



## THE RELATIONSHIP BETWEEN COPING MECHANISM AND ADHERENCE TO HEMODIALYSIS THERAPY ON CHRONIC RENAL DISEASE IN HEMODIALYSIS ROOM

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### ABSTRACT

Chronic renal failure is a disease caused by a prolonged decline in kidney function. One of the treatments performed by patients with chronic kidney failure is hemodialysis therapy. Hemodialysis therapy is carried out continuously and may result in patient psychosocial pressure. Coping mechanisms are adaptive and maladaptive. Adaptive coping mechanisms are needed by patients with chronic renal failure to improve compliance to hemodialysis therapy. The purpose of this study was to determine the relationship between coping mechanisms and compliance to hemodialysis therapy in chronic renal failure in the Hemodialysis Room of RSUD RA. Kartini Jepara. This research was quantitative research using *cross sectional* approach. This research was conducted on 42 samples using purposive sampling technique. Processing data using the Spearman Rank correlation test. Results this research, respondents who had adaptive coping mechanisms were 41 people (97.6%), 1 person (2.4%) had maladaptive coping mechanisms. Respondents who were obedient in undergoing hemodialysis were 38 people (90.5%) and 4 people who were not compliant (9.5%). The statistics test results  $p$  value = 0,001 and  $T_{count} = 0,481$ . Conclusion,  $H_a$  was accepted and  $H_0$  was rejected that means that there was a relationship between coping mechanisms and compliance with hemodialysis therapy in patients with chronic renal failure in the Hemodialysis Room of RSUD RA. Kartini Jepara.

Keyword: compliance; coping mechanism

### INTRODUCTION

Chronic renal disease (CRF) is fatal kidney damage caused by various things and almost irreversible. The term "uremia" has been used as that condition for more than a century, although it is known that the symptoms of chronic renal disease are not entirely caused by retention of urea in the blood. Renal insufficiency is a synonym for renal failure and is sometimes used for mild renal failure (Masriadi, 2016). The high prevalence of chronic renal disease was stated by the World Health Organization (WHO) in 2016, where the number of chronic and acute renal failure patients reached (50%) while those who received treatment (25%) and (12.5%) were treated well. According to Riskesdas 2018, the prevalence of chronic renal disease was still high, namely (3.8%) with an increase (1.8%) since 2013. Until now, around (10%) of the total population suffer from chronic renal disease. The prevalence of chronic renal disease tends to be higher in developing countries. In Southeast Asia, the prevalence of chronic renal disease varies, for example in Malaysia (9.1%), in Thailand (16.3%), while in Indonesia (12.5%).

Based on the Indonesian Renal Registry (IRR) data in 2017, the most common causes of renal failure in Indonesia were hypertension (36%) and diabetes (29%). IRR 2017 data showed that the number of active hemodialysis patients was 77,892, while the number of new patients was 30,843, 59% of whom were aged 45-64 years. In Central Java, the number of new patients in 2017 was 2488 people. In Jepara Regency, the number of chronic renal disease patients reached 232 (IRR, 2017).

One of the chronic renal disease treatments is hemodialysis therapy. Continuous hemodialysis therapy can result in psychosocial distress for the patient. The adaptive and maladaptive

coping mechanisms are carried out by the patient. A coping mechanism is an individual effort to cope with changes or burdens received by the body, causing non-specific body responses such as stress. If the coping mechanism is successful, someone will be able to adapt to these changes or burdens (DP Pradana, 2019). An adaptive coping mechanism is needed by chronic renal disease patients to increase adherence to hemodialysis therapy. Chronic renal disease patients should be available for hemodialysis therapy. Adherence is obedience in implementing therapy. Adherence is one of the problems in chronic renal disease patients. Non-adherence can lead to treatment failure, thereby reducing the quality of life and increasing mortality and morbidity. Factors related to patient adherence in undergoing hemodialysis are age, education, the period of hemodialysis, motivation, and family support (Suhartiningsih, 2018). The purpose of this study was to find out the relationship between coping mechanism and adherence to hemodialysis therapy on chronic renal disease in hemodialysis room RSUD RA Kartini Jepara.

