



## THE RELATIONSHIP BETWEEN FAMILY SOCIAL SUPPORT AND COMPLIANCE OF CHRONIC RENAL FAILURE PATIENTS UNDERGOING HEMODIALYSIS

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### ABSTRACT

**Introduction:** Chronic kidney disease is defined as kidney damage that lasts long (chronic) and is characterized by a decrease in the kidney's ability to filter blood (GFR). Patients who experience this disease need social support from their families and compliance in undergoing hemodialysis. Therefore, this study aims to determine the relationship between family social support and compliance of chronic kidney failure patients undergoing hemodialysis at Cibitung Medika Hospital. **Methods:** The research method used in this study is descriptive correlation. The population in this study were all chronic renal failure patients with stable conditions who did outpatient hemodialysis at Cibitung Medical Hospital in the last 3 months, a total of 99 patients. **Results:** Based on statistical tests, a p-value of 0.000 with ( $p < 0.05$ ) means  $H_a$  is accepted and  $H_o$  is rejected, meaning that there is a relationship between family support and the loyalty of chronic kidney failure patients undergoing hemodialysis at Cibitung Hospital in 2023. **Conclusions:** The conclusion in this study is that the majority of families being observed in this study provide full support to patients undergoing hemodialysis and most of chronic kidney failure patients comply with hemodialysis treatment at Cibitung Medika Hospital.

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### INTRODUCTION

The body has the function of maintaining the volume, composition of body fluids which is an essential function for the well-being, meaning safety, of all living things. In humans, this function is largely performed by the kidneys. If the kidneys fail to perform their function, the patient requires immediate treatment. The condition where the kidneys are gradually unable to perform their function properly is called chronic renal failure (Diyan Ajeng, 2016).

From an early stage, CKD is closely associated with the onset of various complications such as anemia, bone disease, and others. These complications will increase the risk of morbidity and mortality, such as heart disease, which, if not treated properly, can lead to death. The main goal of therapy in CKD is to slow down the progression of the disease, so that the patient does not develop kidney failure immediately, and to improve the patient's quality of life and live as normally as possible (Kusuma et al., 2017).

According to Basic Health Research, Indonesia is experiencing an increase in the prevalence of non-communicable diseases (NCDs).

NCDs are the highest cause of death in Indonesia. The Riskesdas shows that non-communicable diseases are including cancer, stroke, chronic kidney disease, diabetes mellitus, and hypertension. Therefore, it can be seen that chronic kidney failure experienced a significant increase in prevalence from 2013 at 2.0/00, to 3.8.0/00 in 2018 (Sugawara & Nikaido, 2014).

Regarding cases of renal failure, the World Health Organisation released data showing that the number of people with chronic kidney disease worldwide has increased to nearly 500 million, with approximately 1.5 million of them undergoing hemodialysis therapy. Based on South Asia region mortality data between 2010 – 2012, there were 250.217 people with chronic renal failure (Hutajulu, 2018).

The deterioration of kidney function can be inhibited if patients take regular treatment. One of the therapies to maintain the quality of life of patients with chronic renal failure is hemodialysis. However, one of the problems that causes hemodialysis failure is compliance. Patient compliance is needed to achieve therapeutic



success. Compliance is the level of behavior of a person who receives treatment. In this case, social support is very important to encourage patients to obey regular treatment. Social support can be in the form of information support, emotional support, instrumental support, and assessment support (Ramadhani, 2022). If the patient does not comply with hemodialysis treatment, his body will experience neuropathy, edema, malnutrition, and poisoning, leading to death (Windarti et al., 2018).

In a preliminary study at the Cibitung Medika Hospital, not all patients with renal failure undergoing hemodialysis comply with the previously set therapy schedule, as evidenced by the interviews to a hemodialysis officer and an ER officer at the Cibitung Medika Hospital who stated that four patients did not do hemodialysis in April 2023, so that the patient came to the Emergency Room with complaints of shortness of breath. The assessment being conducted shows that the patient did not do hemodialysis because nobody drove him to hemodialysis treatment on a predetermined schedule, thus compliance in undergoing hemodialysis therapy is very important for patients with chronic renal failure, so that there is no worsening of conditions that can ultimately reduce their quality of life. Therefore, this study aims to analyze the relationship between family social support and compliance with chronic renal failure patients undergoing hemodialysis at Cibitung Medika Hospital in 2023.

