



THE RELATIONSHIP BETWEEN FAMILY SUPPORT AND IDWG VALUES IN CKD PATIENTS UNDERGOING HEMODIALYSIS

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ABSTRACT

Introduction: Every month's regular menstrual cycle should ideally span 21-35 days. The menstrual cycle is influenced by several factors, namely stress levels and sleep quality. Menstrual cycle disorders indicate metabolic and endocrine system irregularities. The impact that often occurs due to menstrual cycle disorders is infertility and difficulty identifying the fertile period. The purpose of the study was to determine the relationship between stress levels and sleep quality with the menstrual cycle in seventh-semester nursing students at Universitas Muhammadiyah Lamongan.

Methods: This research design uses correlation analytics with a cross-sectional approach using a simple random sampling technique with a sample of 111 respondents. Measured using the Depression Anxiety Stress Scale questionnaire sheet for stress levels and the Pittsburgh Sleep Quality Index questionnaire for sleep quality. After tabulating the data and analyzing it using the Spearman Rank test. **Results:** This study showed that almost half of 45 female students (38.7%) experienced mild stress and more than half of the 60 female students (54.1%) had poor sleep quality.

Conclusions: Based on the results of the analysis using the Spearman rank test, the value of $p = 0.000$, where $p < 0.05$ means that there is a relationship between stress levels and sleep quality with the menstrual cycle in nursing students in semester VII of Universitas Muhammadiyah Lamongan. Based on this research, it is expected that female students can reduce stress, get enough sleep 7-8 hours, diet, and control weight so that the menstrual cycle returns to normal.

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INTRODUCTION

Chronic Kidney Disease (CKD) is a chronic disorder characterized by permanent damage to the structure and function of the kidneys. As a result, the body cannot maintain metabolic processes and regulate fluid and electrolyte levels, ultimately developing uremia (Sukmawati et al., 2022). CKD is characterized by a progressive decline in kidney function caused by several factors. As a result, the body is unable to maintain fluid, electrolyte, and acid-base balance. Causes of CKD include uncontrolled high blood pressure and high glucose levels. However, CKD can be treated with some medical interventions, if the CKD includes high blood pressure and uncontrolled glucose levels. If medical treatment is not immediately given to CKD patients, complications can arise in the body. Some complications that may occur include cardiovascular disease, hypertension, anemia, electrolyte imbalance, diabetes mellitus, and metabolic acidosis (Wayunah et al., 2022).

According to the World Health Organization (WHO), the global prevalence of CKD reached 10% of the population in 2019, while the number of CKD patients undergoing hemodialysis (HD) therapy amounted to approximately 1.5 million worldwide. The prevalence of PKG is continuously increasing worldwide and has now become a major health issue (Rahman et al., 2023). According to the Cirebon District Health Service in 2019, the prevalence of CKD in 2020 was 1942 people, in 2021 it was 4046 people, and in 2022 it was 4152 people. This phenomenon consistently experiences growth every year (Purbasari et al., 2023). Throughout 2021, RSD Gunung Jati Cirebon City identified a total of 9,960 CKD patients. From January to December 2022, the total number of outpatients still undergoing treatment at CKD was 9,707 people. In 2023, there will be an increase in the number of CKD patients at RSD Gunung Jati Cirebon City, amounting to 10,488 patients, both old and new patients (Katibi, 2018).



One therapy that is effective in reducing the death rate in patients, but is unable to improve and restore overall kidney function is Hemodialysis (HD) therapy. HD therapy refers to treatment given to patients who require short-term or long-term dialysis, including patients with acute conditions, as well as individuals with end-stage CKD who require ongoing or permanent hospital care. One of the problems that often occurs in HD is failure to comply with fluid restrictions.

The success of fluid delivery during hemodialysis is assessed by the value of Interdialytic Weight Gain (IDWG). IDWG, or interdialytic weight gain, is a condition when there is an accumulation of fluid in the body resulting in weight gain between two dialysis sessions. This weight gain is used as a basis for determining the quantity of fluid that should be removed during the following dialysis session. Through diligent observation of IDWG, healthcare providers can effectively control the volume of fluids permitted to enter the patient's system during dialysis, thus ensuring an ideal fluid equilibrium and mitigating the potential for related problems. Excessive or excessive IDWG can hurt the body. Some potential consequences may include hypotension, muscular cramps, dyspnea, nausea, and emesis. Hence, it is crucial to regulate IDWG by restricting fluid consumption between dialysis sessions to prevent such issues and uphold an ideal fluid equilibrium inside the patient's body (Mustikasari, 2017).

