



RELATIONSHIP BETWEEN LONG TIME UNDERGOING HEMODIALYSIS AND THE LEVEL OF SEXUAL DYSFUNCTION IN CHRONIC RENAL FAILURE PATIENTS (CRF) IN THE HOSPITAL HEMODIALISATION UNIT

Nila Putri Purwandari*, Dewi Retnowati, Noor Faidah, Devi Setya Putri

Nursing IS Study Program, Institut Teknologi Kesehatan Cendekia Utama Kudus, Jl. Lingkar Timur No.Km.5, Jepang, Mejobo, Kudus, Central Java 59381, Indonesia

*niela.poetrie.poerwandarie@gmail.com

ABSTRACT

Hemodialysis has negative impacts on patients. The duration of hemodialysis can affect the level of sexual dysfunction in patients with chronic renal failure. Sexual dysfunction is a disorder that occurs in patients undergoing hemodialysis. This disorder often occurs due to decreased productivity, decreased libido, impotence, infertility, genicomasty and neurohormonal disorders. This study aims to determine the relationship between the duration of hemodialysis and the level of sexual dysfunction in patients with chronic renal failure in the hemodialysis unit of the Sunan Kudus Islamic Hospital. This study is a correlational analytical study, with a cross-sectional research design, the sampling method using consecutive sampling, with a sample size of 38 respondents and data collection using a questionnaire. The results of this study showed that with male respondents with a level of severe ED category dysfunction as many as 15 people (39%) in women experiencing sexual dysfunction as many as 14 people (36.8%). The results of the analysis with the Spearman rank correlation test obtained a ρ value of $0.00 < \alpha (0.05)$ which can be concluded that there is a relationship between the length of hemodialysis and the level of sexual dysfunction in chronic renal failure (CRF) patients in the Hemodialysis Unit of the Sunan Kudus Islamic Hospital. There is a significant relationship between the length of hemodialysis and the level of sexual dysfunction in chronic renal failure (CRF) patients at the Hemodialysis Unit of Sunan Kudus Islamic Hospital.

Keywords: chronic renal failure; length of hemodialysis; level of sexual dysfunction

How to cite (in APA style)

Purwandari, N. P., Retnowati, D., Faidah, N., & Putri, D. S. (2025). Relationship between Long Time Undergoing Hemodialysis and the Level of Sexual Dysfunction in Chronic Renal Failure (CRF) Patients in the Hospital Hemodialisation Unit. *Indonesian Journal of Global Health Research*, 7(3), 575-584. <https://doi.org/10.37287/ijghr.v7i3.5552>.

INTRODUCTION

Indonesia is a country with a fairly high rate of kidney failure sufferers. The results of a survey conducted by the Indonesian Nephrology Association (Pernefri) estimated that around 12.5% of the population or 25 million Indonesians experience decreased kidney function (Sususn et al., 2022). According to the World Health Organization (WHO) or the World Health Organization globally, the growth in the number of chronic kidney failure sufferers in 2013 in the world increased by 50% from the previous year, in 2014 in America chronic kidney failure sufferers increased by 50% and every year there are around 200,000 people in America undergoing hemodialysis (Sususn et al., 2022). The population of kidney failure disease in Indonesia continues to increase from year to year. Chronic Renal Failure (CRF) is the 20th highest chronic disease with the highest mortality rate in the world.

Based on the phenomena in the hemodialysis unit and observations from researchers while working in the Hemodialysis Room, many patients were abandoned by their partners and some were even cheated on because of many factors, one of which was that their partners felt unsatisfied with them because they could not satisfy them during sexual activity. In addition, patients who have undergone hemodialysis therapy often experience complaints such as

getting tired quickly when having sex, shortness of breath, and even no desire to have sex. On the other hand, many patients are also confused in conveying their complaints related to this sexual need. Then the researcher tried to interact with the patient and the patient said that there were many changes in him, especially the changes that occurred were problems with sexual needs that the patient could not fulfill for his partner. And the preliminary study conducted by the researcher located in the Hemodialysis Room at the Sunan Kudus Islamic Hospital on August 15, 2023 by interviewing 4 participants with kidney failure undergoing hemodialysis, there were 3 men and women. when the researcher conducted initial observations, 3 male participants were found to have complained of experiencing sexual problems, including patients who said they were unable to maintain an erection, during sexual activity the patient felt that he could not satisfy his partner, felt tired quickly, felt less passionate, and decreased sperm quality. While the results of observations on female participants said they complained of decreased sexual desire unlike when they were still healthy, no desire to achieve orgasm, decreased sexual desire, during sexual intercourse it felt painful because the lubricant that came out was little.

