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Hemodialysis Education Program Improves Compliance with Hemodialysis at Lavalette Hospital in Malang

Widyaningsih*, Nurul Mawaddah, Anndy Prastya
Undergraduate Nursing Study Program, STIKES Majapahit Mojokerto, Jl. Raya GayamanGayaman, Mojoanyar, Mojokerto, East Java 61364, Indonesia
*widyaningsih@gmail.com

ABSTRACT

Chronic renal failure is a condition of progressive decline in kidney function over months or years. The final stage of chronic renal failure is often referred to as End Stage Renal Disease (ESRD). If a patient has developed a severe stage of chronic renal failure, temporary therapy in the form of dialysis or hemodialysis is required to maintain their life. A major problem that contributes to hemodialysis failure is the problem of client compliance. This study aimed to determine the effect of Hemodialysis Program Education on Patient Compliance Undergoing Hemodialysis at Lavalette Hospital Malang. This study used a pre-experimental design method with the type of pre-test and post-test one-group design. With a total sample of 20 respondents. The results showed that most of the respondents in the Hemodialysis Room of Lavalette Hospital Malang City had moderate compliance before being given education, as many as 16 respondents (80%). Most of the respondents in the Hemodialysis Room of Lavalette Hospital Malang City had moderate compliance after being given education, as many as 13 respondents (65%). The Wilcoxon test results obtained a $p < 0.05$, namely $p = 0.002$, which means that there is an Effect of Hemodialysis Program Education on Compliance Following the Hemodialysis Program at Lavalette Hospital Malang. It is recommended that HD nurses create a WhatsApp group as a medium for delivering information and can help remind patients to carry out the hemodialysis program when not at the dialysis center (at home) to increase compliance and improve the quality of life of patients undergoing HD.

Keywords: complianc; education; hemodialysis program

INTRODUCTION

The prevalence of patients with chronic renal failure (CKD) is increasing every year. It has become a significant health problem in societies around the world, with a consequent increase in morbidity and mortality as well as the cost of treating the disease. Chronic renal failure is a condition of progressive decline in kidney function over months or years. The final stage of chronic renal failure is often referred to as End Stage Renal Disease (ESRD). If the patient has developed severe chronic renal failure, to maintain his life, temporary therapy in the form of dialysis or hemodialysis is needed (Masriadi, 2016). A major problem that contributes to hemodialysis failure is client compliance issues. In general, non-compliance of dialysis patients includes 4 (four) aspects, namely non-compliance with the hemodialysis program (0%-32.3%), non-compliance with the treatment program (1.2%-81%), non-compliance with fluid intake (3.4%-74%) and non-compliance with the diet program (1.2%-82.4%) (Syamsiah, 2011).

In 2017, in the United States, there were 118,000 patients starting treatment for end-stage renal disease and 662,000 people living on dialysis or kidney transplantation (CDC, 2017). In Indonesia, it is thought that the number of kidney failure patients increased from 19,612 to 100,000 between 2014 and 2019 (Indonesian Nephrology Society (PERNEFRI), 2014). Data obtained in 2018 recorded 66433 new patients and 132142 active patients. The prevalence of GGK disease in Indonesia is East Java, and as many as 9607 new patients carry out HD (Ministry of Health, 2018). At the Lavallete hospital in Malang, it was found that the number of patients who carried out HD was 340 per three days, with approximately 110 patients per

day. All patients who carry out HD are measured URR (Urea et al.) in July and October 2021 (Lavallete et al., 2021).

Patients who start hemodialysis therapy will not live their lives as before, with many aspects that must be changed. Patients have to undergo kidney replacement therapy for the rest of their lives unless they get a new kidney donor through transplant surgery. This is a heavy burden borne by every patient. The main factor that causes failure in hemodialysis therapy is the lack of patient compliance. Adherence to treatment in patients with renal failure is an essential issue for the patient's benefit because if the patient does not comply with hemodialysis therapy, there will be an accumulation of harmful substances from the results of metabolic products in the blood. This causes the patient to feel pain throughout the body, and if this is left unchecked, it will lead to death. Non-compliance with hemodialysis has caused tremendous problems. Such conditions result in an already high mortality and disease rate in patients with kidney failure, becoming even more so. (Hutagaol, 2017).

Many factors cause adherence and impact client failure to follow the renal failure therapy program, including age, gender, education, duration of HD, knowledge about HD, smoking habits, motivation, access to health services, the role of patient perceptions of nurse services, and family support (Syamsiah, 2011). We can increase the number of patients with chronic renal failure in many ways, including health education, social support, family support, modules, psychoeducation, comprehensive education, counseling, and information support (Relawati et al., 2018). Providing health education with a family approach (family support) is essential in managing hemodialysis patients with chronic renal failure (Rostanti et al., 2016).