Furthermore, the assistance provided by the closest individual might also impact the effectiveness of managing fluid consumption in the period between dialysis treatments. Hence, it is crucial to engage patients and their families in the process of devising and executing measures to manage IDWG, while also offering the essential assistance to enable patients to adhere more effectively to fluid limits. The sufferer's family is one of the closest individuals who can provide companionship (Mailani & Andriani, 2017).

The family plays a crucial influence in influencing an individual's behavior and perceptions regarding health and disease. They frequently serve as a crucial factor in establishing fundamental criteria of what is deemed healthy and ill for family members. Family members can be encouraged to embrace good behaviors through the implementation of dietary choices, lifestyle habits, and shared values within the family unit. The presence of family support and influence can significantly impact how individuals respond to and manage their health conditions, including their willingness to undergo treatment such as hemodialysis treatments. Therefore, the family, as the closest individual, has a crucial responsibility in supporting and overseeing the patient's

adherence to fluid intake limitations and achieving an ideal fluid balance in the body of a patient receiving hemodialysis therapy (Yudani et al., 2022).

Based on the background information presented above, this research aims to determine the relationship between family support and IDWG values in CKD patients undergoing hemodialysis at RSD Gunung Jati, Cirebon City.

MATERIALS AND METHODS

This research is characterized by its quantitative nature, employing correlational designs and cross-sectional techniques. The research received ethical approval from the Mountain Jati District Hospital of Cirebon City, with the reference number 013/LAIKETIK/KEPPKRSJ/III/2024, which is valid from March 25, 2024, until March 25, 2025. The characteristics that are being examined in this study are family support, which includes emotional support, instrumental support, information support, and appreciation support. The dependent variable in this study is the value of IDWG. The research includes PGK patients with altered consciousness, and CKD patients undergoing hemodialysis at RSD Gunung Jati, Cirebon City. CKD patients who are closely related to the immediate family, and willing to participate as responders in the study. The population in this study refers to the entire patient cohort receiving hemodialysis (HD) therapy at the hilly hospital in the city of Cirebon as of March 2024. The population consists of 140 patients, with 72 being male and 68 being female. The sample size was determined using the Slovenian formula, with an error tolerance limit of 10%. The total population was 140, and the result yielded a sample size of 58 respondents.

The family support questionnaire utilized in this study is an adapted version of the instrument developed by Liandi (2011) and updated by (Nurwulan, 2017). The questionnaire underwent a validity test and yielded a reliability coefficient of 0.757. The response options range from 1 (never) to 4 (always). The family support questionnaire employs an ordinal scale for measurement. The IDWG value instrument is quantified using the IDWG formula, and the outcomes are reported as mean, standard deviation, and median. The statistical analysis employed in this study is a Spearman rank test with a significance level (p -value) of 0.05. The research was carried out in the Mountain Jati District Hospital in Cirebon from March to April 2024. The research ethics addressed in this study include informed consent, anonymity, confidentiality, and justice.

RESULTS

Table 1. Characteristics Respondents Based on Age, Gender, Education, and Long Hemodialysis at RSD Gunung Jati, Cirebon City 2024 (n=58)

Characteristics		Frequency (F)	Percentage (%)
Age	17 – 25 years	0	0.0
	26 – 35 years	2	3.4
	36 – 45 years	14	24.1
	46 – 55 years	23	39.7
	56 – 65 years	12	20.7
	>65 years	7	12.1
	Total	58	100
Gender	Female	26	44.8
	Male	32	55.2
	Total	58	100
Education	Primary School	27	46.6
	First High School	9	15.5
	High School	22	37.9
	University	0	0.0
	Total	58	100
Long Hemodialysis	< 1 years	20	34.5
	1 – 5 years	29	50.0
	>5 years	9	15.5
	Total	58	100

Table 1 presents the findings on the demographic features of the respondents. It reveals that out of the 58 respondents, half of them 23 respondents (39.7%) fell within the age category of 46-55 years. The gender demographics of the results indicate that the majority of respondents, 32 individuals (55.2%), are male. The results demography characteristics education mostly is Primary School education with a total of 27 respondents (46.6%).