Based on the background above, the author is interested in raising a research problem with the title "The Relationship between Length of Hemodialysis and the Level of Sexual Dysfunction in Chronic renal failure (CRF) Patients at the Hemodialysis Unit of the Sunan Kudus Islamic Hospital". The general aim of this research is to determine the relationship between the length of time undergoing hemodialysis and the level of sexual dysfunction in chronic renal failure (CRF) patients in the hemodialysis unit at Sunan Kudus Islamic Hospital.

METHOD

The type of research conducted is correlation analytic research with a cross sectional approach . This research was conducted at the Sunan Kudus Islamic Hospital in the Hemodialysis Unit with a sample of 38 respondents using probability sampling techniques.

Table 1.
Operational Definition

No	Variables	Operational Definition	Measuring instrument	Measurement Results	Scale
1.	Length of Hemodialysis	The duration of hemodialysis is the time taken from the first time hemodialysis therapy was carried out until this research was conducted.	Interview	1. ≤12 months 2. 12-24 month 3. ≥24 months	Ordinal
2	Level of sexual dysfunction	Disturbances in the sexual response cycle or inability to satisfy sexual needs	Questionnaire: 1. Men using IIEF 2. Women using FSFI	Result categories: 1. Man - score 0-7: Severe DE - score 8-11: moderate DE - score 12-16: mild-moderate DE - score 17-21: mild DE 2. Woman - score > 26.5: No sexual dysfunction - score ≤ 26.5: Sexual dysfunction	Ordinal

The instrument in this study used the IIEF-5 questionnaire for men. IIEF scores range from 0-25 and ED is classified into five groups according to the National Institutes of Health

criteria as follows: Score 0-7: Severe ED, Score 8-11: Moderate ED, Score 12-16: Mild-Moderate ED, Score 17-21: Mild. The sexual dysfunction questionnaire for women uses the FSFI. The FSFI questionnaire has several domains and consists of 19 questions. One domain contains 2 or more questions. To assess the individual domain score, for each domain question, add up the scores obtained and then multiply the total by the domain factor. The outcome category is not experiencing sexual dysfunction if the score is >26.5 and experiencing sexual dysfunction if the score is ≤ 26.5 . The correlation test used in this study is the Spearman Rank correlation test.

IIEF-15 or IIEF-5 has been widely used in various countries and has been tested for validity and reliability. However, there has never been a translation into Indonesian. Quek, et al. 2002 has conducted research on IIEF-15 testing in the Malaysian population. The results showed that the Cronbach alpha value was 0.56-0.74 and the ICC value was > 0.59 . The results of the Indonesian version of the Female Sexual Function Index (FSFI-I) are also very good for understanding and assessing women's sexual function). A test score of more than 0.300 (0.326-0.623) is considered valid. One question (number 19) is 0.282, less than 0.300 but still valid because the value is more than the r-table. The questionnaire reliability test was carried out using Cronbach's Alpha with a high significant result of 0.844. Test-retest reliability was evaluated using Aiken's V with a result of 0.833 indicating the FSFI has good content validity for all groups.

RESULT

Table 1
Frequency Distribution of Respondents Based on Age at the Hemodialysis Unit (n=38)

Age	f	%
20 – 29 Years	7	18.4
30 – 39 Years	11	28.9
40 – 49 Years	12	31.6
50 – 59 Years	8	21.1

Table 1 shows that the majority of respondents were aged 40–49 years, namely 12 people (31.6%) and a small proportion of respondents were aged 20–29 years, namely 7 people (18.4%).

