression, social isolation, loneliness, helplessness, and hopelessness due to a lack of control over activities of daily life and social life.

This study aimed to determine the relationship between the duration of hemodialysis and the coping mechanism of Chronic Kidney

Disease patients undergoing hemodialysis at the Sanjiwani Hospital, Gianyar.

Methods

This research was conducted in the Hemodialysis Room of the Sanjiwani Hospital, Gianyar, which was conducted in November 2020. This research is a quantitative descriptive study with a cross-sectional approach. The population in this study was all 153 CKD patients undergoing hemodialysis. The sample in this study was CKD patients undergoing hemodialysis in the Hemodialysis Room at the Sanjiwani Hospital, Gianyar, who met the inclusion criteria. The sampling technique used in this study was carried out by non-probability sampling, namely purposive sampling, with a total of 111 people. The data collection technique used a questionnaire for the length of time undergoing hemodialysis and the Jalowiec Coping Scale questionnaire. The analysis test was carried out with the Spearman rank test.

Results

Table 1. Respondent characteristics

Variables	Category	F (n=111)	%
Age	46-55 year	6	5.4
	56-65 year	102	91.9
	>65 year	3	2.7
Sex	Male	64	57.7
	Female	47	42.3
Education	Uneducated	15	13.5
	Elementary	37	33.3
	Junior high school	34	30.6
	Senior high school	17	15.3
	Diploma/PT	8	7.2
Undergoing HD	< 8 months	78	70.3
	≥ 8 months	33	29.7
Coping mechanism	Maladaptive	50	45
	Adaptive	61	55

Based on table 1, it was found that most of the respondents with an age range of 56-65 years, as many as 102 people (91.9%), 64 people (57.7%) were male, elementary school education as many as 34 people (33.3 %),

undergoing hemodialysis most of the respondents in the category of fewer than eight months as many as 78 respondents (70.3%), adaptive coping as many as 61 people (55%).

Table 2. Statistic results

Undergoing HD		< 8 months (%)	≥ 8 months (%)	Total (%)
Coping mechanism	Maladaptive	25 (22.5)	25 (22.5)	50 (45)
	Adaptive	53 (47.8)	8 (7.2)	61 (55)
Total		78 (70.3)	33 (29.7)	111 (100)
r:		-0.402		
p		0.000		

The results of the Spearman Rho test to analyze the relationship between the length of time undergoing hemodialysis and the coping mechanism of chronic kidney disease patients undergoing hemodialysis obtained a p-value = 0.000, which means that H_0 is rejected and H_a is accepted, so there is a relationship between the length of time undergoing hemodialysis with the coping mechanisms of chronic kidney disease patients undergoing hemodialysis. The correlation strength value is 0.402 (medium strength), and the direction of the correlation is negative.

Discussion

It was found that most of the time undergoing hemodialysis in chronic kidney disease patients who underwent hemodialysis was categorized as less than eight months. The results are supported by Hasibuan & Harto [13], which found that most patients with chronic kidney failure undergoing hemodialysis therapy are 21 people (52.5%) with a duration of 7-12 months. The results of research conducted by Yunie [14] revealed that the average length of time for chronic kidney disease patients undergoing hemodialysis is eight months because eight months is related to the process of adaptation and patient acceptance of a problem.

The duration of hemodialysis is the length of time the patient undergoes hemodialysis therapy. Patients who have been on hemodialysis therapy for a long time are already in the acceptance phase and believe that hemodialysis is a life-giving treatment that will make them live longer. Patients can accept the problems they face. The patient focuses on hope and thinks positively about hemodialysis. Patients

often perform religious actions such as praying, worshiping, and believing that God gave this pain for the patient's good. Meanwhile, patients who just started hemodialysis are still in the denial phase, where they still refuse to believe their condition [15].

The Iranian Journal of Kidney Disease research by Aness, Malik, Abbasi, & Nasir [16] said that the longer a patient undergoes hemodialysis therapy is inversely related to the quality of life of terminal kidney disease patients in Pakistan. The time limits used in this study were < 8 months and eight months due to the increasing level of concern and stress of patients because they thought hemodialysis should be able to cure the patient [16].

According to the researcher, the results of the study found that the length of time undergoing hemodialysis in chronic kidney disease patients who underwent hemodialysis for less than eight months showed that chronic kidney disease patients had used the time to carry out the dialysis process, which the procedure was carried out routinely by the patient because it was one of the one treatment that must be done for the survival of patients with chronic kidney disease. The length of time a patient undergoes hemodialysis will be related to the time used by the patient to carry out the hemodialysis process. The patient will routinely carry out the treatment process regularly and continuously to maintain the patient's quality of life.