Table 2. Family Support For Patients With CKD Who Are Undergoing Hemodialysis at RSD Gunung Jati, Cirebon City 2024 (n=58)

Variable	Category	Frequency (F)	Percentage (%)
Family Support	High	43	74.1
	Medium	12	20.7
	Low	3	5.2
Total		58	100

The study in Table 2 on family support for patients with chronic renal disease had 58 respondents. Out of these, 43 respondents (74.1%) reported high levels of family support.

Table 3. Mean Value Intedialytic Weight Gain for Patients with CKD Who Are Undergoing Hemodialysis at RSD Gunung Jati, Cirebon City 2024

Variable	Mean	Maximum	Minimum
IDWG	2.695%	7.3%	1.0%

The survey revealed that the average percentage of respondents with chronic renal disease was 2.695%.

Table 4. Family Support with IDWG Value For Patients With CKD Who Are Undergoing Hemodialysis at RSD Gunung Jati, Cirebon City 2024

Variable	Interdialytic Weight Gain					
	Family Support	Mean	Sd	Min	Max	P- value
High		2.1	0.6	1.0	5.3	0.000
Medium		3.6	1.2	1.6	6.5	
Low		6.1	1.9	3.9	7.3	

The Spearman rank test was conducted in a study in Table 4 to examine the relationship between family support and IDWG values in patients with chronic kidney disease undergoing HD. The results showed a p-value of 0.000, which is less than the commonly accepted level of significance (<0.05). This demonstrates a highly significant association between familial support and the IDWG rating. The Spearman correlation coefficient of 0.641 suggests a negative association, suggesting that as the level of family support increases, the IDWG score decreases, and vice versa.

DISCUSSION

Family support for patients with CKD who are undergoing hemodialysis at RSD Gunung Jati, Cirebon City 2024

According to the findings of the research, 74.1 percent of the 58 respondents had substantial levels of familial support for HD patients with chronic kidney disease. This indicates that a considerable proportion of the participants report receiving substantial levels of familial support, which may positively influence the management of illnesses and the overall welfare of the patients. A high level of familial support is attained because the respondent's nearest family members consistently accompany them during hemodialysis therapy and offer them support and attention. Hemodialysis is more efficacious when patients receive assistance from their family members. Families must actively participate in the hemodialysis preparation process by providing all necessary items to ease patients' transition into the procedure. Family support is defined as the acceptance, behaviors, and attitudes exhibited towards an ill family member (Tresna, 2021). Family support consists of an individual receiving encouragement and attention from a member of the family via interpersonal communication. If the patient receives family support that is tailored to their requirements, including informational support, emotional support, assessment support, and instrumental support, it can have a positive impact on their health (Fatrida & Mustakim, 2022).

Prior research has demonstrated that a significant proportion of participants encounter favorable familial support, which is corroborated by the findings. Researchers elucidate that family support can enhance adherence to a treatment regimen when family members bestow special attention, support, affection, and love upon respondents. This support not only inspires confidence and motivation but also facilitates the process of healing and care (Wijaya & Padila, 2019).

Prior research has found that individuals with chronic kidney disease who received the preponderance of their support from their families engaged in hemodialysis. In addition, the researchers observed that individuals who were supported by their families demonstrated a heightened awareness of critical requirements. The patient's family, being the closest individuals to the individual, will provide substantial assistance and support in diverse ways: emotional support, practical assistance, information, and gratitude (Unga et al., 2019).

Individuals who have undergone HD therapy receive the utmost degree of emotional support. This indicates that the patient possesses

a considerable degree of self-assurance, as an individual undergoing HD treatment is convinced that his recovery is imminent because of his family's emotional support. The family provides emotional support to a patient in the following ways: by consistently inquiring about the patient's well-being following therapy, demonstrating concern for the patient's health, being cognizant of the patient's emotions throughout treatment, and offering encouragement and support to ensure that the patient adheres to the prescribed treatment regimen to achieve recovery.

This research aligns with the findings of a study (Suarni et al., 2022) which suggests that familial emotional support can function as a protective mechanism against feelings of depression and stress during HD therapy in patients with chronic kidney failure. The patient is fortified by the support provided by family members. Additionally, the encouragement provided boosts the patient's confidence and optimism regarding their recovery. Additionally, emotional support boosts the patient's self-esteem and social value by making him feel valued and significant.

