

## THE RELATIONSHIP BETWEEN MOTIVATION AND ADHERENCE IN PATIENTS WITH CHRONIC KIDNEY DISEASE IN UNDERGOING HEMODIALYSIS THERAPY IN THE HOSPITAL

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### Abstract

*Adherence and motivation are important to determine the success of hemodialysis therapy treatment. This study aims to investigate the relationship between motivation and adherence of patients with CKD in undergoing hemodialysis therapy. The research design used in the study was descriptive quantitative correlation with a cross-sectional approach to explore the relationship between motivation and adherence of CKD patients in undergoing hemodialysis therapy. The population in this study were CKD patients who were undergoing hemodialysis therapy at Advent Hospital Bandung, totaling 100 patients. With the Simple Random Sampling technique and using the Michael and Isaac table, 79 respondents participated in the study. The instruments used in this study were the ESRD-AQ questionnaire (The End-Stage Renal Disease Adherence Questionnaire) and a valid motivation questionnaire to measure the motivation and adherence of patients with CKD in undergoing hemodialysis therapy. Univariate descriptive analysis and Spearman's rank bivariate correlation were used to answer the identified research questions. The results showed that most of the CKD patients had high motivation in undergoing hemodialysis therapy and most of the CKD patient had high adherence in undergoing hemodialysis therapy. The result of bivariate analysis is motivation and adherence had a relationship with p-value 0,001, indicating a very weak relationship. It is suggested that healthcare should improve the quality of medical services for patients with CKD patient undergo hemodialysis therapy. Further research is needed to investigate the factors associated with motivation and adherence using qualitative design.*

**Keywords:** Adherence, Chronic Kidney Disease, Hemodialysis, Motivation

### Abstrak

Kepatuhan dan motivasi merupakan hal penting untuk menentukan keberhasilan pengobatan terapi hemodialisa. Penelitian ini bertujuan untuk menginvestigasi hubungan antara motivasi dan kepatuhan pasien GSK dalam menjalani terapi hemodialisa. Desain penelitian yang digunakan dalam penelitian adalah deskriptif kuantitatif korelasional dengan pendekatan *cross-sectional* untuk mengeksplorasi hubungan antara motivasi dan kepatuhan pasien GSK dalam menjalani terapi hemodialisa. Populasi dalam penelitian ini adalah pasien GSK yang sedang menjalankan terapi hemodialisa di Rumah Sakit Advent Bandung yang berjumlah 100 pasien. Dengan teknik pengambilan sampel *Simple Random Sampling* dan menggunakan tabel *Michael dan Isaac*, 79 responden berpartisipasi dalam penelitian. Instrumen yang digunakan dalam penelitian ini adalah kuesioner ESRD-AQ (*The End-Stage Renal Disease Adherence Questionnaire*) dan kuesioner motivasi yang telah valid untuk mengukur motivasi dan kepatuhan pasien GSK dalam menjalani terapi hemodialisa. Analisis deskriptif *univariat* dan korelasi *bivariat Spearman' rank* digunakan untuk menjawab identifikasi masalah penelitian. Hasil penelitian menunjukkan bahwa sebagian besar pasien GSK memiliki motivasi tinggi dalam menjalani terapi hemodialisa yaitu berjumlah 44 responden (55,7%), sebagian besar pasien GSK patuh dalam menjalani terapi hemodialisa dengan jumlah 46 pasien (58,23%) dan terdapat hubungan antara motivasi dengan kepatuhan pasien GSK dalam menjalani terapi hemodialisa dengan nilai p-value adalah 0,001. Disarankan agar pelayanan kesehatan meningkatkan kualitas pelayanan medis bagi pasien GSK yang menjalani terapi hemodialisis. Penelitian lebih lanjut diperlukan untuk menyelidiki faktor-faktor yang berhubungan dengan motivasi dan kepatuhan dengan menggunakan desain kualitatif.

**Kata kunci:** Gagal ginjal kronik, Hemodialisa, Kepatuhan, Motivasi

## Introduction

Chronic Kidney Disease (CKD) is a disease in which kidney damage occurs where the blood filtration function decreases. It is estimated that the filtration rate is less than 60 ml/min/1.73 mt<sup>2</sup> which lasts for 3 months or more (Muslim, 2022). The loss of kidney function is progressive where the ability of the kidneys to maintain metabolism, fluid levels, electrolytes, and nitrogen waste gradually decreases. This condition causes ureum and creatinine levels in the blood to increase so that toxic ureum can occur when the ureum value exceeds or is high above the limit (Pangestu, 2022). Kidney damage ultimately requires renal replacement therapy such as dialysis or kidney transplantation (Rohmaniah & Sunarno, 2022).

