

ANXIETY LEVELS AND SELF-MANAGEMENT IN PATIENTS UNDERGOING HEMODIALYSIS

Rizki Muliani¹, Leni Selviana Herman², Sri Wulan Megawati³
Faculty of Nursing, Bhakti Kencana University Bandung
Email : rizki.muliani@bku.ac.id

ABSTRACT

Chronic kidney disease is irreversible so it is necessary to make efforts to maintain kidney function through hemodialysis throughout its life. Hemodialysis will not be effective without being based on the daily life management of the client itself, known as self-management, which includes modification of his lifestyle in regulating diet, limiting fluids, vascular access care, and medication adherence. One of the factors that influence self-management is anxiety because this worry can make the patient's condition worse so that the patient cannot control, direct and manage his management. The purpose of this study was to analyze the relationship between anxiety levels and self-management in patients undergoing hemodialysis at Majalaya General Hospital. The type of research used is a correlation study with a cross-sectional approach. In this study, the population was 55 patients with new hemodialysis patients from January to July at Majalaya Hospital with a sample of 35 respondents, taken using the Accidental Sampling technique. The research instrument used the Hemodialysis Self-Management Instrument (HDSMI) and ZSRA-S (Zung Self Rating Anxiety Scale). Data analysis using Spearman Rank Correlation. The results showed that most of the patients had a moderate level of anxiety, namely 19 people (54%), and most patients had moderate self-management, namely 21 people (60%). The results of the Spearman Rank Correlation test show a signed value (2-tailed) of $0.000 < \alpha (0.05)$, which means that there is a relationship between the level of anxiety and self-management in patients undergoing hemodialysis at the Majalaya Hospital. Nurses are expected to improve communication so that patients can express their feelings and problems, as well as provide education and information about the importance of self-management of hemodialysis.

Keyword : Anxiety, Chronic Kidney Disease, Hemodialysis, Self-management

1.INTRODUCTION

Chronic Kidney Disease (CKD) is a serious health problem in the world and Indonesia. Based on data from Global Burden of Disease in 2010, chronic kidney failure was ranked 18th in 2010 with a mortality rate of 16.3% per 100,000. In Indonesia, the prevalence of CKD increased from 2013 (2.0%) per 1000 population to (3.8%) in 2018, and increases with increasing age, with an increase in the 35-44 year age group compared to the 25-34 age group year. Then the prevalence in men (4.17%) was higher than women (3.52%), a higher

prevalence occurred in urban communities (3.85%). While the prevalence by province, West Java is the 8th province that has experienced an increase in 2018 after Aceh (Risksedas, 2018).

CKD is the failure of kidney function to maintain metabolism and fluid and electrolyte balance due to progressive destruction of kidney structures with the manifestation of accumulation of metabolic waste (toxic uremic) in the blood (Muttaqin & Sari, 2014). Uremia is a result of the body's inability to maintain metabolism and balance of fluids and electrolytes due to progressive and irreversible disturbances in kidney function (Smeltzer & Bare, 2010). To remove metabolic waste, and excess fluid and substances that are not needed by the body, kidney replacement therapy is needed.

Hemodialysis is one of the most frequent renal replacement therapies performed on CKD clients and is a method of dialysis therapy that aims to remove fluids and waste products from the body when the kidneys cannot accurately or progressively carry out the process (Harmilah, 2020). Hemodialysis can be done when toxins or toxic substances must be removed immediately to prevent permanent damage or cause death (Muttaqin & Sari, 2014). Harmilah (2020) states that hemodialysis is generally performed on CKD patients and takes 3-5 hours and is carried out 3 times a week.

According to the Indonesia Renal Registry (2018), the number of hemodialysis procedures has increased in Indonesia from year to year, in 2017 amounting to 1,694,432, there was a quite high increase in 2018 to 2,754,409. In 2018 there was an increase of about twofold new patients compared to 2017 around 30,831 to 66,433, this also has an impact on the number of active patients, which increased sharply compared to the previous year of around 77,892 in 2017 to 132,142 in 2018. More than two million people in the world get treatment with dialysis or kidney transplant and only about 10% experience this treatment (Kemenkes RI, 2018).