## METHOD

This study used quantitative method with cross sectional approach. This study used 42 chronic renal disease patients underwent hemodialysis therapy in Hemodialysis Room RSUD RA Kartini Jepara with purposive sampling technique. Data were collected online by distributing google form questionnaires to respondents via the WhatsApp application. Data were analyzed using the Spearman Rank correlation test with significance p-value <0.05.

## RESULTS AND DISCUSSION

### Characteristics of Respondents

Table 1.

Gender	f	%
Male	23	54.8
Female	19	45.2

Table 1, there were 23 male respondents (54%) and 19 female respondents (45.2%).

Table 2.

Age	Frequency	Percentage (%)
15-24	1	2.4
25-34	3	7.1
35-44	9	21.4
45-54	22	52.4
>50	7	16.7

Table 2, there were 22 45-54 years old respondents (52.4%) and 1 15-24 years old respondents (2.4%).

Table 3.  
 Respondents Frequency Distribution Based on Education Level in Hemodialysis Room  
 (n=42)

Education	f	%
Elementary High School	9	21.4
Junior High School	12	28.6
Senior High School	15	35.7
University	6	14.3

Table 3, there were 15 senior high school graduates (35.7%) and 6 university graduates (14.3%).

Table 4.  
 Respondents Frequency Distribution Based on Hemodialysis Period in Hemodialysis Room  
 (n=42)

Hemodialysis Period	f	%
<1 year	16	38.1
>1 year	26	61.9

Table 4, 26 respondents underwent > 1 year hemodialysis therapy (61.9%) and 16 respondents underwent < 1 year hemodialysis therapy (38,1%).

Table 5.  
 Respondents Frequency Distribution Based on Coping Mechanism in Hemodialysis Room  
 (n=42)

Coping mechanism	f	%
Adaptive coping mechanism	41	97.6
Maladaptive coping mechanism	1	2.4

Table 5, 41 respondents underwent adaptive coping mechanism (97.6%) and 1 respondent underwent maladaptive coping mechanism (2.4%).

Table 6.  
 Respondents Frequency Distribution Based Adherence in Hemodialysis Room (n=42)

Adherence	f	%
Adherence	38	90.5
Non-adherence	4	9.5

Table 6, 38 respondents adhered to hemodialysis (90.5%) and 4 respondents did not adhere (9.5%).

Table 7.  
 The Relationship Between Coping Mechanism and Adherence To Hemodialysis Therapy on  
 Chronic Renal Disease In Hemodialysis Room (n=42)

Coping Mechanism	Adherence				Total	<i>p</i> value	<i>r</i>	
	Adherence		Non-Adherence					
	f	%	f	%				
Adaptive	38	90.5	3	7.1	41	97.6	0,001	0,481
Maladaptive	0	0	1	2.4	1	2.4		

Table 7, 38 respondents adhered to adaptive coping mechanism (90.5%), 3 respondents did not adhere to adaptive coping mechanism (7.1%), while 1 respondent did not adhere to maladaptive coping mechanism (2.4%).

The general data consists of gender, age, education level, and hemodialysis period which will be discussed in the following description. Based on the results, there were 23 male respondents (54%) and 19 female respondents (45.2%). These results may be related to the incidence of diseases that cause chronic renal disease, such as kidney stones, which also occurs in male patients (Sitifa & Syaiful, 2018). Chronic renal disease can also be caused by urinary tract obstruction or complications from acute renal failure. Urinary tract obstruction can be caused by benign prostatic hyperplasia, kidney stones, urethral strictures, tumors, congenital kidney defects, neurogenic bladder, or retroperitoneal fibrosis (Sloane (2004) in Divanda (2019)). This is also due to differences in frequency between male and female patients such as occupation, living habits, genetics, or physiological conditions (Budiarto & Anggraeni (2002) in Suhartiningih (2018)).

Based on the results, there were 22 45-54 years old respondents (52.4%) and 1 15-24 years old respondents (2.4%). The function of the kidneys and urinary tract will change with age. After the age of 40, there will be a progressive 50% decrease in the glomerular filtration rate until the age of 70 (Smeltzer & Bare, 2013). Based on the results, there were 9 elementary school graduates (21.4%), 12 junior high school graduates (28.6%), 15 senior high school graduates (35.7%), and 6 university graduates (14.3%). According to a theory by Niven (2013), education can raise adherence, along that education is an active education such as the use of books and tapes by patients independently.