The researchers reached the conclusion, based on their findings, that the patient's high level of family support is likely attributable to the patient and family having a positive relationship, which fosters a heightened level of concern and awareness on the part of the family and enables them to provide for the patient's every need.

Interdialytic Weight Gain (IDWG) for patients with CKD who are undergoing hemodialysis at RSD Gunung Jati, Cirebon City 2024

The IDWG scores of the 58 respondents ranged from a minimum of 1% to a maximum of 7.3%. Although the IDWH of the respondents is 2,692%, this value falls within the vulnerable normal range and is physiologically tolerable at less than 3%. The outcome is equivalent to the findings of (Bayhakki et al., 2018), which reported an approximate 2.7% score.

The weight gain between two hemodialysis sessions is denoted as IDWG. A maximum tolerance for the body is 3% by dried body weight. This implies that elevated IDWG values might serve as an indicator of excessive fluid retention within the body, which can be detrimental to the fluid management of hemodialysis patients with chronic kidney disease (Rahayu et al., 2023).

Anemia that develops during hemodialysis can result in a variety of potentially hazardous complications. An excessively elevated IDWG may result in adverse physiological responses such as

hypotension, muscle cramps, respiratory distress, nausea, and vomiting (Istanti, 2011).

Noncompliance with these limitations may lead to a substantial escalation in IDWG between hemodialysis sessions, thereby impeding the efficacy of the dialysis process and potentially exacerbating the patient's health condition. As a result, it is critical to enhance patient education and support to increase adherence to fluid and sodium consumption restrictions (Safitri et al., 2022). Patients frequently experience difficulty regulating their fluid consumption due to symptoms such as parched mouth, increased blood urea and angiotensin II levels, and xerostomia, which is characterized by a substantial reduction in saliva production (Kusumawardhani & Yetti, 2020).

According to the researchers, IDWG is a parameter that indicates the degree of liquid retention that takes place between two dialysis cycles. Additionally, IDWG influences the efficacy of hemodialysis. IDWG elevations that are excessive can elevate the mortality risk associated with organ complications. IDWG can be exacerbated by numerous factors, one of which is the absence of fluid intake restriction. Furthermore, psychological and familial support factors were additional contributors to the rise in IDWG. This study did not, however, identify every factor that could contribute to an increase in IDWG. The research was narrowly focused, investigating exclusively family-supportive factors to determine the cause of the increase in IDWG among hemodialysis patients.

Relationship between Family Support and Interdialytic Weight Gain (IDWG) Value in patients with CKD who are undergoing hemodialysis at RSD Gunung Jati, Cirebon City 2024

The p-value 0.000 (p-values < 0.05) obtained from the Spearman rank statistical test indicated that there was a correlation between family support and IDWG values among CKD patients. Based on the coefficient value of 0.641, it can be concluded that the relationship between the two variables is strongly positive. Specifically, as family support increases, IDWG decreases, and family support decreases, IDWG increases. This research is comparable to that of (Saswati & Suratni., 2020), in which a p-value of 0.001 indicated a significant relationship between family support and IDWG value. Following the findings of the study (Agustina et al., 2022), a chi-square test yielding a p-value of 0.000 demonstrated the correlation between family support and IDWG value.

Furthermore, this research provides further support for the study that established a significant correlation between family support and an IDWG value (Rosana et al., 2024), which had a p-value of 0.003. The results indicate that familial support is a significant external factor in hemodialysis patients' adherence to fluid intake diets. This assistance aids in maintaining IDWG values within the expected range, thereby contributing to the patient attaining the desired level of health. A research investigation carried out (Sunarni, 2019) at RSUD Boyolali among hemodialysis-undergoing patients with chronic kidney failure revealed no statistically significant correlation between family support and IDWG values. In light of this, to reduce the risk of hazardous weight gain among hemodialysis patients, the management of IDWG must consider several additional factors in addition to the crucial support of family members.

Associated with age, 23 respondents (39.7%) comprised half of the respondents aged 46-55 in this study. The study (Damayanty et al., 2018) examined patients aged 46-55 years who were diagnosed with chronic kidney disease and received hemodialysis. An important risk factor for chronic kidney disease (CKD) is advancing age. This is the result of the kidneys' inability to produce new nephrons, which are the foundation of filtration within the kidney. The aging process results in a reduction in the number of functional nephrons with each passing year. A significant number of chronic kidney diseases are identified during the later stages of maturity, primarily as a result of the cumulative effects of unhealthy lifestyle choices.