Table 2.
Frequency Distribution of Respondents Based on Gender in the Hemodialysis Unit (n=38)

Marital status	f	%
Marry	38	100.0
Not Married	0	0.0
Widow	0	0.0
Widower	0	0.0

Table 3.
Frequency Distribution of Respondents Based on Occupation at the Hemodialysis Unit (n=38)

Work	f	%
Doesn't work	29	76.3
civil servant	2	5.3
Farmer	2	5.3
Retired	1	2.6
Employee	1	2.6
Self-employed	3	7.9

Table 2 shows that the majority of respondents were male, namely 24 people (63.2%) and a small proportion of respondents were female, namely 14 people (36.8%). Table 3 shows that the majority of respondents' jobs are unemployed, namely 29 people (76.3%), a small number of respondents' jobs are working as employees and retirees, each amounting to 1 person (2.6%).

Table 4
Frequency Distribution of Respondents Based on Education at the Hemodialysis Unit (n=38)

Education	f	%
SD	16	42.1
Junior High School	10	26.3
Senior High School	9	23.7
S1	2	5.3
S2	1	2.6

Table 4 shows that the majority of respondents had primary school education, namely 16 people (42.1%), and a small number of respondents had postgraduate education, namely 1 person (2.6%).

Table 5
Frequency Distribution of Respondents Based on Marital Status at the Hemodialysis Unit (n=38)

Marital status	f	%
Marry	38	100.0
Not Married	0	0.0
Widow	0	0.0
Widower	0	0.0

Table 5 of the data shows that the overall marital status of the respondents is married, namely 38 people (100.0%), while for those who are not married, widows and widowers, there are 0 people (0.0%).

Table 6.
Frequency Distribution of Respondents Based on Length of Hemodialysis at the Hemodialysis Unit (n=38)

Length of Hemodialysis	f	%
≤ 12 Months	4	10.5
12 - 24 Months	8	21.1
≥ 24 Months	26	68.4

Table 6 shows that most respondents have undergone hemodialysis for a long time. respondents were ≥ 24 months, namely 26 people (68.4%), and a small number of respondents were ≤ 12 months, namely 4 people (10.5%).

Table 7
Frequency Distribution of Respondents Based on the Level of Sexual Dysfunction in the Hemodialysis Unit (n=38)

Level of Dysfunction Sexual	f	%
Man		
DE Severe	15	39.5
DE Medium	6	15.8
DE Mild – Moderate	2	5.3
DE Light	1	2.6
Woman		
No Sexual Dysfunction	0	0.0
Sexual Dysfunction	14	36.8

Table 7 shows that most of the levels of sexual dysfunction in men are severe ED, which is 15 people (39.5%), and a small portion of respondents are mild ED, which is 1 person (2.6%). While for the level of sexual dysfunction in women, it shows that all respondents experience sexual dysfunction, which is 14 people (36.8%).

Table 8
Frequency Distribution of Long-Term Relationships Undergoing Hemodialysis with the Level of Sexual Dysfunction in Chronic renal failure (CRF) Patients at the Hemodialysis Unit

Long Undergo Hemodialysis	Sexual Dysfunction Levels												Total	P	P Value	
	DE Severe		DE Medium		DE Mild - Moderate		DE Light		Not Dysfunctional		Sexual Dysfunction					
	f	%	f	%	f	%	f	%	f	%	f	%				
≤12 months	0	0.0	0	0.0	1	2.6	1	2.6	0	0.0	2	5.3	4	10.5	0.662	0
13 – 24 Month		1		2		1		0		0		4		8		
≥24 months	23.7	9	13.2	5	10.5	4	0.0	0	0.0	0	0.0	21.1	8	68.4		

DISCUSSION

Long Undergo Hemodialysis

Hemodialysis is a therapy used to replace the function of the kidneys to remove fluids or waste in a person's body when the kidneys cannot do so (Sujana et al., 2020). With hemodialysis carried out for life, it can provide meaning to patients and will increasingly understand how important it is to undergo hemodialysis therapy, and make patients understand and feel the benefits of whether or not hemodialysis therapy is carried out. The longer the patient undergoes hemodialysis therapy, the average patient feels bored, but it is required that the patient remain compliant with their therapy, namely continuing to undergo hemodialysis therapy in order to support their health so that it remains stable and does not worsen the patient's condition (Sujana et al., 2020). Table 4.6 data from the research results shows the duration of hemodialysis at the RSI Sunan Kudus Hemodialysis Unit in three categories, namely ≤ 12 months as many as 4 people (10.5%), 12–24 months as many as 8 people (21.1%), and ≥ 24 months 26 people (68.4%). This is in line with research conducted by Elizabeth M. Sompie (2020) the results of the study showed that the duration of hemodialysis in patients with chronic kidney disease at Prof. Dr. R. D Kandou Manado Hospital showed that respondents who underwent hemodialysis ≤ 6 months were 15 people (41.1%) and underwent hemodialysis ≥ 6 months were 19 people (55.9%). One of the purposes of hemodialysis is to help the kidneys perform their duties in the body. If the patient does not undergo dialysis, symptoms such as shortness of breath, restlessness, decreased consciousness, and even death can appear. The most common side effect of HD is decreased blood pressure.