## MATERIALS AND METHODS

This research was conducted in October 2023. The research used correlational analytic

method and cross-sectional research design so that family social support and patient compliance in undergoing hemodialysis can be examined simultaneously and results in, whether there is a relationship between family social support and patient compliance in undergoing hemodialysis at Cibitung Medika Hospital in 2023. The sampling technique in this study was non-probability sampling with a total sampling method of 99 respondents, with inclusion criteria for all hemodialysis patients in the last 3 months, and exclusion criteria for hemodialysis patients with unstable conditions and patients who were not willing to participate in the study. Data were collected through primary data using questionnaire as an instrument, consisting of several characteristics such as age, gender, education level, and duration of undergoing hemodialysis, as well as a questionnaire of family social support and adherence to undergoing hemodialysis which is a modification of The End-Stage Renal Disease Adherence Questionnaire (ESRD-AQ) from Kim (2010) which was adapted in Nita Syamsiah's questionnaire (2014).

Statistical Test Data processing and analysis in this study used descriptive statistical techniques and statistical analysis. Statistics to determine the significance of the relationship between one independent variable and one dependent variable using the chi-square test. In this study, the value of  $\alpha = 0.05$  was used. Hence, it was found that the p-value =  $0.000 < \alpha = 0.05$ , meaning that  $H_a$  was accepted.

## RESULTS

**Table 1.** Characteristics respondent based on age, gender, education, and long term undergoing hemodialysis at Cibitung Medika Hospital, October 2023.

Age	Frequency (F)	Percentage (%)
10-19	1	1
20-44	24	24,2
45-59	58	58,6
>60	16	16,2
Gender	Frequency (F)	Percentage (%)
Male	47	47,5
Female	52	52,5
Education	Frequency (F)	Percentage (%)
Elementary school	11	11,1
Junior high school	4	4
Senior High School	79	79,8
College	5	5,1
Long time undergoing hemodialysis(in years)	Frequency (F)	Percentage (%)
1	2	2
2	16	16,2
3	35	35,4
4	32	32,3
5	14	14,1

Long time undergoing hemodialysis(in years)	Frequency (F)	Percentage (%)
Total	99	100

Table 1 shows that out the total of 99 respondents (100%), the highest percentage was 58.6% or 58 respondents who underwent hemodialysis aged 45 - 59 years, 52.5% or 52 patients were female. 79.8% or 79 respondents were senior high school graduates, and 35.4%, or 35 respondents underwent hemodialysis for 3 years.

**Table 2.** Characteristics respondent based on Family Social Support at Cibitung Medika Hospital, October 2023.

Family Social Support	Frequency (F)	Percentage (%)
Good	93	93.9
Less	6	6.1
Total	99	100

Table 2 shows that that 93.9% of respondents or 93 people undergoing hemodialysis therapy at Cibitung Medika Hospital have good family social support.

**Table 3.** Characteristics respondent based on Compliance at Cibitung Medika Hospital, October 2023.

Compliance	Frequency (F)	Percentage (%)
Obedient	93	93,9
Disobedient	6	6,1
Total	99	100,0

Table 3 informs that 93.9% of respondents, or 93 chronic kidney failure patients undergoing hemodialysis at Cibitung Medika Hospital are compliant with the hemodialysis therapy they are undergoing.

**Table 4.** Characteristics Respondents based on the Relationship between Family Social Support and Compliance with Hemodialysis at Cibitung Medika Hospital, October 2023.

Family Social Support	Compliance with Hemodialysis				Total		P Value
	Obedient		Disobedient				
	n	%	n	%	n	%	
Good	93	93,9	0	0	93	93,9	0,000
Less	0	0	6	6,1	6	6,1	
Total	93	93,9	6	6,1	99	100	

Table 4 tells that 93 respondents or 93.9% of respondents who had good family support in undergoing hemodialysis comply with the hemodialysis therapy they were undergoing, and not a single respondent, or 0% were non-compliant in undergoing hemodialysis.

The results of the Chi-Square statistical test obtained a p-value = 0.000, which concludes that there is a difference in proportion (there is a significant relationship) between family support and compliance of chronic kidney failure patients in undergoing hemodialysis. In this study, the value  $\alpha = 0.05$  was used. So the p-value =  $0.000 < \alpha = 0.05$  is found, meaning that  $H_a$  is accepted, where the results of the analysis show that there is a relationship between family social support and the compliance of chronic kidney failure patients undergoing hemodialysis at Cibitung Medika Hospital in 2023.