Hemodialysis will not be effective without being based on the management of daily life. Self-management is important in the management of patients who have a chronic disease, including patients who are undergoing hemodialysis. Self-management is defined as an individual's ability to manage symptoms, treatment, physical, psychosocial consequences, and lifestyle changes from health conditions, especially chronic diseases (Gela & Mengistu, 2018). Self-management begins with providing information about the disease they are experiencing so that patients will get tasks that must be done as patients with chronic diseases (Astuti et al., 2018), as well as tasks that must be undertaken by individuals with chronic diseases such as treatment management, behavior management ability (Self-Efficacy), decision making (Problem Solving), emotional management, resource utilization, relationships with health workers, and self-care (Li et al., 2014). This long treatment requires the involvement of patients in modifying their lifestyle in regulating diet, limiting fluids, vascular access care, and adherence to regular hemodialysis (Astuti et al., 2018).

Improving Self-Management in patients undergoing hemodialysis is an effective way to reduce the incidence of mortality and complications, and can improve quality of life (Griva et al., 2011). There are various complications of chronic renal failure that can occur if the patient does not comply with self-management such as dyspnoea and severe uremic syndrome. Hemodialysis patients who do not comply with self-management will experience worsening conditions, ineffective treatment, and can cause economic losses because patients have to pay higher treatment costs (Pratiwi et al., 2019). For that hemodialysis patients must carry out self-management properly to improve their health condition. To carry out self-management optimally in hemodialysis patients can be influenced by several factors. According to Li et al (2014), Nasution et al (2013), Gela & Mengistu (2018), Astuti et al (2018) factors that influence self-management include education, knowledge, self-efficacy, social support, financing, and worry.

Anxiety is a common symptom that appears in CKD patients undergoing dialysis treatment and has a straight comparison with a decrease in quality of life because it is related to patient self-management (Wakhid & Suwanti, 2018). Anxiety can be defined as an emotional reaction to unpleasant subjective experiences regarding an individual's worry or tension in the form of feelings of anxiety, tension, and emotions experienced by a person (Ghufron, M & Risnawita, 2012). This symptom is a normal and appropriate response to stress but becomes pathological if it does not match the stress severity, continues after the stressor disappears, or occurs in the absence of external stressors (Yanti & Miswadi, 2018). When someone experiences pain, the psychological impact that someone will experience is anxiety (Arafah et al., 2015).

The level of anxiety is influenced by how the patient undergoes hemodialysis. In patients who have just undergone the hemodialysis procedure, the average level of anxiety obtained is because in the initial period the patient felt that he was hopeless and could not recover as before. Anxiety in patients undergoing hemodialysis is caused by a situational crisis, death threats, and not knowing the outcome of the therapy carried out (Santoso, 2018). Patients also often experience problems such as loss of work, income, freedom, decreased life expectancy, and sexual function which can cause anger and will lead to a condition of anxiety as a result of the systemic illness that preceded it (Wakhid & Suwanti, 2018). These problems can disrupt his life and will have an impact directly or indirectly on the implementation of his care.

The results of research by Astuti et al (2018) state that respondents who do not feel anxiety and depression show better self-management than respondents who experience anxiety and depression. Individuals undergoing hemodialysis often feel worried about their illness. This worry can affect their physical and psychological condition, this will make the patient's condition worse so that the

patient cannot control, direct and regulate their behavior. Meanwhile, patients who have emotional maturity, high reasoning, and can manage the stress that occurs to them will find it easier to carry out self-management or carry out good self-management (Nasution et al., 2013). Psychological factors (anxiety and depression) can be a good predictor of self-management (Gela & Mengistu, 2018). The anxiety that occurs continuously will cause stress that will interfere with daily activities. If this problem is not resolved, it can cause more serious psychological problems such as depression (Riski et al., 2019).