Based on the study's results, it was found that most of the coping mechanisms in chronic kidney disease patients undergoing hemodialysis were categorized as adaptive. The results are supported by research conducted by Ariyanti & Sudiyanto [15], which revealed that of

the 123 respondents, most or as many as 71 people (57.7%) were in the adaptive category. It is also supported by Armiyati & Rahayu [11], 32 people (82.1%) with hemodialysis with coping mechanisms were categorized as adaptive.

A coping mechanism is a way of solving problems where when the body experiences tension in life, it causes the coping mechanism in the body to function to relieve the tension [17]. Adaptive coping mechanisms are those that support the functions of integration, growth, learning, and achieving goals. The categories include talking to others, solving problems effectively, relaxation techniques, balanced exercises, and constructive activities [18]. According to Mutoharoh [19] the factors that influence coping mechanisms, namely: expectations of self-efficacy, social support, optimism, education and gender.

According to the researchers, the study's results found that the coping mechanism in chronic kidney disease patients undergoing hemodialysis was categorized as adaptive, indicating that chronic kidney disease patients had been able to adapt to the problems they faced. The patient assesses hemodialysis as a healing process for his illness and accepts his illness as a trial that must be lived sincerely. The results obtained are different from the preliminary study results because of the different respondents and the adaptation process of the respondents during the hemodialysis process.

Based on the results of the study, it was found that there was a relationship between the length of hemodialysis and the coping mechanisms of chronic kidney disease patients undergoing hemodialysis. The results obtained are supported by research conducted by Tokala [12] which shows that there is a significant relationship between the length of hemodialysis undergoing hemodialysis and the level of anxiety in the Hemodialysis unit of Prof. RSUP. dr. R. D. Kandou Manado, North Sulawesi. It is also supported by research by Armiyati & Rahayu [11], which revealed that there was a relationship between the length of time CKD patients underwent hemodialysis and the coping mechanism of CKD patients undergoing hemodialysis at the Semarang City Hospital and research conducted by Sartika [20] which revealed that

there was a relationship between coping mechanisms with the level of anxiety in patients with chronic renal failure undergoing hemodialysis.

The study's results found that most of the duration of hemodialysis was categorized as less than 8 months and the coping mechanism was categorized as adaptive. provide life that will make them live longer. Patients are able to accept the problems they face. The patient focuses on hope and thinks positively about hemodialysis. Patients often perform religious actions such as praying, worshiping and believing that God gave this illness for the good of the patient. Patients show adaptive behavior by frequently telling their problems to their families and carrying out positive activities such as running a hobby to reduce negative thoughts about their illness.

According to the researchers, the study's results found a relationship between the length of hemodialysis and the coping mechanisms of chronic kidney disease patients undergoing hemodialysis, indicating that patients who have undergone hemodialysis for a long time are already in the receiving stage. The patient has accepted his condition because hemodialysis is carried out routinely, causing the patient to meet other patients with the same problem often so that by telling stories to each other constantly, they can share experiences and concerns and encourage each other. The length of time undergoing hemodialysis will affect the adaptation process and the patient's acceptance of the hemodialysis action undertaken by the patient.

Conclusion

Based on the results of the research and discussion, it was concluded that the duration of hemodialysis in chronic kidney disease patients undergoing hemodialysis was most of the respondents with the category <8 months, namely 78 respondents (70.3%). Coping mechanisms in chronic kidney disease patients undergoing hemodialysis mainly were categorized as adaptive, as many as 61 people (55%). There is a relationship between the length of hemodialysis and the coping mechanisms of chronic kidney disease patients undergoing hemodialysis. The correlation strength value is

0.402 (medium strength) and the direction of the correlation is negative.

It is recommended that nurses in the hemodialysis room always pay attention to the patient's coping mechanisms to prevent the patient's psychological problems and help speed up the patient's healing process.