Based on data at RSI Sunan Kudus, patients who have undergone hemodialysis for a long time are still high, as can be seen from the results of the study above regarding the length of time patients undergoing hemodialysis are mostly ≥ 24 months, namely 26 patients (68.4%). Based on previous research conducted by Ginanjar et al. (2017) showed that several patients who have undergone hemodialysis for a long time and are able to maintain adaptive sexuality patterns said that in order to maintain it, they must be able to maintain physical condition and stress. Physical condition is maintained by maintaining a diet of food and drink. Patients who undergo hemodialysis therapy after 1 week will feel better, this is one of the things that supports patients physically to be able to carry out sexual activities, especially sexual intercourse (Ginanjar, 2016). In the research that has been conducted by Ardhi Sunanto et al (2019) explained that in patients with chronic kidney failure who has undergo hemodialysis not enough than 12 months still likely to experience sexual dysfunction. Sexual dysfunction is a disorder in any component of the sexual response cycle, which causes sexual function in a person's body to weaken. Matter This influenced due to several factors including age, gender, and having comorbidities. In patients over 50 years of age, it becomes trigger experience dysfunction sexual this is because there are physical changes, changes in the skin, and impaired physical mobility. These changes also affect the patient's motivation in having

sexual intercourse, where these factors include differences in motivation about sexual needs, the effects of hemodialysis and sexual changes experienced. In patients with male gender, there is arterial occlusion and cause weakness flow blood to penis and the occurrence of venous occlusion that causes the inability to have a persistent erection. CKD disease causes atherosclerosis and vascular disorders in the pelvic region, so that these vascular system problems cause decreased sexual function. Neurogenic disorders also occur in CKD patients, patients with chronic kidney disease generally experience disorders in autonomic nervous system, namely the nervous system in smooth muscle tissue which is important for maintaining sexual function.

Level Dysfunction Sexual

dysfunction is a disorder that causes a decrease in sexual desire or an obstacle in enjoying sexual pleasure. activity sexual. Changes in sexual function or sexual dysfunction are disorders in each component of the sexual response cycle, which causes sexual function in a person's body to weaken. Sexual dysfunction can be experienced by both men and women (Sunanto et al., 2015). Table 7 data shows the results of dysfunction research sexual on the "Passion" dimension with questionnaire items No. 3, 4, 5 and 6 the majority of respondents answered the option "sometimes (about half the time)". Then on the "Orgasm and Satisfaction" dimension with questionnaire items No. 11, 12, 13, 14 and 15 the majority of respondents answered "Several times (less than half)". In the overall results, the respondents women experience sexual dysfunction problems, namely as many as 14 person (36,8%). Whereas in men the level of sexual dysfunction is classified by the level of sexual dysfunction ED critical with as much as 15 person (39.5%) is shown by the results of questionnaire item No. 1 which reads "How do you rate your confidence that you can get and maintain an erection?" majority Respondent answer "Very low". Then on results questionnaire item No.2 which reads "When you experiencing erections with sexual stimulation, how often are your erections hard enough for penetration?" the majority of respondents answered "Almost never or never", the classification of moderate sexual dysfunction level of ED as many as 6 people (15.8%) is shown by the results of questionnaire item No. 3 which reads "When you try do connection sexual, how often do you feel satisfied" in the majority of respondents answered "Almost never or never", the classification of mild-moderate ED sexual dysfunction level as many as 2 people (5.3%) is shown by the results of questionnaire item No. 4 which reads "During sexual intercourse, how often can you maintain an erection after penetrating your partner?" in the majority of respondents answered "very difficult", classification of mild ED sexual dysfunction level 1 as many as (2.6%).