The survey gathered a total of 32 male respondents (55.2% of the sample), while 26 female respondents (44.8%) were included. This investigation is identical to the (Sunarni, 2019) study. The study revealed that the number of male respondents (33 individuals) was greater than that of female respondents (18 individuals). Variations in lifestyle factors, such as alcohol consumption, smoking, and caffeine intake, between men and women can have an impact on various aspects of health, including the kidneys. While every disease has the potential to impact both men and women, the incidence and presentation of the disease may differ between the genders. Variables such as occupational specialization, lifestyle choices, genetic predispositions, and physiological dissimilarities between males and females influence patients with HD's perception and reception of family support. Therefore, it is essential to improve the quality of life for patients and to consider gender factors in disease prevention and treatment. Certain supplements, coffee, and alcoholic beverages, which are more

frequently consumed by males than women, may contribute to the development of systemic diseases. Subsequently, this results in renal dysfunction and detrimentally affects the overall well-being of males. Therefore, it is essential to promote healthy lifestyle modifications among men to enhance their quality of life and decrease their disease risk (Ipo et al., 2016).

The data reveals that a significant proportion of participants (46.6%) have an SD education background. Specifically, 27 individuals are under-educated, suggesting that their comprehension of the health condition, management, and consequences of chronic kidney disease, including adherence to therapy and fluid intake restrictions, may be compromised. The results are comparable to those of (Badariah et al., 2017) study, in which 22 respondents (or 44 percent) had a background in SD education. The inability of individuals with limited education to comprehend renal replacement therapy, particularly hemodialysis, could potentially contribute to this condition. The knowledge of an individual regarding chronic kidney disease (CKD), which serves as the foundation for their selection of suitable treatment and therapy, can be impacted by their level of education. There is frequently a correlation between greater levels of education and heightened awareness regarding health care. A person with limited education may be oblivious to the health benefits of consuming sufficient fluids. Thus, individuals, particularly those with limited educational attainment, can benefit from a solid understanding of CKD by enabling them to control their dietary fluid consumption and attain an optimal level of health (Tresna, 2021).

A majority of the 29 respondents (50.0%) in this study had been diagnosed with HD for 1-5 years. According to the aforementioned study (Bayhakki & Hasneli, 2018), twenty participants (58.8%) reported undergoing HD therapy for a duration of one to five years. Patients who endure hemodialysis treatment for an extended duration are more inclined to exhibit greater adherence to their treatment regimen. As a result of this experience, they will likely have a greater appreciation for the significance of treatment adherence and will be more motivated to comply with their regimen (Fitriani et al., 2020).

The IDWG is regarded as an indicator of patient adherence to hemodialysis treatment. Because IDWG indicates the amount of fluid retention that occurs between hemodialysis sessions, this is the case. Resistance to therapeutic regimens is a prevalent issue encountered frequently by individuals undergoing hemodialysis. A challenging aspect to discern is

the limitation imposed on fluid consumption. Noncompliance in this particular scenario may result in a persistent accumulation of bodily fluids, thereby elevating the patient's mortality risk due to the potential onset of organ complications. Thus, it is essential to provide patients with adequate education to increase their adherence to hydration restrictions and other therapeutic regimens (Junika et al., 2021). IDWG is the increase in body mass between two hemodialysis sessions. An elevated IDWG correlates with an increased likelihood of developing complications such as hypertension, dysfunction, dyspnea, pulmonary edema (which may worsen the risk of hemodialysis-associated hemorrhage), ventricular hypertrophy, and heart failure (Munawar, 2020).

The significance of the family's involvement in its members' health care. The individual in closest proximity assumes a critical function in providing care for the ailing family member. Family members must exercise effective family support, which includes providing instrumental assistance, informational aid, emotional aid, appreciation aid, and self-esteem aid (Oliver, 2021).

Critical in assisting patients with chronic kidney failure with fluid intake is the involvement of family members. Encouragement can be provided by family members, and the patient may feel more valued when observed by his family. Patients' adherence to the essential fluid intake restrictions for health maintenance can be enhanced through the provision of both moral and practical support from their family members. It demonstrates the critical importance of family support for patients with life-threatening conditions like chronic renal failure (Istanti, 2011).