Data on patients undergoing hemodialysis at the Majalaya Regional Hospital from the year were found to have increased, especially in new patients, recorded from 2017 as many as 108 patients, 2018 as many as 140 patients, 2019 as many as 123 patients, and in 2020 data from January-July as many as 55 new patients. undergo hemodialysis. Based on the results of the preliminary study, the patient said that he received support from the nurse so that the patient always underwent HD regularly and did not give up on his illness, for meeting physical needs such as managing nutrition, fluids, and medication, the patient was still unable to fully comply and carry out all activities independently. because the patient often complains of weakness and fatigue so that the patient is helped by the family as a supporting factor. The nurse said that most of the patients could not manage themselves, especially in medication adherence, restriction of fluids, and food. Resulting in several physical and psychological problems that occur such as shortness of breath, edema, fatigue, weight loss, anxiety. The reason for patient non-compliance in treatment is because they still have not accepted the disease they are experiencing and are still looking for other alternatives to dialysis, especially in new patients, they undergo hemodialysis therapy with compulsion due to complaints of shortness experienced due to non-adherence to treatment. The psychological problems experienced by chronic kidney failure patients undergoing hemodialysis are, among others, due to the impression that they have in their environment regarding poor dialysis, worry about the disease and the condition that they

have to undergo continuous hemodialysis, financial problems, fear of the tools used, and fear of death, with symptoms of anxiety that often appear, namely the patient looks silent, has difficulty sleeping, dizziness, weakness, decreased appetite. So that based on the problems that occur, it is necessary to study anxiety and self-management in patients undergoing hemodialysis.

Therefore, researchers are interested in researching "The Relationship Between Anxiety Levels and Self-Management in Patients Underwent Hemodialysis at Majalaya Hospital"

2.MATERIALS AND METHODS

This study used a descriptive correlative research design with a cross-sectional approach. The population in this study were 55 new patients undergoing hemodialysis from January to July at Majalaya Hospital with a total sample of 35 patients who were taken using the Accidental Sampling technique. The instrument in this study used a Hemodialysis Self-Management Instrument consisting of 20 question items divided into 4 sub-variables: there is problem-solving (five items), emotional management (four items), self-care (seven items), and partnerships there are (four items), and the Zung Self Rating Anxiety Scale (ZSRA-S) which consists of 20 question items consisting of 15 Unfavorable and 5 Favorable questions. Data collection was carried out by distributing questionnaires to patients while undergoing intradialytic. Data were analyzed using the Spearman rank correlation test.

3.RESULTS

Table 1
Frequency Distribution of Anxiety Levels in Patients Undergoing Hemodialysis

Anxiety Levels	Frequency	Percentage
Mild	11	31,4%
Moderate	19	54,3%
Severe	5	14,3%
Panic	0	0%

Total	35	100%
-------	----	------

Based on table 1, it can be seen that of the 35 patients who underwent hemodialysis at the Majalaya Regional Hospital, most of them had moderate anxiety levels, namely 19 people (54%).

Table 2
Frequency Distribution of Self-management in Patients Undergoing Hemodialysis

Self-Management	Frequency	Percentage (%)
Bad Self-Management	5	14,3%
Moderate Self-Management	21	60%
Good Self-Management	9	25,7%
Total	35	100%

Based on table 2, it can be seen that of the 35 patients who underwent hemodialysis at the Majalaya Regional Hospital, most of them had moderate self-management, namely 21 people (60%).

Table 3
Frequency Distribution of Self-Management Sub Variables in Patients Undergoing Hemodialysis

Sub Variables	Bad	Moderate	Good
Problem Solving	4 (11,4%)	25 (71,4%)	6 (17,1%)
Emotional Management	7 (20%)	22 (62%)	6 (17%)
Self-care	6 (17,1%)	19 (54,3%)	10 (28,6%)
Partnership	5 (14,3%)	22 (62,9%)	8 (22,9%)

Based on table 3, it can be seen that of the 35 patients undergoing hemodialysis at Majalaya Hospital, it shows that the sub variable with the highest good category is the self-care sub variable, namely 10 people (28.6%), the problem-solving sub variable is a sub variable with a moderate number of categories. The highest was 22 people (71.4%), and the emotional management sub variable was the sub variable with the worst category, namely 7 people (20%).