From these data, it can be concluded that the average respondent who has a level of sexual dysfunction experiences a severe ED category. In Laiya's research (2020) it is explained that new patients and old patients who have chronic kidney failure and have undergone hemodialysis both experience sexual dysfunction. This is due to neurohormonal disorders which cause reduced blood flow to the genitals. This condition is worsened by the hemodialysis procedure that must be undergone by the patient. This condition causes a person to be unable to perform sexual activity and not achieve sexual satisfaction. Patients feel that their lives depend on machines, feel inferior to others, and do not want to interact with people. others (Laiya, 2020). The results of this study are the same as the research conducted by Treesia Sujana (2020) with the title Relationship between Hemodialysis Compliance and Erectile Dysfunction On Man Age Fertile HOSPITAL Ungaran, seen from the frequency distribution data, the results of the study showed that there were 31 respondents, of which 27 respondents (87%) experienced erectile dysfunction and 4 respondents (13%) did not experience erectile dysfunction. It can be concluded that some of them big respondents (87%) experienced erectile dysfunction. Erectile dysfunction can also be influenced by chronic

kidney disease. The decrease in the level of sexual dysfunction occurs due to the vascular system experiencing vascular disorders in the pelvic region and atherosclerosis in patients with chronic kidney disease. Sexual function is maintained by autonomic innervation, namely innervation to smooth muscle tissue which plays an important role in maintaining sexual function, generally neurogenic disorders are also experienced by sufferers of the disease fail kidney chronicle. Dysfunction Erektion is thought to be caused by nerve disorders causing problems with the neurotransmitters, adrenergic and cholinergic which regulate blood flow in the corpus cavernosum.

The problems found based on the distribution of frequency results showed that the majority of respondents had a Severe DS classification of 15 (39.5 %). And minority of respondents with mild DS classification as many as 1 (2.6%). Sexuality involves various very broad dimensions, namely biological, sociological, psychological, spiritual, and cultural dimensions. Sexuality from the biological dimension is related to reproductive organs and genitals, including how to maintain health and optimally function reproductive organs And encouragement sexual. Sexuality from a psychological dimension is closely related with how to carry out functions as sexual beings, role identity or type (Laiya, 2020).

Analysis Bivariate

Based on analysis data with test Spearman rank obtained a value of ρ value = $0.00 < \alpha$ (0.05) which indicates the existence of a long-term relationship undergo hemodialysis with level of sexual dysfunction in chronic renal failure (CRF) patients at the Hemodialysis Unit of Sunan Kudus Islamic Hospital. While the correlation coefficient value obtained was 0.662 which indicates a strong positive relationship. Hemodialysis is one of the medical treatments carried out on patients. GGK for its survival. However, this action has side effects on the physical and psychological condition of GGK sufferers (Ministry of Health, 2018). Hemodialysis is a process in which the composition of blood solutes is changed by another solution through a semi-permeable membrane. The length of time undergoing hemodialysis is also Some cases of accompanying illnesses after experiencing kidney disorders in CKD patients undergoing hemodialysis cannot be avoided, where these complications are can causes discomfort, increases stress anxiety and has a negative impact on the patient's sexual dysfunction level domain (Wiliyanarti & Muhith, 2019).

results in table 4.8 obtained as many as 26 Respondent (68.4%) which is at long undergo hemodialysis > 24 month, 8 Respondent (21.1%) is at on duration of hemodialysis 13-24 months, and 4 respondents (10.5%) were undergoing hemodialysis < 12 months. From the results of this study, it can be concluded that the longer the hemodialysis the more severe the level of sexual dysfunction in the patient. This shows the duration undergoing hemodialysis has an important role in the severity of sexual dysfunction. In line with this, research conducted (Jundiah, 2020) shows 50% Respondent have undergone HD for more than 3 years, the results of the study showed that there were disturbances in the level of sexual dysfunction. Some patients who have undergone hemodialysis have not been fully able to maintain sexual dysfunction, therefore patients are asked to maintain their physical condition. In patients Which undergo hemodialysis After 1 week the body will feel better, this is one of the things that supports it. sufferer in a way physique For can engage in sexual activity, especially sexual intercourse. The sufferer's statement that the desire for sexual activity is still there, especially in expressing affection towards their partner because the partner pays more attention to the patient when the patient is sick (Ginanjari, 2016).