References

1. Wahyuni, P., Miro, S., & Kurniawan, E. (2018). Hubungan Lama Menjalani Hemodialisis dengan Kualitas Hidup Pasien Penyakit Ginjal Kronik dengan Diabetes Melitus di RSUP Dr. M Djamil Padang. *Jurnal Kesehatan Andalas*, 7(4), 480. <https://doi.org/10.25077/jka.v7i4.905>
2. Sadnyari, I. A. M. (2017). *Waspada! Gagal Ginjal*. <https://bali.tribunnews.com/2017/02/27/waspada-gagal-ginjal-terlambat-penanganan-bisa-sebabkan-kematian>
3. Kemenkes RI. (2018). Riskesdas 2018. *Badan Penelitian Dan Pengembangan Kesehatan*, 1–22.
4. RSUD Sanjiwani Gianyar. (2020). *Rekam Medis RSUD Sanjiwani Gianyar*.
5. Suwitra, I. K. (2016). *Buku Ajar Ilmu Penyakit Dalam* (Edisi IV.). Pusat Penerbitan Departemen Ilmu Penyakit Dalam FKUI.
6. NKF-KDIGO. (2012). Clinical practice guideline for the evaluation and management of chronic kidney disease. *ISN*, 3(1), 1–163.
7. Sriwahyuni, L. (2016). *Hari Ginjal Sedunia 2016: Cegah Nefropati Sejak Dini*. <http://www.depkes.go.id/article/print/16031000001/hari-ginjal-sedunia-2016-cegah-nefropati-sejak-dini.html>
8. Hinkle, J. L., & Cheever, K. H. (2018). *Textbook of medical surgical nursing* (12 th). Lippincott Williams & Wilkins.
9. Potter, P. A., & Perry, A. G. (2017). *Buku Ajar Fundamental Keperawatan: Konsep, Proses dan Praktik*. EGC.
10. Oktaviana, N., Verawati, J., & Putra, D. (2019). Hubungan Frekuensi Hemodialisis Dengan Tingkat Stres Pada Pasien Gagal Ginjal Kronik Yang Menjalani Hemodialisis Di Rumah Sakit Royal Prima Medan Tahun 2019. *Jurnal Ilmiah PANNMED*, 13, 182–189.
11. Armiyati, Y., & Rahayu, D. A. (2018). Faktor yang Berkorelasi Terhadap Mekanisme Koping Pasien CKD yang Menjalani Hemodialisis di RSUD Kota Semarang. *Fakultas Ilmu Keperawatan Dan Kesehatan, Universitas Muhammadiyah Semarang*, 7.
12. Tokala, B. F. (2015). Hubungan Antara Lamanya Menjalani Hemodialisis Dengan Tingkat Kecemasan Pada Pasien Dengan Penyakit Ginjal Kronik. *Jurnal E-Clinic (ECI)*, 3(April).
13. Hasibuan, I. S., & Harto, F. (2019). *Gambaran Mekanisme Koping Pada Pasien Gagal Ginjal Kronik (GGK) yang Menjalani Hemodialisis di Ruang Hemodialisa RSUD H. Adam Malik Medan*. <http://repo.poltekkes-medan.ac.id/xmlui/handle/123456789/2186>
14. Yuwono, I. H., Armiyati, Y., & Chanif, C. (2017). Pengaturan Kecepatan Aliran Darah (Quick Of Blood) terhadap Rasio Reduksi Ureum pada Pasien Penyakit Ginjal Kronik Yang Menjalani Hemodialisis di Unit Hemodialisis RSUD Kota Semarang. *PROSIDING SEMINAR NASIONAL & INTERNASIONAL*.
15. Ariyanti, F., & Sudiyanto, H. (2017). Hubungan Antara Lama Menjalani Hemodialisis Dengan Mekanisme Koping Pasien Penyakit Ginjal Kronik Di Rumah Sakit Gatoel Mojokerto. *Hospital Majapahit (Jurnal Ilmiah Kesehatan Politeknik Kesehatan Majapahit Mojokerto)*, 9(2).
16. Aness, M., Malik, M., Abbasi, T., & Nasir, Z. (2014). Demographic factors affecting quality of life of hemodialysis patients. *Pak J Med Sci*, 30(5).
17. Suliswati. (2015). *Konsep Dasar Keperawatan Kesehatan Jiwa*. EGC.
18. Stuart, G. W. (2017). *Buku Saku Keperawatan Jiwa* (Edisi Revi). EGC.
19. Mutoharoh. (2017). *Faktor-faktor berhubungan dengan Mekanisme Koping Klien Gagal Ginjal kronik yang menjalani Terapi Hemodialisa di RS. Umum Pusat (RSUP) Fatmawati*. http://repository.uinjkt.ac.id/dspace/bitstream/123456789/2340/1/ITOH_MUTOHAROH-FKIK.PDF
20. Sartika, A. (2018). Hubungan Mekanisme Koping Dengan Tingkat Kecemasan Pada Pasien Gagal Ginjal Kronik Dalam Menjalani Hemodialisa Di Ruang Hemodialisa RSUD Bangil Pasuruan. *Insan Cendekia Medika*, 15(April), 2017–2019. <https://doi.org/10.22201/fq.18708404e.2004.3.66178>