Hemodialysis nurses are critical as educators in helping chronic kidney disease patients adhere to the hemodialysis program. Knowledge improvement and education are learning experiences designed to help individuals and communities improve their health by increasing education and influencing their attitudes (WHO, 2011). Based on the description above, the authors are interested in conducting a study entitled "The Effect of Hemodialysis Program Education on Patient Compliance with Hemodialysis at Lavalette Hospital Malang.".

METHOD

The type of research used in this study is the pre-experimental design method with the type of pre-test and post-test one-group design. All elective surgery activities were performed in the hemodialysis room at Lavalette Hospital from January to February 2022. The sampling technique used purposive sampling technique. The sample amounted to 20 respondents. In this study, compliance was measured using a questionnaire. Calculate statistical tests using the Wilcoxon test test.

RESULTS

Table 1.
Distribution of Respondent Characteristics in the Hemodialysis Room (n=20)

Category	f	%	Total	
			f	%
Gender				
Male	13	65.0	20	100.0
Female	7	35.0		
Age				
25-40 years	11	55.0	20	100.0
41-50 years	4	20.0		
51-60 years	5	25.0		

Education				
Elementary scool	2	10.0	20	100.0
Senior high school	11	55.0		
Diploma	1	5.0		
Bachelor of degree	6	30.0		
Duration of haemodialysis				
< 3 Years	11	55.0	20	100.0
> 3 Years	9	45.0		

Table 1 shows that the distribution of respondent characteristics based on gender, age, education, and duration of hemodialysis.

Table 2.
Frequency Distribution Based on Special Data in the Hemodialysis Room (n=20)

Category	f	%	Total	
			f	%
Pre compliance				
High	0	0.0		
Medium	16	80.0	20	100.0
Low	4	20.0		
Post compliance				
High	7	35.0		
Medium	13	65.0	20	100.0
Low	0	0.0		

Table 2 shows that most respondents had moderate compliance before and after education.

Table 3.
Effect of Hemodialysis Education Program on Patient Compliance with Hemodialysis (n=20)

Pre	Post		Total
	High	Medium	
Medium	6	10	16
	30.0%	50.0%	80.0%
Low	1	3	4
	5.0%	15.0%	20.0%
Total	7	13	20
	35.0%	65.0%	100.0%
Wilcoxon Signed Ranks Test			
p.value	0.002		

Table 3 shows that most of the compliance using the Wilcoxon test there is an effect of HD program education.

DISCUSSION

This research focuses on the compliance of respondents before they receive hemodialysis program education in the Hemodialysis Room

The results of identifying compliance before treatment found that most respondents in the Lavalette Hospital Hemodialysis Room in Malang City had moderate compliance before being given education, as many as 16 respondents (80%). Low as many as four respondents (20%). Many factors lead to compliance that has an impact on client failure in following the kidney failure therapy program, including age, gender, education, duration of HD, knowledge about HD, smoking habits, motivation, access to health services, the role of patient perceptions of nurse services and family support (Syamsiah, 2011). From the results of the

study, it was found that most of the respondents in the Lavalette Hospital Hemodialysis Room in Malang City were aged 25-40 years, with as many as 11 respondents (55%). The older a person gets, the more problems he will experience, especially related to his health condition. This is due to the progressive decline in the whole body's function. Older adults who cannot adapt to their decline will be frustrated, and there will be an attitude of rejection with the conditions they experience. If this condition continues, the elderly will not care about their condition and will not comply with health recommendations. Most of the respondents in the Hemodialysis Room of Lavalette Hospital Malang City had a high school education, as many as 11 respondents (55%). And most of the respondents in the Lavalette Hospital Hemodialysis Room Malang City had a long HD category <3 Years as many as 11 respondents (55%).

Long-term treatment forces the patient to change habits, such as reducing food calories or specific components in daily life that give the patient a negative impression or attitude. Moreover, when acute complications occur (complications that arise during hemodialysis), including hypotension, muscle cramps, nausea and vomiting, headaches, chest pain, back pain, itching, fever, and chills (Suyono et al., 2010). Patients with conditions like this allow for non-compliance with hemodialysis routines. The study found that 16 respondents (80%) had moderate compliance before being given education. This was due to the lack of patient knowledge in implementing the hemodialysis program and the negative impacts if the hemodialysis program needed to be carried out properly. Lack of knowledge will have many negative impacts on a person, which is closely related to motivation to implement a program that is very important in the healing process of the disease. And in the study, it was found that four respondents (20%) had low compliance. Low compliance is due to the need for more patient motivation in the healing process. Motivation is influenced by the support of the surrounding environment and the knowledge the patient has obtained in implementing the hemodialysis program. Good motivation and good family support will impact a person's mindset in receiving knowledge and implementing a program that has been set in the healing process.