The prevalence of CKD continues to increase worldwide. It is estimated that more than 10% of the world's population, around 800 million people, experience CKD. The incidence rate in developing countries, including Indonesia, shows an increasing incidence rate as well (Damayanti, 2021). In fact, hemodialysis is one of the main renal replacement therapies for patients with CKD. This therapy is designed to remove toxins and metabolic waste from the body when the kidneys are no longer functioning properly (Murdeshwar & Anjum, 2020). The hemodialysis therapy process is a machine that draws blood from the body of patients with CKD then filters the blood through a dialyzer as an artificial kidney and reintroduces clean blood into the body. The hemodialysis process lasts for 3 to 5 hours and can be done two to three times a week (Windarti & Suyana, 2023).

Hemodialysis therapy in patients with CKD is a long-term and permanent therapy (Windarti & Suyana, 2023). Some research results show that patients with CKD in

undergoing hemodialysis experience many challenges such as difficulty accepting the fact to undergo hemodialysis for life (Tatum et al., 2016). Restrictions such as fluid and salt are a challenge in managing the daily diet of patients with hemodialysis therapy (Permadani et al., 2022). Despite the many challenges faced by patients with CKD in undergoing hemodialysis, adherence is very important in improving the health and well-being of patients with CKD (Rohmaniah, 2022). Adherence is one of the important factors in treatment, especially in the treatment of long-term chronic diseases (Edi, 2015). Adherence in applying or performing treatment determines the success of treatment. Adherence with hemodialysis therapy in patients with CKD is considered very important (Manurung et al, 2023). However there are still patients with CKD who are not adherence with undergoing hemodialysis as much as 1.2%-1.8% (Tambunan & Siagian, 2023).

This condition can cause complications that can affect the quality of life where physical, mental and social health decreases (Naryati & Nugrahandari, 2021; Tambunan & Siagian, 2023). Some of the factors that influence adherence to hemodialysis are knowledge, family support, religious coping and motivation (Ramadhani et al., 2022). In carrying out hemodialysis therapy, motivation is needed to increase compliance with undergoing hemodialysis therapy to benefit life (Setyawati et al., 2020). Motivation and hope are one of the factors that increase patient adherence. Motivation comes from the word "motivation" and refers to the effort that makes someone do something. Motivation can be said to be a person's internal driving force to carry out certain activities to achieve a goal. Motivation can now be interpreted as an active driver. Motivation is activated at certain times, especially when the need to achieve a goal is felt very urgently (Laka et

al., 2020). High motivation is influenced by several factors such as strong social support from family and friends, self-confidence and confidence and a supportive and facilitating environment (Mulya & Rayasai, 2019).

On the other hand, the motivation of chronic renal failure patients in undergoing hemodialysis is in the low category. Patients who do not have motivation when undergoing hemodialysis are influenced by a lack of intrinsic and extrinsic motivation. With the time to undergo hemodialysis 2-3 times a week, it will definitely make patients tired and bored, plus the distance between the patient's residence and the hospital is also one of the factors that causes them not to be motivated to undergo hemodialysis (Zuriati, 2018). Research related to motivation and adherence with hemodialysis therapy has never been carried out at the research location, so the researcher is interested in conducting research with the title "Relationship between Motivation and Adherence of Chronic Kidney Disease Patients in Undergoing Hemodialysis Therapy at Advent Hospital Bandung."

## Method

The research method used in this study is descriptive quantitative research design to explain the characteristics of respondents and descriptive correlation to explain the relationship between motivation and adherence of chronic renal failure patients in undergoing hemodialysis therapy with a cross-sectional approach. The cross-sectional approach is a type of research that focuses on measuring and observing data on independent variables only once in a while. Correlational studies investigate the relationship between variables (Simbolon et al., 2023).

The population in this study were clients or patients with kidney failure who were undergoing hemodialysis therapy at Advent Hospital Bandung with a population of 100 patients. The sampling technique used is Simple Random Sampling. This technique was chosen because the sample would be taken randomly from the population without regard to existing strata. The number of samples is totaling 79 respondents who are willing to filled out the questionnaire. The inclusion criteria include patients undergoing hemodialysis therapy at Advent Hospital Bandung during the data collection period, and patients who are willing to participate in the study. Whilst the exclusion criteria included patients who have complications while undergoing hemodialysis therapy and refused to participate in the study.