## DISCUSSION

### 1. Family Support Variable

In this study, out of 99 respondents, chronic kidney failure patients undergoing hemodialysis who have good family support are 93 respondents or 93.3%. This shows that the average patient with chronic renal failure undergoing hemodialysis has family support in the good category, which is divided into various forms of family support, including assessment support, instrumental support, information support, and emotional support.

Windarti et al. (2018) revealed that family emotional support is a safe and peaceful place to rest, recover, and help control emotions. Aspects of emotional support include support manifested in the form of

affection, trust, attention, listening, and being listened to.

In this case, emotional and instrumental support has the highest value so it can be seen that respondents who feel they get emotional and instrumental support feel relieved because they are cared for, and also have their needs met. When doing hemodialysis, the patient is very likely to have a burden of thought that can affect his compliance in carrying out therapy, but with the emotional support provided by the family to the patient can reduce the burden and stress experienced by the patient when doing haemodialysis therapy, material things also greatly affect chronic renal failure patients in undergoing haemodialysis therapy, because many patients live far from health facilities so

that they are not reached by public transport, so they need rocks from their closest people to take them to the hospital during their hemodialysis schedule.

The results of this study are supported by research by Inayati et al. (2021) that the family is one of the closest people who always interact with chronic kidney failure (CKD) patients undergoing hemodialysis so it is possible to provide informative, emotional, instrumental, and assessment support when they need it.

This family support lasts for a lifetime no matter what the condition, each family member will always accept each other and help each other, in line with research Unga et al. (2019) that family is something that has a strong bond that cannot be separated by any circumstances, a family will always help other families and be ready to assist if needed.

## 2. Adherence Variables of Chronic Kidney Failure Patients Undergoing Hemodialysis

Based on the research results from 99 respondents, post-chronic renal failure patients who underwent hemodialysis were compliant, as many as 93 respondents or 93.3%. This is evidence that most respondents comply with the hemodialysis therapy they have been undergoing so far.

The results shows that most hemodialysis patients were female, but hemodialysis patients who were male had a better percentage of compliance compared to those who were female. This was related to patients who were male having better independence compared to patients who were female. This is in line with Tagela's research (2021) which states that the independence value of men is more than that of women, thus affecting the level of compliance.

This study shows that patients who have been undergoing hemodialysis for more than 3 years have a low percentage of compliance, this is due to patient saturation in undergoing hemodialysis, while patients who have been undergoing hemodialysis for less than 3 years have a good level of compliance, many patients are compliant because they still hope for recovery if they are compliant with the hemodialysis therapy they are doing.

In line with the current research, Balqis, Siti (2019) said that poor compliance in carrying out the therapy provided was caused by the patient's longer experience, where the patient had complied with the treatment process, but the results did not match expectations, so the

patient resigned and did not comply with the therapy program properly.

This study further indicates that patients who underwent hemodialysis were mostly aged 45 - 59 years and the least aged 10 - 19 years, this is related to the increasing age of a person, the risk of developing degenerative diseases or chronic diseases, which are risk factors for chronic kidney failure is increasing.

This is in line with Sulistini's research (2019) that the average age of chronic kidney failure patients undergoing hemodialysis is 49 years old, chronic kidney failure disease is more common after adulthood than at a young age because at adulthood many are affected by hypertension and diabetes, after 15-20 years of hypertension and diabetes, 45% of cases will develop into chronic kidney failure.

Further, the percentage of patients who have completed high school and college is more than 80%, this proves that patients with high education have good compliance with the therapy or treatment they are undergoing, this is related to education can affect the absorption of information that patients have about the condition of their disease and what consequences will be received if the patient does not comply with the therapy program.

Patient compliance in carrying out hemodialysis therapy in this study was found to be very good, this is because when undergoing hemodialysis, the respondent felt that all his needs at the time of carrying out hemodialysis therapy had been supported and provided by the family, starting from taking the patient to the hospital.

In line with research Paath et al. (2020) which states that efforts made by families to improve compliance in carrying out hemodialysis therapy can be done in various ways, namely by helping to make a simple HD therapy schedule so that it makes it easier for patients to remember to do therapy, besides helping transport patients to the HD therapy site so that patients do not experience difficulties in carrying out therapy.