Certain studies posit that family support does indeed influence the value of IDWG. This is supported by research conducted (Yuni et al., 2019), which revealed that all respondents remained in the same state, the majority of responses were provided in the latter state, and the average support received from the third state was comparatively low (Istanti, 2011). Other research confirms that patients require the support of their closest relatives, including family members, to adhere to fluid intake restrictions. The presence and support of family members can assist in monitoring and reminding patients to better adhere to their treatment regimens. Insufficient familial support can have a direct impact on adherence to fluid intake limitations, as indicated by elevated IDWG values between hemodialysis sessions. As a result, the support of family members is vital to the successful management of patients who suffer from

conditions like chronic renal failure (Yudani et al., 2022).

Furthermore, a study (Saswati & Suratni, 2020) demonstrated that the IDWG values in patients with chronic kidney illness are similarly impacted by family support. A technique for maintaining treatment compliance and minimizing weight gain in between hemodialysis sessions, or IDWG, is to have a strong support system for the patient (Saswati & Suratni, 2020)

Kusniawati, (2018), asserts that family support is crucial for the management of a variety of chronic conditions, including hemodialysis patients. It can encourage patients to follow prescribed treatment plans and better regulate their hydration consumption.

Family support, according to the researchers, can affect the confidence and motivation of patients with chronic kidney disease and other similar conditions to regulate their fluid intake and outflow to maintain normal IDWG values. Additionally, family support influences patients' adherence to hemodialysis protocols or directives, thereby preventing an increase in IDWG. Thus, an increase in family support will correspondingly result in an improvement in one's state of health. A normal IDWG is indicative of a healthy patient's lifestyle, thereby preventing complications that may result from an elevated IDWG.

CONCLUSIONS

The author may deduce, from the findings presented in Chapter IV, that a correlation exists between family support and Interdialytic Weight Gain (IDWG) values among chronic kidney disease patients undergoing hemodialysis at RSD Gunung Jati Cirebon City. A significant proportion of the participants reported receiving substantial family support in the form of informational assistance, assessment support, instrumental support, and emotional support. The ratio of patients undergoing hemodialysis at a mountain hospital in the city of Cirebon is satisfactory, and it is lower than the standard IDWG. This suggests that the family's support has served as an incentive for numerous patients to comply with fluid restrictions during the hemodialysis procedure.

REFERENCES

Agustina, M., Betan, Y., Israfil, & Pius, S. (2022). Analisis Faktor Interdialytic Weight Gains (IDWG) Pasien Hemodialisa Di RSUD Prof.Dr.W.Z Johannes Kota Kupang. *Nursing Update*, 13(3), 192-205. <https://doi.org/10.36089/nu.v13i3.845>

