Research Article

The Relationship of Long Time Hemodialization with Anxiety Level in Chronic Kidney Failure Patients

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Abstract

Aims: To assess the relationship between the length of hemodialysis time and the level of anxiety in patients with chronic kidney failure at the Jakarta Harbor Hospital in 2021

Design: Analytical with cross sectional.

Methods: The data used is primary data, namely data obtained from the results of distributing questionnaires. The data collection instrument used was a questionnaire. The analytical method used was univariate analysis and bivariate analysis with Chi Square test.

Results: The majority of respondents with mild anxiety and undergoing hemodialysis > 24 months. There is a relationship between the length of hemodialysis time and the level of anxiety in CKD patients with p value < 0.05

Conclusions: There is a relationship between the length of time on hemodialysis and the level of anxiety in CKD patients. Therefore, clinical nurse needs to provide an important intervention or pleasant activity during the patients undergoing hemodialysis to reduce level of anxiety.

Keywords:
Hemodialysis, Anxiety

INTRODUCTION

Chronic kidney disease (CKD) is a global public health disorder with an increasing prevalence and incidence of kidney failure, poor prognosis and high treatment costs. The prevalence of chronic kidney disease increases with the increasing number of elderly people due to degenerative diseases followed by diabetes mellitus and hypertension. About 1 in 10 of the global population experiences CKD at some stage (1)

The prevalence of kidney disease is increasing from year to year, even according to the results of the Global Burden of Disease research, chronic kidney disease is the 27th leading cause of death in the world with a figure reaching 1.5 billion people in 2018. It is currently estimated that around 10% The world's population suffers from CKD and tends to be higher in developing countries. While in Southeast Asia, PGK is very diverse, including in Malaysia around 9.1%, in Thailand 16.3%, and in Indonesia at that time according to data from the Indonesian Ministry of Health, the percentage was 12.5% (2)

In Indonesia, based on IIHME data, Global Burden Disease, 2018 from the total number of deaths of 1,510,113, the mortality rate for chronic kidney disease

was 35,217 or 2 percent of total deaths and ranked 13th from the causes of death. The results of Riskesdas 2018 show that chronic kidney disease has increased in percentage in 2013 by 1.8% while in 2018 it reached 3.8%. The prevalence of chronic kidney failure based on a doctor's diagnosis in the population aged over 15 years in Indonesia is 0.38 percent or about 739,208 people and the highest percentage is in North Kalimantan Province (0.64%), the lowest is in West Sulawesi Province (0.18%) , while DKI Jakarta is (0.41%) (3).

The proportion of patients who have or are currently undergoing hemodialysis in the population aged 15 years who have been diagnosed with chronic kidney disease in Indonesia in 2018 was the highest in DKI Jakarta at 38.7% and the lowest in North Sulawesi at 2% (3).

One of the therapies for chronic kidney disease is hemodialysis. Hemodialysis is a high-level technology as a substitute for kidney function to remove metabolic wastes or certain toxins from the human blood circulation such as water, sodium, potassium, hydrogen, urea, creatinine, uric acid, and other substances through a semi-permeable membrane as a blood and dialysis fluid separator. in an artificial kidney where there is a process of diffusion, osmosis, and ultra-filtration (4)

Hemodialysis is proven to be effective in removing fluids, electrolytes and metabolic waste from the body, and especially in end-stage CKD or stage 5. If renal replacement therapy is not performed, the patient will die. Hemodialysis therapy has quite an impact on the patient's lifestyle. The patient's dependence on hemodialysis machines for life which is routinely carried out results in changes in roles, changes in work, economic life, social life and income which result in stressors that can cause anxiety in hemodialysis patients. Hemodialysis therapy takes a long time, the length of time for hemodialysis is ideally 10-12 hours per week, carried out 2 times a week for 5-6 hours (5)

Anxiety according to Harold, Sadock and Grebb (6) is a signal that awakens, warns of a threatening danger and allows a person to take action to overcome the threat. Anxiety in patients undergoing hemodialysis warns of external and internal threats, and has life-saving qualities. Anxiety in patients undergoing hemodialysis is caused by situational crises, death threats, and not knowing the final outcome of the therapy. This becomes a physical stressor that affects various dimensions of life due to complaints of physical weakness (5).