In this study, providing support to keep doing haemodialysis therapy when patients are lazy is also very high in motivating kidney failure patients. This motivation and encouragement is what makes chronic kidney failure patients remain compliant with the therapy they are going through.

According to Ode Unga et al., (2019), the support provided by the family can foster self-confidence, and such motivation will increase

the patient's enthusiasm for undergoing treatment.

Compliance is the behavior of individuals who obey rules, orders, and discipline in taking action for treatment, for example in dieting, determining healthy living habits, and treatment provisions. Patient compliance means that patients are always obedient in undergoing the necessary treatment following the provisions that have been recommended by health workers. Hemodialysis therapy in patients with CKD is carried out regularly for a lifetime, so patient compliance is needed to undergo treatment. (Unga et al., 2019)

### 3. The Relationship Between Family Social Support and Compliance of Chronic Kidney Failure Patients Undergoing Haemodialysis

This research indicates that a total of 99 respondents (100%), respondents who had good family support in chronic renal failure patients undergoing hemodialysis were 93 respondents (93.9%), had compliance with the hemodialysis program they were undergoing as many as 93 respondents (100%), and patients who had less family social support were 6 (6.1%) respondents and 6 (100%) respondents were not compliant with the hemodialysis program they were undergoing.

The results of the Chi-Square statistical test obtained a p-value = 0.000, it can be concluded that there is a difference in proportion (there is a significant relationship) between family support and compliance of chronic gynecological failure patients who undergo hemodialysis. In this study, the value of  $\alpha = 0.05$  was used. So it is found that the p-value = 0.000 <  $\alpha = 0.05$ , meaning that  $H_a$  is accepted, where the analysis results show that there is a relationship between family support and the compliance of chronic renal failure patients undergoing hemodialysis at Cibitung Medika Hospital in 2023.

Family support is a factor that plays an important role for patients to reduce stress, burden, and anxiety that lead to non-compliance with hemodialysis therapy.

Further, this study found that chronic renal failure patients who get social support from their families have a high level of compliance with the hemodialysis therapy program they undergo because the family support received by chronic renal failure patients makes motivation for these patients to improve their quality of life, one of which is by obediently carrying out hemodialysis therapy.

Whereas patients who are not compliant with hemodialysis therapy have families who do not care about patients because of their busyness, so patients have no one to take them to do hemodialysis, as well as patients who have families who do not care about stressful conditions, or the burden of thoughts that are being experienced by patients, even though the family always sends and pays for patients, patients are reluctant to go to hemodialysis because there is no motivation to improve their health status. This is in line with research which says that patients who have negative family support have low motivation.

This result is in line with the statement by Sarlito (2010) which emphasizes that Support is an effort given to another person, both morally and materially, to motivate that person to carry out activities. Family support is also defined as verbal or non-verbal information, advice, real help, or behavior provided by people who are familiar with the subject in their environment or in the form of presence and things that can provide emotional benefits and affect the recipient's behavior. In this case, people who feel emotionally supported feel relieved because they are cared for, get advice, or have a pleasant impression on themselves.

Besides, according to Windarti et al. (2018), in a good environment, social support is more effective. An important source of support is the family. With this understanding, individuals will know who to turn to for social support according to specific situations and desires.

Therefore, this is where the relationship between family social support provided to chronic renal failure patients increase the motivation to improve the quality of life of the patients.

## CONCLUSIONS

The results of the current study entitled "The Relationship Between Family Social Support and Compliance of Chronic Kidney Failure Patients Undergoing Hemodialysis at Cibitung Medika Hospital in 2023" indicate that the majority of respondents under the following criteria; aged 45-59 years, female, high school education, and having undergone hemodialysis for 3 years. The majority of families provide good social support to patients undergoing hemodialysis, and most chronic renal failure patients are compliant with their hemodialysis treatment at Cibitung Medika Hospital. Furthermore, this study found a relationship between family social support and

patient compliance in undergoing hemodialysis at the hospital in 2023.

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#### AUTHORS' CONTRIBUTIONS

1 st author, as a researcher and collecting data, 2 nd and 3 rd author as data analyst and ethic.

#### CONFLICT OF INTEREST

There is no conflict or personal interest in the research.

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