The instruments used in this study were the ESRD-AQ questionnaire (The End-Stage Renal Disease Adherence Questionnaire) and a motivation questionnaire that has been validated to measure the motivation and compliance of patients in undergoing hemodialysis therapy (Setyawati et al., 2020). This questionnaire consists of demographic data in the form of name, age, gender, latest education, occupation, marital status, vascular access, and length of hemodialysis. The compliance questionnaire consisted of 6 questions and the motivation questionnaire consisted of 10 questions. The instrument used has a coefficient correlation (r) value of 0.83 as well as a Content Validity Index (CVI) value with an average of 0.99 and a Cronbach's alpha value of 0.7510. The adherence questionnaire was categorized as follows: adhere with an average total score ( $>4.5$ ) and non-adhere with an average total score ( $<4.5$ ). Meanwhile, the motivation questionnaire was categorized with the following details: high motivation with an average total score ( $<4.1$ ) and low

motivation with an average total score (>4,1).

The data collection process began with submitting an ethics application letter to the Faculty of Nursing Science, Adventist University of Indonesia and received an ethics eligibility letter (No.366/KEPK-FIK.UNAI/EC/II/24). after that, submit a research permit from Adventist Hospital Bandung and received permission to conduct research (049/1.33/RSAB/IV/2024). And then clients were given information and research objectives and then asked to confirm their agreement whether they agreed to be involved in this study. If the client agrees, the client is given a paper containing a questionnaire.

After data were collected through questionnaires, they were entered into statistical software such as IBM SPSS or Microsoft Excel. Descriptive analysis involved calculating basic statistics such as frequency, percentage, and mean for each aspect of motivation and adherence to hemodialysis treatment in patients with chronic renal failure. To test the research hypothesis regarding the relationship between motivation and adherence of chronic renal failure patients to hemodialysis therapy, correlation analysis will be conducted. The correlation analysis will be calculated using the Spearman correlation test (Simbolon et al., 2023).

## Results

The criteria for respondents in this study were chronic renal failure patients undergoing hemodialysis therapy at Advent Hospital Bandung. In this study, the number of respondents who filled out the questionnaire was 79 respondents. Analysis of respondent characteristics can be seen in table 1.

**Table 1. Responden Characteristics**

Respondents Characteristics	Frequency (n)	Percentage (%)
Age		
Late adolescence (17-25 yo)	1	1,3
Early adulthood (26-35 yo)	6	7,59
Late adulthood (36-45 yo)	18	22,78
Early elderly period (46-55 yo)	18	22,78
Late elderly period (56-65 yo)	20	25,32
Elderly period (> 65 yo)	16	20,25
Total	79	100
Length of Hemodialysis Therapy		
1-2 years	28	35,4
3-4 years	23	29,1
5-6 years	16	20,2
7-8 years	4	5,1
9-10 years	1	1,3
11-12 years	4	5,1
13-14 years	3	3,8
Total	79	100
Gender		
Male	48	60,8
Female	31	39,2
Total	79	100
Occupation		
Private employee	14	17,7
Civil servant	5	6,3
Not working	31	39,2
Self-employed	29	36,7
Total	79	100
Last education		
Bachelor	25	31,6
High school	33	41,8
Junior high school	18	22,8
Not graduated	3	3,8
Total	79	100
Marital status		



Unmarried	9	11,4
Married	70	88,6
Total	79	100
Vascular access		
CDL	10	12,7
Cimino	69	87,3
Total	79	100

Based on the results of descriptive statistics on the variable characteristics of respondents, it can be seen that the age of respondents is spread almost evenly between late adulthood and old age, namely ages 36 to > 65 years with a percentage between 20.25% and 22.78%. While the length of hemodialysis is also spread between 1 to 14 years with a percentage between 3.8% to 35.4%. Gender showed that most were male with a total of 48 people (60.8%). The highest percentage of respondents' occupation was not working with a total of 31 people (39.2%). Most respondents had a final education in high school with a total of 33 people (41.8%), most respondents were married with a frequency of 70 people (88.6%), and most respondents had vascular access, namely cimino with a total of 69 people (87.3%).

The level of motivation of CKD patients in undergoing hemodialysis therapy will be explained through table 2.

**Tabel 2. Categories of Motivation**

Motivation category	Frequency (n)	Percentage (%)
low	35	44,30
high	44	55,7
Total	79	100

Based on the table above, it shows that most respondents have high motivation totaling 44 respondents (55.7%) and a small proportion have low motivation totaling 35 respondents (44.30%).

The level of compliance of patients with CKD in undergoing hemodialysis therapy will be explained through table 3.

**Tabel 3. Adherence Level**

Adherence category	Frequency (n)	Percentage (%)
Not adhere	33	41,77
Adhere	46	58,23
Total	79	100

Based on the table above, it shows that most respondents were adherents in undergoing hemodialysis therapy with a total of 46 patients (58.23%). A small proportion of respondents did not adhere to undergoing hemodialysis therapy, totaling 33 patients (41.77%).

The relationship between motivation and compliance of CKD patients in undergoing hemodialysis therapy will be explained in table 4.