Perceived psychological changes can be seen from physical conditions and behavioral changes including: patients always feel confused, feel insecure, dependent and become passive individuals. Two-thirds of patients undergoing dialysis therapy never return to activities or work as before they underwent hemodialysis. Patients often experience problems such as: loss of work, income, freedom, decreased life expectancy and sexual function so that it can cause anger and will lead to a state of anxiety as a result of the systemic disease that preceded it (7).

Patients who underwent hemodialysis for more than 6 months had been able to adjust to their illness, and explained that the longer the patient underwent hemodialysis, the lower the level of anxiety. Patients who have severe anxiety tend to be patients who have recently / recently undergone hemodialysis, because patients who have long reached the accepted stage (4)

According to the results of Damanik's research (8) said that the majority of respondents undergoing hemodialysis experienced anxiety with moderate anxiety levels 19 people (61.3%), while the minority of hemodialysis respondents with severe anxiety levels 4 people (12.9%).

Despite these advantages, few studies have assessed the impact of intradialytic stretching training on the level of RLS and sleep quality in hemodialysis patients, with mixed results. Some studies revealed beneficial effects on solute clearance,

especially in relation to uremic RLS, and poor sleep, depression and low quality of life (9)

Based onmedical record data at the Port of Jakarta Hospital in the last three years, chronic kidney disease patients undergoing hemodialysis have increased, namely in 2019 as many as 1,127 people, in 2020 as many as 782 people and in 2021 until August 2021 as many as 336 people. Chairul Huda's research results (10) said that the results showed that there was a significant relationship between the length of time undergoing HD and the patient's level of anxiety (p value = 0.011).

The results of a preliminary study conducted by researchers at the Port of Jakarta Hospital with the method of interviewing 10 Chronic Kidney Disease patients undergoing hemodialysis therapy showed that 2 new patients undergoing hemodialysis therapy for <12 months had moderate levels of anxiety (feelings of anxiety, tension and fear due to implementation of hemodialysis that must be experienced), 5 patients who had undergone hemodialysis therapy for 12-24 months experienced moderate anxiety (feeling restless and had trouble sleeping)

and 3 people who underwent hemodialysis therapy for > 24 months experienced mild anxiety (feeling uneasy because of think about the disease). The manifestations shown by patients undergoing hemodialysis were found to be oedema, hair loss, and scaly skin, and the patient stated anorexia, dizziness and nausea. Based on the above background, the researcher is interested in conducting a study with the title "The relationship between the length of hemodialysis time and the level of anxiety in patients with chronic kidney failure at the Jakarta Harbor Hospital in 2021".

METHODS

Analytical research method with cross sectional. Data collection was carried out using primary data, namely data obtained from distributing questionnaires. The data collection instrument used was a questionnaire. The population in this study were all CKD patients who underwent hemodialysis at the Port of Jakarta Hospital in December 2021 with a total sample of 42 people (Total Sampling). The analytical method used is univariate analysis and bivariate analysis with chi square test.

RESULTS

Table 1.
Distribution of Anxiety Frequency Patients with Chronic Renal Failure

No.	Anxiety of patients with chronic kidney failure	Frequency	%
1.	Don't worry	0	0,0
2.	Mild anxiety	15	35,7
3.	Moderate anxiety	10	23,8
4.	Severe Anxiety	6	14,3
5.	Very heavy anxiety	11	26,2
	Total	**452**	**100.0**

Table 2.
Frequency Distribution of Hemodialysis Time

No.	Length of time for hemodialysis	Frequency	%
1.	< 12 months	6	14,3
2.	12-24 months	11	26,2
3.	>24 months	25	59,5
	Total	**42**	**100.0**

Table 3.
The Relationship between Hemodialysis Time and Anxiety Levels in Chronic Kidney Failure Patients

Length of time for hemodialysis	Anxiety of patients with chronic kidney failure										P. Value
	Mild anxiety		Moderate anxiety		Severe Anxiety		Very heavy anxiety		Total		
	F	%	F	%	F	%	F	%	F	%	
< 12 months	0	0,0	2	33,3	3	50,0	1	16,7	6	100,0	
12-24 months	1	9,1	6	54,5	1	9,1	3	27,3	11	100,0	**0,002**
>24 months	14	56,0	2	8,0	2	8,0	7	28,0	25	100,0	
Total	**15**	**35,7**	**10**	**23,8**	**6**	**14,3**	**11**	**26,2**	**42**	**100,0**	

DISCUSSION

The Relationship of Hemodialysis Length of Time with Anxiety Levels in CKD Patients

From the results of the study, it can be seen that of the 6 respondents with hemodialysis duration < 12 months, most of the respondents experienced severe anxiety as much as 3 people (50.0%), of 11 respondents with 12-24 months hemodialysis duration, most of the respondents experienced moderate anxiety as much as 6 people (54.5%), and of the 25 respondents with hemodialysis duration > 24 months, most of the respondents experienced mild anxiety as many as 14 people (56.0%).