The results in table 4.8 obtained from computer data that has been processed using the SPSS application from 38 total respondents are known that respondents in this study who have just undergone hemodialysis with a category of ≤ 12 months amounted to 4 people (10.5 %) where the data shows that male respondents experienced a level of sexual dysfunction with a mild-moderate ED category of 1 person (2.6%) and a mild ED category of 1 person (2.6%). While for female respondents who experienced sexual dysfunction sexual dysfunction as many as 2 people (5.3 %). Then in the 12-24 month category there were 8 people (21.1%) where the data showed that male respondents experienced a level of sexual dysfunction with a severe ED category of 1 person (2.6%), category Moderate ED was 2 people (5.3%), and mild-moderate ED category as many as 1 person (2.6%). Meanwhile, for female respondents who experienced dysfunction sexual dysfunction as many as 4 people (10.5 %). While it is known that respondents in this study who have undergone hemodialysis for a long time with the category ≥ 24 months amounted to 26 people (68.4%) where the data shows that male respondents experienced a level of sexual dysfunction with the category of severe ED 9 people (23.7%), the category of moderate ED as many as 5 people (13.2%), and the category of mild-moderate ED as many as 4 people (10.5%). While for female respondents who experienced sexual dysfunction sexual as many as 8 people (21.1 %).

Sexual dysfunction can occur in anyone with condition have a disease such as chronic kidney failure and diabetes mellitus. Signs and symptoms the occurrence of sexual dysfunction in general, namely a reduced desire to engage in sexual activity, difficulty in arousing excitement sexual, feel pain or discomfort during sexual intercourse. In respondents with chronic kidney failure who have undergone therapy hemodialysis with time ≤ 12 months will still feel changes in their sexuality such as orgasm disorders, arousal disorders and hypoactive sexual desire disorders. The cause of the problem arises due to hormonal disorders, other comorbidities, excessive concern about sexual performance, old age and smoking and drinking habits. However, what distinguishes it is the level of sexual dysfunction of each respondent is different. In this study, respondents aged 20-29 years had different levels of sexual dysfunction. The level of sexual dysfunction of each respondent was different matter This is determined by the physical and psychological conditions of each individual. The results of sexual dysfunction based on the questionnaire on the arousal dimension with questionnaire items No. 3, 4, 5 and 6, the majority of respondents answered the option "Sometimes (about half the time)" This is reinforced by Bandura's theory in Kartika (2021) that sexual dysfunction that occurs in GJK patients undergoing HD is caused by the effects of drugs. Sexual activity carried out by GJK patients undergoing HD is influenced by several factors, namely physical changes, changes in the skin, and impaired physical mobility. Related changes can affect patient's passion in having sexual intercourse, where these factors include passion about need sexual, effect due to hemodialysis and psychological changes due to sexual changes experienced.

CONCLUSION

The duration of hemodialysis at Sunan Kudus Islamic Hospital was mostly ≥ 24 months, as many as 26 respondents (68.4 %). The level of sexual dysfunction in men, most respondents were in the severe ED dysfunction classification category, as many as 15 people (39.5 %) and in women, 14 people (36.8%) experienced sexual dysfunction. There is a significant relationship between the duration of hemodialysis and the level of sexual dysfunction in chronic renal failure (CRF) patients at the Hemodialysis Unit of Sunan Kudus Islamic Hospital with the results of the statistical test p value of $0.00 < \alpha (0.05)$ with strong strength because the correlation coefficient value (0.662) and has a positive relationship direction. Proven by the number of respondents who experienced the severe ED category which was more, namely 26 people (68.4 %) than other categories.