Table 4
Relationship Between Anxiety Levels and Self-Management in Patients
Undergoing Hemodialysis

Anxiet Levels	<i>Self-Management</i>						α	<i>Sign</i> (2- tailed)	<i>t</i> hitung	<i>t</i> tabel
	Bad		Moderate		Good					
	F	%	F	%	F	%				
Mild	0	0	5	14,28	6	17,14				
Moderate	0	0	16	45,7	3	8,57	0,0 5	0,000	5,0192	1,69236
Severe	5	14,28	0	0	0	0				
Panic	0	0	0	0	0	0				

Based on table 4, it can be seen that almost some patients have a moderate level of anxiety with moderate self-management as many as 16 people (45.71%). The results of the Spearman Rank test obtained sig 0.000 ($\alpha = 0.05$) with a Correlation Coefficient value of -0.658 with a correlation direction which interprets that the greater the value of a variable, the smaller the value of other variables, the higher the level of anxiety, the lower the self-management. This shows that there is a relationship between the level of anxiety and self-management in patients undergoing hemodialysis at Majalaya Hospital.

4. DISCUSSION

1. Levels of Anxiety in Patients Undergoing Hemodialysis at Majalaya Hospital

Wakhid & Suwanti (2018) stated that the anxiety that occurs in patients undergoing hemodialysis is caused by a situational crisis, death threats, and not knowing the outcome of the therapy carried out. With the psychological changes that are felt, it can be seen from the physical condition and behavior

changes, including patients, always feel confused, feel insecure, dependent, and become passive individuals (Wakhid & Suwanti, 2018). Patients with hemodialysis have varying degrees of anxiety which can be influenced by how the patient undergoes the hemodialysis procedure. The category of anxiety levels is divided into 4 levels, namely: mild, moderate, severe, panic (Annisa & Ifdil, 2016).

Based on table 1, shows that almost 11 patients experienced mild anxiety levels (31.4%). This mild anxiety is associated with tension in everyday life and causes a person to be alert and increase the perception area (Annisa & Ifdil, 2016). The results of field observations show that the patient is calmer and looks comfortable in his condition, has motivation for his recovery, and wants to do activities as before, making the patient always think about positive things in his life so that the patient can control all the problems at hand. The results of this study are following Wakhid & Suwanti, (2018) which shows the results of 27 respondents (30.7%) of 88 patients experiencing mild anxiety, this is indicated by the manifestation of 22 people being tired, 2 people irritable, 3 people in the field of increased perception, awareness high, able to learn, increased motivation and behavior according to the situation.

Based on table 1, it can be seen that most of the patients experienced moderate anxiety as many as 19 people (54%) of 35 patients. This level of anxiety allows a person to focus on important issues and put others aside so that a person experiences selective attention, but can do something in a direction. The results of field observations show that the patient is still thinking about the problem at hand, but the patient believes that all the problems faced must have a solution, including the current disease that the patient is experiencing, the patient can only surrender and pray for his recovery, the patient also gets motivation from family and closest people to

always undergo therapy according to his schedule and reduce the burden on his mind.

A small proportion of patients experienced severe anxiety as many as 5 people (14.3%). This is in line with Amalia's research (2020), there are 5 people (11.9%) who have severe levels of anxiety. Severe anxiety greatly reduces the field of perception of a person with severe anxiety tends to focus on something detailed and specific, and cannot think about anything else, so that individuals with severe anxiety need a lot of direction to be able to focus on another area. The results of field observations show that the patient experiences severe anxiety because the patient has only undergone hemodialysis several times, the patient is still not familiar with the environment and all the equipment installed in his body, the patient also has not accepted the disease he is experiencing and makes all the problems he faces a burden in his life, The patient also feels that it will be more troublesome for the family and those closest to him because the patient cannot do activities freely and must always be helped by his family.

Based on the results of field observations, shows that most patients are willing to accept the condition of the disease, this can be seen from the positive attitude of the patient towards healing, belief in God, family support, and the patient has often undergone hemodialysis so that the patient already understands the hemodialysis procedure and has started They are accustomed to the tools they have on their bodies, although several things outside of hemodialysis that become a burden to their minds that carry over when doing hemodialysis these stressors can be handled properly so that the patient's anxiety level can be reduced and to a moderate level.