Based on the results, 41 respondents underwent adaptive coping mechanism (97.6%) and 1 respondent underwent maladaptive coping mechanism (2.4%). Coping is an effort to adjust to sources of stress, which causes unpleasant emotions (Siswanto, 2016). According to Stuart & Lariaa (2007) in Dina Noviana (2017), coping mechanisms are individual efforts to cope with stress. Based on the results, the respondents underwent adaptive coping mechanisms always accept the situation as it is, always encourage themselves and must not give up, receive support from family, always pray and draw closer to God, always tell problems during hemodialysis to health workers and do not blame self. While the respondents underwent maladaptive coping mechanism are caused by various things such as lack of support from their family, lack of enthusiasm in themselves, always blame themselves for not being able to maintain their health, always hiding their sadness in front of others. This can affect the coping mechanism of chronic renal disease patients to become a maladaptive coping mechanism.

This is in line with a study by Suhartiningsih (2018) which showed that 24 respondents underwent adaptive coping mechanism (85.7%). The adaptive coping mechanism can affect adherence to hemodialysis therapy, otherwise, the patient underwent maladaptive coping mechanism that affects patient adherence so that the patient did not adhere to hemodialysis therapy. The acceptance of disease provides a positive outlook for patients, so the religious approach is also very influential, by praying one can feel inner calm so that they are able to carry out an adaptive coping mechanism. The maladaptive coping mechanism is caused by various things that affect the psychological and physical condition. Decreased body function in chronic renal disease patients causes them to feel useless, thus emotionally influencing the interaction process with other people. This condition indicates that the patient is feeling hopeless (Suhartiningsih, 2018).

Based on the results, 38 respondents adhered to hemodialysis (90.5%) and 4 respondents did not adhere (9.5%). According to Brannon and Feist (2010) in Susanti Niman (2017) adherence is a behavior to follow medical requests or it can be defined as the ability to follow recommended health practices. Niven (2013) stated that adherence is defined as patient behavior in accordance with health requirements. Adherence to hemodialysis therapy is shown by routine hemodialysis every two times a week according to the schedule of health workers, never accelerating the hemodialysis schedule, always taking medication, always following a fluid restriction program, and always following dietary recommendations from health workers. The respondents did not adhere to hemodialysis due to several factors, namely always accelerating the hemodialysis schedule, never participating in a fluid restriction program, rarely following a diet program from the health workers. This is in line with a study by DP Pradana (2019) that dari 42 responden, 97,6% adaptive coping mechanism patients adhered to hemodialysis therapy.

Based on the results, 38 respondents adhered to adaptive coping mechanism (90.5%), 3 respondents did not adhere to adaptive coping mechanism (7.1%), while 1 respondent did not adhere to maladaptive coping mechanism (2.4%). Based on Rank Spearman correlation test,  $p$  value  $< \alpha$  ( $0.001 < 0.05$ ) with a 5% significance value. Thus, it can be concluded that  $p$  value  $< 0.05$ , then  $H_a$  is accepted and  $H_0$  is rejected which means there was a relationship between coping mechanism and adherence to hemodialysis therapy on chronic renal disease in hemodialysis room RSUD RA Kartini Jepara. The  $\rho$  calculation was 0.481 which means there was a significant relationship between coping mechanism and adherence to hemodialysis therapy.