REFERENCES

- Arikunto, S. (2013). *Research Procedures: A Practical Approach*. PT. Rineka Cipta.
- Atmoko, W. (2023). *Sexual Dysfunction Management Guidelines*. Indonesian Urology Association (IAUI) Book.
- Dwi bellasari. (2020). The relationship between the length of hemodialysis and the quality of life of chronic kidney failure patients at the Madiun City Hospital . Thesis, 2(5), 255. ???
- Ginanjar Sasmito Adi, Teguh Hari S, SR (2016). The relationship between long-term chronic kidney failure sufferers and sexual patterns in clients with hemodialysis therapy at the hemodialysis installation of Dr. Abdoer Rahem Hospital, Situbondo. *The Indonesian Journal of Health Science*, 3(1), 16–35.
- Hasibuan, H. oectarina, lia dwi jayanti, & Brier, J. (2020). Literature Review The Relationship Between Duration Of Hemodialysis With Quality Of Life Of Chronic Kidney Failure Patients In 2020. In Malaysian Palm Oil Council (MPOC) (Vol. 21, Issue 1). http://journal.um-surabaya.ac.id/index.php/JKM/article/view/2203%0Ahttp://mpoc.org.my/malay_sian-palm-oil-industry/
- Hidayat, A. (2011). *Research Methodology of Data Analysis Techniques*. Salemba Medika.
- Jundiah, RS (2020). Description of Sexual Function and Psychological Condition of Chronic Kidney Disease Patients Undergoing Hemodialysis. *'Aisyiyah Nursing Journal*, 7(2), 19–24. <https://doi.org/10.33867/jka.v7i2.210>
- Laiya, EKG (2020). Relationship between Length of Hemodialysis and Quality of Life of Chronic Kidney Failure Patients at RDUP H. Adam Malik Medan in 2023. Thesis, 01, 1–23.
- Moloeng, L. (2017). *Qualitative Research Methods*. PT Remaja Rosdakarya.
- Notoatmodjo, S. (2012). *Health research methodology*. Rineka Cipta.
- Nursalam. (2013). *Nursing Science Research Methodology*. Salemba Medika.
- Nursalam. (2016). *Nursing Science Research Methodology Scientific Approach*. Salemba Medika.
- Oktavia, Wanda Septi. (2022). FACTORS RELATED TO CHRONIC KIDNEY FAILURE IN POPULATION AGED >18 YEARS IN INDONESIA IN 2018. Thesis, 8.5.2017, 2003–2005.
- Purba, MSW (2021). Literature Review: The Relationship Between Hemodialysis and Changes in Blood Pressure in Patients with Chronic Kidney Failure. In *Literature Review: The Relationship Between Hemodialysis and Changes in Blood Pressure in Patients with Chronic Kidney Failure*.
- Sarini. (2023). Effectiveness Of Sexual Counseling For Family Harmony Of Chronic Kidney Disease Patients Of Productive Age Undergoing Hemodialysis. *Journal of Telenursing*, 5, 1581–1589.
- Sompie, EM, Kaunang, TMD, & Munayang, H. (2015). Relationship Between Duration Of Hemodialysis And Depression In Patients With Chronic Kidney Disease At Hospital.

Prof. Dr.Rd Kandou Manado. E-CliniC, 3 (1), 37
<https://doi.org/10.35790/ecl.3.1.2015.68> 34

Sugiyono. (2010). *Statistics for Research*. Alfabeta.

Sugiyono. (2013). *Quantitative, Qualitative and R&D Research Methods*. Alfabeta.

Sugiyono. (2015). *Statistics for research*. Alfabeta.

Sujana, T., Kadoyu, MH, & Dary, D.-. (2020). The Relationship Between Hemodialysis Compliance and Erectile Dysfunction in Men of Childbearing Age at Ungaran Regional Hospital. *Muhammadiyah Nursing Journal*, 5(2).
<https://doi.org/10.30651/jkm.v5i2.5659>

Sunanto, A., Rompas, S., & Pondaag, L. (2015). The Relationship Between Chronic Kidney Disease and Sexual Dysfunction in Patients at Dirina C RSUP Prof. Dr. RD Kandou Manado. *UNSRAT Nursing Journal*, 3(2), 111305.

Sususn, D., Mengoleh, G., Sarjana, G., Program, D., Nursing, S., & Surakarta, US (2022). *NURSING STUDY PROGRAM 2022*.

Wiliyanarti, PF, & Muhith, A. (2019). Life Experience of Chronic Kidney Diseases Undergoing Hemodialysis Therapy. *NurseLine Journal*, 4(1), 54.
<https://doi.org/10.19184/nlj.v4i1.9701> .