**Tabel 4. Correlation between Motivation and Adherence**

Variable 1	Variable 2	R	p-value
motivation	adherence	0,381	0,001

Based on table 4 above, the results of the bivariate analysis test obtained are "There is a significant relationship between motivation and compliance of CKD patients in undergoing Hemodialysis therapy." It can be seen that the p-value of the Spearman's Rho correlation test results is 0.001, indicating a very weak relationship.

## Discussion

In this study, the respondents' characteristics including age, duration of hemodialysis,

gender, occupation, education and marital status varied in percentage distribution. Several studies have shown that there are several factors that can influence motivation and adherence to treatment. Some factors include situation, facilities, physical, intrinsic, heredity, facilities, programs and media have a significant effect in motivating compliance (Sulistyarini & Hapsari, 2015). Other factors such as level of knowledge, patient motivation, patient attitude, gender and length of illness also affect the level of patient adherence (Triastusi et al, 2020). Furthermore, the factors of family support, motivation, level of knowledge and access to health services greatly affect the compliance of patients with CKD in undergoing hemodialysis therapy (Ramadhani, 2022).

The results of the research from Suriya (2017), that has been done show that most of the respondents have high motivation and a small percentage have low motivation. However, the majority of patients with CKD have low motivation. Motivation has an important role in patient compliance, through oneself and from the environment. Motivation is defined as a situation that is able to drive behavior and direct it in order to achieve a goal (Dani et al., 2015). Motivation is essential for good behavior. Without it, individuals will not be able to do anything. Motivation encourages individuals to carry out activities that are important and considered a necessity (Nababan, 2021). High motivation is influenced by several factors such as strong social support from family and friends, self-confidence and confidence and a supportive and facilitating environment (Mulya & Rayasai, 2019).

Regarding adherence, this study found that most respondents were compliant in undergoing hemodialysis therapy and a small proportion of respondents were not compliant in undergoing hemodialysis therapy. This is in accordance with the results of study that the level of adherence of

CKD patients was in the adhere category (Novitarium et al., 2024). Another research also showed that the majority of patients with CKD were compliant in undergoing hemodialysis therapy (Widuri et al., 2023). CKD patients are compliant in undergoing hemodialysis therapy because they realize the importance of treatment to maintain their health. They may get support from the surrounding environment that helps them understand the benefits of the therapy for their body (Agustiani et al., 2022). In addition, a good understanding of their health condition and the consequences of not undergoing therapy may also encourage them to be compliant in undergoing treatment. Adherence of patients with CKD is the main key to achieving the success of their hemodialysis therapy. Hemodialysis therapy is not only undertaken for 1 or 2 times, but the therapy must be undertaken for life (Putri & Afandi, 2022).

This study shows that there is a significant relationship between motivation and compliance of CKD patients in undergoing hemodialysis therapy. This is in line with research conducted that shown there is a relationship between motivation and adherence of CKD patients in undergoing hemodialysis therapy (Setyawati et al., 2020). The other result showed that there is a relationship between motivation and compliance of patients with CKD when undergoing hemodialysis therapy with a *p-value* 0.004 (Dani et al., 2015). When patients with CKD have low motivation, adherence with hemodialysis therapy decreases. Conversely, when patients with CKD have high motivation, compliance will increase (Hutajulu, 2018). Patients suffering from CKD will have a direct impact because they undergo hemodialysis therapy. Not only the patients but also their families are affected. For example, the impact of physical, social, psychological, and financial aspects. By undergoing hemodialysis

therapy, motivation is needed from family, the surrounding environment, and health workers (Wiliyanarti & Muhith, 2019). The relationship between motivation and adherence is because high motivation tends to increase a person's willingness to comply with certain guidance or obligations. When a person is highly motivated to achieve a goal or meet expectations, they tend to be more disciplined and compliant with the processes or rules needed to achieve the goal. Therefore, strong motivation can influence a person's level of adherence with various obligations.

This study is expected to benefit hospitals and dialysis nurses by providing support and motivation for patients with CKD so that patient motivation increases and patients adherence in undergoing hemodialysis therapy. Further research is needed to investigate the factors associated with motivation and adherence using qualitative design.

## Conclusion

Most of the patients with CKD had high motivation in undergoing hemodialysis therapy, totaling 44 respondents (55.7%) and a small proportion had low motivation, totaling 35 respondents (44.30%). Most of the patients with CKD were adhered in undergoing hemodialysis therapy with a total of 46 patients (58.23%) and a small proportion were not adhered in undergoing hemodialysis therapy, totaling 33 patients (41.77%). There is a relationship between motivation and adherence of CKD patients in undergoing hemodialysis therapy, where the level of relationship is very weak with the *p-value* of the Spearman's Rho correlation test results is 0.001.

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