Based on the ZSRA-S questionnaire regarding anxiety, seen from the statement which states that increased anxiety, the highest value is found in item number 8 where the patient experiences many signs and symptoms that

appear such as feeling weak and tired quickly, while for the lowest score on item number 12 and item number 18 which states that I often faint or feel faint and my face feels hot and flushed, the impact of the symptoms that appear on the patient is from the variable of increased anxiety with signs that appear such as the patient feeling tired and weak, resulting in inhibition of the patient from doing activities and an increase body temperature. Whereas in the statement that shows a decrease in anxiety the highest value is in item no.19 where the patient shows signs and symptoms, namely the patient falls asleep easily and can rest well, while for the lowest score in item number 17 where the patient shows signs of dry and warm hands, the impact of Symptoms that appear in the patient care from the anxiety reduction variable, namely the patient does not appear restless, and is comfortable with his condition.

2. Self-Management of Patients Undergoing Hemodialysis at Majalaya Hospital.

Hemodialysis patients must undergo various treatment therapies including hemodialysis on schedule, use of drugs as recommended, limiting fluid and food intake, and self-care. In carrying out this treatment, hemodialysis patients must carry out self-management so that treatment can go according to expectations and treatment goals can be achieved (Pratiwi et al., 2019). Self-management is defined as an individual's ability to manage symptoms, treatment, physical, psychosocial consequences, and lifestyle changes from health conditions, especially chronic diseases (Gela & Mengistu, 2018).

Based on the results, most of the patients had moderate self-management as many as 21 people (60%) and as many as 9 people (25.7%) had good self-management. Self-management of patients undergoing hemodialysis is a positive effort for patients to find and participate in their health services to optimize health, prevent complications, control symptoms, arrange treatment. By Pratiwi's research results, (2019), as many as 37 people (28.7) obeyed self-management, patient compliance in carrying out hemodialysis

according to schedule was good. The results of Kamilah's research, (2018) show that most patients (53.8%) with self-care management have reached the moderate category. Self-care management includes fluid restriction, diet regulation, medication, and vascular access care.

The results showed that a small proportion of patients had poor self-management as many as 5 people (14.3%). The results of Supati's (2015) study state that patients undergoing hemodialysis must limit fluids and food, lose freedom, depending on health services, conflicts in marriage, family, and social life, reduced income which causes patients to ignore their illnesses so that the patient's self-management in the bad category.

From the results of the study, the highest results were obtained on the sub variable problem-solving item question number 7 which states that patients try to describe what leads to uncomfortable symptoms, while for the lowest results on item no.1 which states that most patients rarely discuss and ask about the results of blood tests (Hb, urea, creatinine, etc.), this is because when the doctor explains the laboratorium results the patient only listens without giving feedback in the form of questions about the test results, which can have an impact on improving life patterns when abnormal lab results. The highest result on the emotional management sub variable is question item number 17 which states that most patients have tried to discuss the emotional stress that occurs, while for the lowest score on item number 20 which states that most patients are reluctant to ask for help from others when they have a problem. , this is because the patient does not want to add to the burden on the family or the closest person to the problems the patient is facing, if this continues it will result in the patient having a high level of anxiety. The highest result on the self-care sub variable is item number 8 which states that patients always wash vegetables before cooking, while for the lowest value on item number 9 which states that most patients do not clean needle puncture marks on their hands before dialysis, patients

rarely or not. Never cleaned a needle puncture before doing hemodialysis because the nurse always cleans it first when a treatment procedure is going to be carried out, this will have an impact on the patient's self, especially in the treatment of AV fistula which if not treated will cause swelling in the area of the insertion site. The highest result on the sub-variable of the partnership is item number 19 which states that patients and nurses discuss body fluids to be disposed of by health staff, while for the lowest value on item number 15 which states that patients and nurses rarely or never discuss determining the place of stabbing.