Researchers argue that respondents' non-compliance in carrying out hemodialysis is due to a lack of knowledge about the importance of hemodialysis and honed complement to the hemodialysis program. The main factor that causes failure in hemodialysis therapy is the lack of patient compliance. Compliance with treatment in patients with kidney failure is an important issue for the benefit of the patient himself because if the patient does not comply with hemodialysis therapy, there will be an accumulation of harmful substances from the results of metabolic products in the blood. This causes patients to feel pain throughout the body, and if this is left alone, it will result in death. Non-compliance with hemodialysis causes extraordinary problems. Conditions like this cause the death rate and disease that are already high in patients with kidney failure to increase even further.

Respondent complied after being educated on the hemodialysis program in the Hemodialysis Room

From the results of the identification of compliance after treatment, it was found that most respondents in the Hemodialysis Room of Lavalette Hospital, Malang City had moderate compliance after being given education, as many as 13 respondents (65%). And high compliance from as many as seven respondents (35%). GGK patients are very dependent on hemodialysis therapy to replace their kidneys. Compliance in GGK patients undergoing hemodialysis therapy programs is essential. Suppose the patient is not compliant when undergoing hemodialysis therapy. In that case, there will be an accumulation of harmful substances from the body as a result of metabolism in the blood so that the patient will feel pain throughout the body and if this is left untreated, it will cause death. In general, compliance is defined as the level of behavior of a person who receives treatment, follows a

diet, and/or implements lifestyle changes according to health care provider's recommendations. Non-compliance in following and carrying out the doctor's recommendations for treatment/care is a significant problem.

There are many ways we can improve compliance in patients with chronic kidney failure, including health education, social support, family support, modules, psychoeducation, comprehensive education, counseling, and information support (Relawati et al., 2018). Providing health education with a family approach (family support) is crucial in managing chronic kidney failure patients in carrying out hemodialysis (Rostanti et al., 2016). In the study, after being given education, it was found that most respondents had moderate compliance. After being given education, as many as 13 respondents (65%). This moderate knowledge came from low compliance, which increased to moderate and moderate compliance. Some others increased to high compliance. A good level of compliance is based on sound knowledge with good information; clear, concise, and precise will make someone understand, thus creating a good attitude of compliance in the health program that the medical team has given. Moreover, as many as seven respondents (35%) said that high compliance is converted from moderate compliance, which shows that education is very effective in increasing compliance. Good knowledge will have a positive impact on patients and families, especially on patients. Families involved in education will motivate and support family members in implementing the hemodialysis program. Researchers argue that education alone can only increase the knowledge and skills needed to comply with self-management, but patients can only manage themselves for a short time. Self-management is compliance carried out by patients independently in several self-care activities. Self-management is influenced by social support and self-efficacy. The change in the level of compliance after education shows that the education provided effectively suppresses patient non-compliance.

The Effect of Hemodialysis Program Education on Compliance in Undergoing Hemodialysis

From the test results using the Wilcoxon test, a p-value of <0.05 was obtained, namely p = 0.002, which means that there is an Effect of Hemodialysis Program Education on Compliance in Following the Hemodialysis Program at Lavalette Hospital, Malang. Based on the cross table, it was found that from 16 (80%) respondents who had moderate compliance before being given education, 10 (50%) had moderate compliance, and 6 (30%) had high compliance after education. Moreover, From 4 (20%) respondents with low compliance before being given education, 3 (15%) respondents had moderate compliance, and 1 (5%) had high compliance after being given education. A major problem that contributes to hemodialysis failure is the problem of client compliance. In general, dialysis patient non-compliance includes 4 (four) aspects, namely non-compliance in following the hemodialysis program (0% -32.3%), non-compliance in the treatment program (1.2% -81%), non-compliance with fluid intake (3.4% -74%) and non-compliance with the diet program (1.2% -82.4%) (Syamsiah, 2011).

Several interventions improve compliance with fluid intake restrictions in hemodialysis patients, including counseling, short messages, motivation, and health education (Susanto, 2016). Health education is provided to hemodialysis patients in limiting fluid intake by approaching individuals and continuing to use social media as a reminder. The interventions provided will be able to increase enthusiasm to continue to comply with treatment procedures and no additional diseases occur, with the hope that the results of health education can improve patient compliance with the equality of diet, fluids, and drugs (Smeltzer & Bare 2002 in Ratnawati, 2014).

Researchers argue that, logically, knowledgeable patients tend to be more compliant. Patients are not expected to comply with therapeutic plans. This study shows educational interventions can improve knowledge, compliance, and related health. In this study, hemodialysis nurses have an essential role as educators to help chronic kidney disease patients adhere to hemodialysis programs. Increasing knowledge and education is a learning experience designed to help individuals and communities improve their health by increasing education and influencing their attitudes.

CONCLUSION

Based on the results of research from 20 respondents, it can be concluded that there is an Effect of Hemodialysis Program Education on Compliance with Following the Hemodialysis Program at the Hospital.

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