Chronic renal disease is the failure of kidney function to maintain metabolism as well as fluid and electrolyte balance, progressive destruction of the kidney structure with the accumulation of metabolic (toxic) waste in the blood (Arif Muttaqin, 2012). The goal of hemodialysis therapy is to reduce creatinine and other toxic substances in the blood. Hemodialysis also aims to relieve symptoms by controlling uremia, fluid overload, and electrolyte imbalance in end-stage renal disease patients (Markum (2006) in Usep Munawar (2017)). One of the factors that influence the non-compliance of the adaptive coping mechanism patients is the fluid restriction program. Fluid restriction for chronic renal disease patients is significant because if it is not restricted, it will harm the body. Another factor affecting non-compliance is the distance from the house to the health service. Long distances require expensive transportation and medical costs. The coping mechanism has an important role in raising adherence to hemodialysis therapy in chronic renal disease patients. Thus, the ability to adapt to the hemodialysis therapy program can be maximized with support from family and advice from health workers. It is hoped that hemodialysis patients will be able to raise adherence with adaptive coping mechanism and this study can be used as input such as by conducting family health education on the relationship between coping mechanism and adherence to hemodialysis therapy.

## CONCLUSION

Based on the results, 41 respondents underwent adaptive coping mechanism (97.6%) and 1 respondent underwent maladaptive coping mechanism (2.4%). 38 respondents adhered to hemodialysis (90.5%) and 4 respondents did not adhere (9.5%). There was a relationship between coping mechanism and adherence to hemodialysis therapy on chronic renal disease in hemodialysis room RSUD RA Kartini Jepara, based on Rank Spearman correlation test,  $p$  value  $< \alpha$  ( $0.001 < 0.05$ ).

## REFERENCES

- Aisara, Sitifa, dkk. 2018. *Gambaran Klinis Penderita Penyakit Ginjal Kronik Yang Menjalani Hemodialisa di RSUP Dr. M. Djamil Padang*. Jurnal Keperawatan
- Divanda, Dini Reninta, dkk. 2019. *Asuhan Gizi Pada Pasien Gagal Ginjal Kronik di Rumah Sakit Umum Daerah Panembahan Senopati Bantul*. Jurnal Keperawatan
- Indonesian Renal Registry. 2017. *Program Indonesian Renal Registry*. <https://www.indonesianrenalregistry.org/data/IRR%202017%20.pdf>. Diakses pada tanggal 7 Januari 2020
- Noviana, Dina. 2017. *Gambaran Mekanisme Koping dan Kemampuan Adaptasi pada Santri Baru di Pesantren Al-Ikhlas Desa Majapura Kecamatan Bobotsari*. Fakultas Ilmu Kesehatan. Universitas Muhammadiyah Purwokerto.
- Masriadi. 2016. *Epidemiologi Penyakit Tidak Menular*. Jakarta: TIM
- Munawar, Usep. 2017. *Hubungan Kejadian Komplikasi Intradialisis dengan Nilai Saturasi Oksigen (SpO<sub>2</sub>) pada Pasien Hemodialisis di RSUD Prof. Dr. Margono*. Fakultas Ilmu Kesehatan. Universitas Muhammadiyah Purwokerto.
- Muttaqin, Arif. 2012. *Asuhan Keperawatan Gangguan Sistem Perkemihan*. Jakarta: Salemba Medika
- Niman, Susanti. 2017. *Promosi dan Pendidikan Kesehatan*. Jakarta: TIM
- Niven, Neil. 2013. *Psikologi Kesehatan : Pengantar untuk Perawat & Profesional Kesehatan lain*. Jakarta: EGC
- Pradana, DP. 2019. *Hubungan antara Mekanisme Koping dengan Kepatuhan Terapi Pasien Hemodialisa di RSUD Pandan Arang Boyolali*. Jurnal Keperawatan
- Siswanto. 2016. *Kesehatan Mental Konsep, Cakupan dan Perkembangan*. Yogyakarta: ANDI
- Smeltzer, Suzanne C. dan Bare, Brenda G. 2013. *Buku Ajar Keperawatan Medikal Bedah Brunner dan Suddarth (Ed.8)*, Alih bahasa oleh Agung Waluyo dkk. Jakarta: EGC
- Suhartiningsih. 2018. *Hubungan Mekanisme Koping dengan Kepatuhan Menjalani Hemodialisa pada Pasien Gagal Ginjal Kronik di RSUD Dr. R. Soedjono Selong*. Jurnal Keperawatan
- WHO. 2016. *Adherence Long-term Therapies. Evidence for action*. <http://www.emro.who.int/ncd/publicity/adherencereportindiabeticpatient>.