3. Relationship between anxiety levels and self-management in patients undergoing hemodialysis at the Majalaya Hospital

The results of the research on the relationship between anxiety levels and self-management in patients undergoing hemodialysis at Majalaya Hospital can be concluded that there is a relationship between anxiety levels and self-management in patients undergoing hemodialysis at Majalaya Hospital. Anxiety is a common symptom that appears in patients undergoing hemodialysis and has a straight ratio with a decrease in quality of life because it is related to patient self-management (Wakhid & Suwanti, 2018). Psychological factors (anxiety and depression) are a tool to predict or assess self-management, patients who experience anxiety and depression are more likely to experience low levels of self-management than patients who do not experience anxiety (Gela & Mengistu, 2018).

The results of this study agree with (Astuti et al., 2018) who said that respondents who did not feel anxiety and depression showed better self-management than respondents who experienced anxiety and depression. Individuals undergoing hemodialysis often feel worried about their illness. Nasution et al (2013) stated that the patient's worry or anxiety can cause the patient's physical and psychological condition to worsen so that the patient cannot direct, regulate and control their behavior. Meanwhile, patients who have emotional maturity, high reasoning, and can manage the stress that

occurs to them will find it easier to carry out self-management or carry out good self-management.

This shows that the lower the level of anxiety the patient has, the better the self-management of the patient. Effective self-management is also useful for increasing patient satisfaction, increasing the independence and quality of life of patients, therefore it is hoped that patients can control their anxiety more so that self-management that must be done can run well.

Based on the results of the self-management questionnaire, the emotional aspect is the lowest item of all questions. This emotional management aspect is a psychological problem felt by patients, this can be seen from the statement that patients rarely ask for help from others when they have problems or emotional stress. Patients tend to hide the problems they face with the assumption that they do not want to be a bother and do not want to add to the burden on their family and loved ones, if this continues it will increase patient anxiety, and the impact that can be caused is that the patient is not cooperative during hemodialysis, lack of control over daily activities, the patient does not pay attention to his condition and care so that he lacks attention in managing fluids.

This psychological aspect of anxiety is important to pay attention to because it will affect the self-management carried out by patients and have an impact on improving the health and quality of life of the patient. It can be seen from the direction of the correlation in this study is negative, which interprets that the higher the level of anxiety, the worse the self-management will be.

5.CONCLUSION

Based on the results of the study, it can be concluded there is a significant relationship between the level of anxiety and self-management in patients undergoing hemodialysis so that hemodialysis nurses are expected to maintain

relationships and communication with patients and their families and be able to learn about the experiences of other patients how they accept their will. the disease and activities, as usual, to be applied to patients with anxiety problems, hemodialysis nurses can provide education to patients related to poor self-management in terms of emotional management, nurses can use therapeutic communication so that patients can express feelings and problems faced by the patient. be able to find good solutions to problems faced, provide education and information on the importance of doing vascular access care, fluid restriction, and dietary intake.

ACKNOWLEDGEMENT

The authors wish to thank patient support in carrying out this research.