The results showed that the Chi-Square statistical test obtained a p value of 0.002 (p value <0.05), which means that there is a significant relationship between the length of hemodialysis time and the level of anxiety in CKD patients at the Port Hospital of Jakarta.

Anxiety about other physical illnesses, such as anxiety in patients with terminal stage chronic kidney disease is often considered a normal condition. Chronic kidney disease (CKD) at the terminal stage causes patients to undergo hemodialysis, because chronic kidney disease (CKD) itself can cause anxiety and depression in patients to increase, so social support is needed for sufferers. The complexity of problems that arise during hemodialysis will have an impact on patient anxiety. Psychiatric disorders that are often found in patients with hemodialysis therapy are depression, anxiety, marital relationships, and non-compliance with diet and medication. Limitation of patterns or habits of life and threat of death. Therefore, many patients and their families need emotional support to deal with anxiety about their illness (11).

The results of this study are not in line with the results of Befly F. Tokala's 2015 study entitled The Relationship Between Length of Undergoing Hemodialysis and Anxiety Levels in Patients with Chronic Kidney

Disease at Prof. RSUP. Dr. R. D. Kandou Manado with the results of the Spearman test showed p = 0.462, namely > 0.05, which means that there is no relationship between the length of hemodialysis and the level of anxiety in patients with CKD.

However, the results of this study are supported by the results of Harsudianto Silaen's (12) study entitled The Relationship between the Length of Hemodialysis and the Level of Anxiety in Patients Undergoing Hemodialysis at the Medan City Hospital which said that from the results of the study there was a relationship between the length of hemodialysis and the level of anxiety, with the degree of significance, p value : 0.00.
The results of Farida's research (5) also support the results of this study which states that there is a significant relationship between the length of hemodialysis undergoing hemodialysis and the golden level of CKD patients.

The length of therapy can be a very important factor in causing anxiety for patients with kidney failure. The repeated process can cause trauma for sufferers, especially in new cases that will undergo hemodialysis, allowing a person to experience increased anxiety due to lack of experience with hemodialysis therapy and fear of the effects. Patients who undergo long-term dialysis will feel worried about the condition of their illness which cannot be predicted and has an effect on their lifestyle, this has an effect on the quality of life of the patient, this is in accordance with research (13).

Patients undergoing hemodialysis for more than 6 months have been able to adjust to their disease, and explained that the longer the patient underwent hemodialysis, the less anxious the level of anxiety, because patients who had long had reached the accepted stage. The effects that occur within a period of more than 6 months are bleeding. This is due to the thrombocytopenia caused by the uremic syndrome, the side effect of prolonged use of heparin anticoagulants and the administration of antihypertensive agents. According to the assumption of researchers at the Port of Jakarta Hospital, most of the patients who underwent hemodialysis >24 months with mild anxiety, this is because respondents who have undergone hemodialysis for a long period of time already understand the situation in the hospital and already understand the disease so that with the habits they live lighten the anxiety. In contrast to patients who have undergone hemodialysis <12 months, they still experience severe anxiety, this is because patients who have just undergone hemodialysis still do not understand the state of the hospital and the state of the disease they are suffering from. The results of this study also showed a significant relationship between the length of time undergoing hemodialysis and the level of anxiety in CKD patients undergoing hemodialysis. This can be seen in the results of this study which showed that most of the respondents who underwent hemodialysis <12 months with severe anxiety, 12-24 months with moderate anxiety and >24 months with mild anxiety (14). So it can be concluded that the longer the patient undergoes hemodialysis, the less anxious.

CONCLUSION

There is a relationship between the length of time on hemodialysis and the level of anxiety in CKD patients at the Port of Jakarta Hospital. Therefore, clinical nurse needs to provide an important intervention or pleasant activity during the patients undergoing hemodialysis to reduce level of anxiety.

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