- Rosana, R., Debora, O., Syukkur, A., Sri, S. F.A & Wibowo. (2024). Hubungan Dukungan Keluarga Dengan Nilai Interdialytic Weight Gain (IDWG) Pada Pasien Gagal Ginjal Kronis Yang Menjalani Hemodialisa Di Rumah Sakit Panti Waluya Sawahan Malang. *Indo Genius*, 3(1), 12-18. <https://doi.org/10.56359/igj.v3i1.315>
- Badariah B., Kusuma, F. H. D., & Dewi, N. (2017). Karakteristik Pasien Penyakit Ginjal Kronik yang Menjalani Hemodialisis di RSUD Kabupaten Kotabaru. *Nursing News*, 2(2), 281-285. <https://doi.org/10.33366/nn.v2i2.472>
- Bayhakki, B., & Hasneli, Y. (2018). Hubungan Lama Menjalani Hemodialisis dengan Inter-Dialytic Weight Gain (IDWG) pada Pasien Hemodialisis. *Jurnal Keperawatan Padjadjaran*, 5(3), 242-248. <https://doi.org/10.24198/jkp.v5i3.646>
- Fatrida, D., & Mustakim, M. (2022). Faktor-Faktor Berhubungan dengan Kepatuhan Diet pada Pasien Hemodialisa. *Jurnal Kesehatan Akper Kesdam II Sriwijaya Palembang*, 11(2), 1-20.
- Fitriani, D., Pratiwi, R. D., Saputra, R., & Haningrum, K. S. (2020). Hubungan Lama Menjalani Terapi Hemodialisis Dengan Kualitas Hidup Pasien Penyakit Ginjal Kronik Di Ruang Hemodialisa Rumah Sakit Dr Sitanala Tangerang. *Edu Dharma Journal: Jurnal Penelitian Dan Pengabdian Masyarakat*, 4(1), 70. <https://doi.org/10.52031/edj.v4i1.44>
- Ipo, A., Aryani, T., & Suri, M. (2016). Hubungan Jenis Kelamin Dan Frekuensi Hemodialisa Dengan Kualitas Hidup Pasien Gagal Ginjal Kronik Yang Menjalani Hemodialisa Di Rumah Sakit Umum Daerah Raden Mattaher Jambi. *Jurnal Akademika Baiturrahim*, 5(2), 46-45.
- Istanti, Y. P. (2011). Faktor-Faktor Yang Berkontribusi Terhadap Interdialytic Weight Gains Pada Pasien Dengan Chronic Kidney Diseases yang Menjalani Hemodialisis. *Mutiara Medika*, 11(2), 118-130. <https://doi.org/10.18196/mmjkk.v11i2.938>
- Junika, A., Susmiati, Putra, H., Valente, A., Jesus, J., Breda, J., Dinis, A., Correia, A., Godinho, J., Oliveira, T., Garagarza, C., Mathematics, A., Arisanti Yulanda, N., Herman, H., Sari, F., Raveinal, Apriyanti, E., Indramayu, D. I. R., Saefulloh, M., & Nuraeni, W. (2022). Pengaruh Edukasi Berdasarkan Teori Efikasi Diri Terhadap Interdialytic Weight Gain (Idwg) Pasien Gagal Ginjal Kronik Yang Menjalani Hemodialisis Di Unit Hemodialisa. *Jurnal Kesehatan Kusuma Husada*, 6(1), 100-106. <http://forikes->