REFERENCES

- Arafah, S., Hrp, J., Yustina, I., & Ardinata, D. (2015). Faktor-Faktor Yang Berhubungan Dengan Tingkat Kecemasan Pasien Hemodialisis Di RSUD Dr. Pirngadi Medan. *Idea Nursing Journal*, 6(3), 1–9.
- Astuti, P., Herawati, T., & Kariasa, I. made. (2018). Faktor-faktor yang Berhubungan Dengan Self Management pada Pasien Hemodialisis di Kota Bekasi. *Health Care Nursing Journal*, 1.
- Gela, D., & Mengistu, D. (2018). Self-management and associated factors among patients with end-stage renal disease undergoing hemodialysis at health facilities in Addis Ababa, Ethiopia. *International Journal of Nephrology and Renovascular Disease*, 11, 329–336. <https://doi.org/10.2147/IJNRD.S184671>
- Ghufron, M, N., & Risnawita, R. (2012). *Teori-Teori Psikologi*. AR-RUZZMEDIA.
- Griva, K., Mooppil, N., Seet, P., Krishnan, D. S. P., James, H., & Newman, S. P. (2011). The NKF-NUS hemodialysis trial protocol - A randomized controlled trial to determine the effectiveness of a self management intervention for hemodialysis patients. *BMC Nephrology*, 12(1), 1–11. <https://doi.org/10.1186/1471-2369-12-4>
- Hafezieh, A., Dehghan, M., Taebi, M., & Iranmanesh, S. (2020). Self-management, self-efficacy and knowledge among patients under haemodialysis: a case in Iran. *Journal of Research in Nursing*, 25(2), 128–138. <https://doi.org/10.1177/1744987120904770>
- Harmilah, N. (2020). *Asuhan Keperawatan Pada Pasien Dengan Gangguan Sistem Perkemihan*. PUSTAKA BARU PRESS.
- IRR. (2018). 11th Report Of Indonesian Renal Registry 2018. *Irr*, 1–46.
- Kemendes RI. (2018). Upaya Peningkatan Promotif Preventif Bagi Kesehatan Ginjal Di Indonesia. *Hasil Riset Kesehatan Dasar Kementerian Kesehatan RI, Hari Ginjal Sedunia*, 34. https://www.persi.or.id/images/2018/data/materi_menkes.pdf
- Li, H., Jiang, Y. fang, & Lin, C. C. (2014). Factors associated with self-

- management by people undergoing hemodialysis: A descriptive study. *International Journal of Nursing Studies*, 51(2), 208–216. <https://doi.org/10.1016/j.ijnurstu.2013.05.012>
- McDowell, I. (2009). Measuring Health: A guide to rating scales and questionnaires. In *Measuring Health: A Guide to Rating Scales and Questionnaires*. <https://doi.org/10.1093/acprof:oso/9780195165678.001.0001>
- Muttaqin, A., & Sari, K. (2014). *Asuhan Keperawatan Gangguan Sistem Perkemihan*. Salemba Medika.
- Nasution, T. H., Ropi, H., & Sitorus, R. E. (2013). Faktor-Faktor Yang Berhubungan Dengan Manajemen Diri Pada Pasien Yang Menjalani Hemodialisis di Ruang Hemodialisis RSUP DR Hasan Sadikin Bandung. *Ilmu Keperawatan*, 1 no 2.
- Pratiwi, S. H., Sari, E. A., & Kurniawan, T. (2019). Kepatuhan Menjalankan Manajemen Diri Pada Pasien Hemodialisis. *Jurnal Perawat Indonesia*, 3(2), 131. <https://doi.org/10.32584/jpi.v3i2.308>
- Riskesdas, K. (2018). Hasil Utama Riset Kesehatan Dasar (RISKESDAS). *Journal of Physics A: Mathematical and Theoretical*, 44(8), 1–200. <https://doi.org/10.1088/1751-8113/44/8/085201>
- Riski, R., Munawaroh, S., & Mashudi, S. (2019). Respon Stres Pasien Gagal Ginjal Kronik Yang Menjalani Hemodialisis Di Ruang Hemodialisa RSUD Dr.Hardjono Ponorogo. *JURNAL ILMIAH MAHASISWA Ruang, D., Rsud, H., & Ponorogo, H. (2019), 3(1), 1–10.* <http://studentjournal.umpo.ac.id/>
- Santoso, M. D. Y. (n.d.). Ginjal Kronik Dengan Tindakan Hemodialisis. 2018, 534.
- Smeltzer, S. & Bare, B. (2010). Buku Ajar Keperawatan Medikal Bedah Edisi 8. *Jakarta: EGC*. <https://doi.org/10.1037/1524-9220.4.1.3>
- Wakhid, A., & Suwanti. (2018). *Description of the Anxiety Level of Patients Undergoing*.
- Yanti, E. K., & Miswadi. (2018). Faktor-Faktor Yang Berhubungan Dengan

Kecemasan Pada Hemodialisis Di Ruangan Hemodialisis Rsud Bengkalis
Tahun 2016. *Jurnal Ners*, 2(1), 28–40. <https://doi.org/2580-2194>