- ejournal.com/index.php/SF/article/view/sf11nk411
- Katibi. (2018). *Jumlah Pasien Penyakit Ginjal Kronik Di Rumah Sakit Daerah Cirebon Pada Tahun 2021, 2022, 2023*. <https://doi.org/10.31361/eaas.2018-2.066>
- Kusniawati, K. (2018). Hubungan Kepatuhan Menjalani Hemodialisis Dan Dukungan Keluarga Dengan Kualitas Hidup Pasien Gagal Ginjal Kronik Di Ruang Hemodialisa Rumah Sakit Umum Kabupaten Tangerang. *Jurnal Medikes (Media Informasi Kesehatan)*, 5(2), 206–233. <https://doi.org/10.36743/medikes.v5i2.61>
- Kusumawardhani, Y., & Yetti, K. (2020). Manajemen xerostomia dan interdialytic weight gain. *Jurnal Keperawatan*, 12(1), 7–16. <https://journal.stikeskendal.ac.id/index.php/Keperawatan/article/view/685>
- Mailani, F., & Andriani, R. F. (2017). Hubungan Dukungan Keluarga Dengan Kepatuhan Diet Pada Pasien Gagal Ginjal Kronik Yang Menjalani Hemodialisis. *Jurnal Endurance*, 2(3), 416. <https://doi.org/10.22216/jen.v2i3.2379>
- Munawar, U. (2020). Hubungan Kejadian Komplikasi Intradialis Dengan Nilai Saturasi Oksigen (Spo2) Pada Pasien Hemodialisis Di Rsud Prof.Dr.Margono. *Fakultas Ilmu Kesehatan UMP*, 13–31. Available at <https://repository.ump.ac.id:80/id/eprint/4296>
- Mustikasari, I. (2017). Faktor-Faktor Yang Mempengaruhi Nilai Interdialytic Weight Gain Pasien Hemodialisa Di Rsud Panembahan Senopati Bantul. *Gaster*, 15(1), 78. <https://doi.org/10.30787/gaster.v15i1.139>
- Nurwulan, D. (2017). *Prodi d-iv jurusan gizi politeknik kesehatan kementerian kesehatan yogyakarta tahun 2017 1*. 1–11.
- Oliver, R. (2021). Faktor Faktor Yang Mempengaruhi Dukungan Keluarga. *Angewandte Chemie International Edition*, 6(11), 951–952.
- Purbasari, D., Wahyuningsih, E. S., & Hidayat, H. (2023). *Upaya pemantauan keluhan kardiorespirasi oleh keluarga dengan kejadian kegawatdaruratan di rumah pada penderita gagal ginjal kronik*. *Medical Journal Awatara*, 1(1), 39–44. <https://doi.org/10.61434/mejora.v1i1.59>
- Rahayu, A., Keperawatan, F. I., Islam, U., & Agung, S. (2023). Hubungan Aktivitas Fisik dan Inyterdialytic Weight Gain (IDWG) Dengan Fatigue Pada Pasien Hemodialisis. *UNISSULA Institutional Repository*, Available At <http://repository.unissula.ac.id/id/eprint/29829>
- Rahman, R. A. N., Kartinah, K., & Kusnanto, K. (2023). Gambaran Kecemasan, Stress dan Depresi pada Usia Dewasa yang Menjalani Hemodialisa. *ASJN (Aisyiyah Surakarta Journal of Nursing)*, 4(1), 1–6. <https://doi.org/10.30787/asjn.v4i1.918>
- Safitri, D., Pahria, T., & Rahayu, U. (2022). Faktor-Faktor yang Memengaruhi Peningkatan Interdialytic Weight Gain (IDWG) pada Pasien Hemodialisa. *Jurnal Keperawatan Silampari*, 5(2), 959–970. <https://doi.org/10.31539/jks.v5i2.3670>
- Saswati, N., & Suratni, D. (2020). Hubungan Dukungan Keluarga dengan nilai Interdialytic Weight Gain (IDWG) pada Pasien Hemodialisa. *Jurnal Bahana Kesehatan Masyarakat*, 4(2), 33–37.
- Suarni, L., Wahyuni, S., & Faswita, W. (2022). Hubungan Dukungan Keluarga dengan Tingkat Kecemasan pada Pasien Gagal Ginjal Kronik yang Menjalani Hemodialisa di Rumah Sakit Umum Delia Kecamatan Selesai Kabupaten Langkat. *Jurnal Riset Hesti Medan*, 7(2), 122–130. <https://doi.org/10.34008/jurhesti.v7i2.276>
- Sunarni, E. (2019a). Hubungan dukungan keluarga dengan interdialytic weight gain (idwg) pada pasien gagal ginjal kronis di unit hemodialisis rsud boyolali. *Naskah Publikasi*, 1–10.
- Sunarni, E. (2019b). Hubungan dukungan keluarga dengan interdialytic weight gain (idwg) pada pasien gagal ginjal kronis di unit hemodialisis rsud boyolali. *Naskah Publikasi*, 1–10.
- Tresna, A. (2021). Hubungan Tingkat Pengetahuan dan dukungan keluarga dengan kepatuhan diet pada pasien penyakit ginjal kronik yang menjalani hemodialisa di RS Puri Husada Yogyakarta. *Journal of Chemical Information and Modeling*, 53(February), 2021.
- Unga, H. O., Sahmad, Wahyuni, O., & Astowin, B. (2019). Hubungan Dukungan Keluarga dengan Kepatuhan Pasien Gagal Ginjal Kronik dalam Menjalani Terapi Hemodialisa di Sulawesi Tenggara. *Jurnal Keperawatan*, 2(3), 17–25. <https://stikesks-kendari.ejournal.id/JK>
- Wayunah dkk. (2022). Manajemen haus pada penderita gagal ginjal kronis yang menjalani hemodialisa: a literatur review. *Medical-Surgical Journal Of Nursing Research*, 1(1), 1–13.
- Wijaya, A. K., & Padila, P. (2019). Hubungan Dukungan Keluarga, Tingkat Pendidikan

dan Usia dengan Kepatuhan dalam Pembatasan Asupan Cairan pada Klien ESRD yang Menjalani Terapi Hemodialisa. *Jurnal Keperawatan Silampari*, 3(1), 393–404. <https://doi.org/10.31539/jks.v3i1.883>
Yudani, N. N., Puspawati, N. L. P. D., & Lisnawati, K. L. (2022). Hubungan Pengetahuan dan Dukungan Keluarga dengan Kepatuhan

Pembatasan Asupan Cairan Pasien Gagal Ginjal Kronis yang Menjalani Hemodialisis di Rsud Sanjiwani Gianyar. *Journal Nursing Research Publication Media (NURSEPEDIA)*, 1(3), 133–143. <https://doi.org/10.55887/nrpm.v1i3.22>