ORIGINAL ARTICLE

Decision Making of Patients With End-stage Chronic Kidney Disease for Hemodialysis

Asbath[1], Dwi Wulandar[1], Wa Ode Rahmadania[1], Ruma Poddar[2], Faridah Mohd Said[3]

[1] Nursing Department, STIKES Mandala Waluya Kendari Jln Ah nasution no G37 Kendari Southest Sulawesi, Kendari, Indonesia
[2] Department of Research & Development, Lincoln University College, No. 2, Jalan Stadium, SS 7/15, Kelana Jaya,47301, Petaling Jaya, Selangor Darul Ehsan, Malaysia
[3] Department of Nursing, Lincoln University College, No. 2, Jalan Stadium, SS 7/15, Kelana Jaya,47301, Petaling Jaya, Selangor Darul Ehsan, Malaysia

ABSTRACT

Introduction: Chronic kidney disease is a public health problem in the world which is increasing every year. Hemodialysis is one of the methods commonly used for patients with end-stage chronic kidney disease. However, hemodialysis does not cure the disease and requires long term therapy. So, the patient's decision whether to undergo hemodialysis, is crucial. **Methods:** This study is aimed to identify the factors associated with decision making in patients with end-stage chronic kidney disease undergoing hemodialysis in the Bahteramas General Hospital of Southeast Sulawesi Province, Indonesia. This study is a descriptive-analytic study using a cross-sectional design to observe the relationship between patients' decision making for hemodialysis. **Results:** A total of 34 patients with end-stage chronic kidney disease were chosen by accidental sampling technique. Analysis of the data was done by the Chi-Square test. The results of this study showed that age, level of knowledge, and family support have a significant relationship with the patient's decision for hemodialysis. The distance of home and economic status showed no relationship with the patient's decision to undergo hemodialysis. **Conclusion:** Based on the results of this study it can be concluded that age, level of knowledge and family support is related to the patient's decision to hemodialysis in the Bahteramas General Hospital of Southeast Sulawesi Province.

Keywords: Chronic Kidney Disease, End Stage, Hemodialysis, Decision Making

Corresponding Author:
Asbath, MPH
Email: asbath.mw@gmail.com
Tel: +62 853-9785-8790

INTRODUCTION

According to Australian Kidney Foundation people with chronic kidney disease are usually not aware of the symptoms of the disease until the disease reaches the end-stage (ESRD) (1).The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) postulated that there are 2000 to 2008 cases recorded in America, an increase of 0.5% of Chronic Kidney Disease in people aged 20-64 years, and 1.8% to 4.3% among age range 65 years (2). Based on data from Indonesian RENAL Registry record it was found that among 249 renal units, as many as 30,554 active patients shortly lived dialysis in 2015 and most of them were end-stage renal disease patients (3). Whereas at the Bahteramas General Hospital, which is the main referral hospital for the Southeast Sulawesi Province in Indonesia, the incidence of end-stage kidney disease reached 468 patients in 2017.

The patient's decision to undergo hemodialysis is influenced by a person's level of knowledge about the condition of his illness (4),increasing age which causes limitations in mobilization (5), distance between residence and place of health care (6).Economic status (7) which is very carefully related to work and type of work along with amount of family income, and family support (8) can help patients in the choice of better treatment and adherence to medicines and nutrition (9).

MATERIALS AND METHODS

The method used is descriptive-analytic design with cross-sectional performed in the patient unit of Bahteramas General Hospital of Southeast Sulawesi province from May 4 to June 4, 2018. About 34 patients were studied with the inclusion criteria being age i.e 23 years to 77 years old, suffering from the end-stage chronic kidney disease who is being hospitalized. Ethical approval for this study was obtained from the Health Ethics Committee, Bahteramas Hospital, South East Sulawesi Province, Indonesia. Informed consent forms were signed by each patient.

Questionnaires were given for data collection to each respondent. The questionnaire consisted of three parts, the first part dealt with the demographic data including

age, the distance of residence, and economic status. The second part dealt with the level of knowledge (7 questions), and the third part consisted of questions related to family support (20 questions).

RESULTS

The results showed that the most research variables based on age were middle aged adults, as many as 16 respondents (47.1%), distant houses as much as 23 respondents (67.6%), economic status and lack of knowledge as many as 21 respondents (61.8%), and excellent family support of 19 respondents (55.9%) (Table I). The characteristics of respondents based on the decision to undergo hemodialysis is shown in Table II. Table II shows that most of the respondents chose to postpone undergoing dialysis which is 19 respondents (55.9%)

Table I: Frequency Distribution of Decisions Making of Patients to Hemodialysis

Variable	Frequency	Percentage (%)
1. Age		
Young adult	2	5.9
Early adulthood	9	26.5
Middle adult	16	47.1
Elderly	7	20.6
Total	**34**	**100**
2. The distance of residence to Bahteramas General Hospital		
Close	11	32.4
Far	23	67.6
Total	**34**	**100**
3. Economic Status		
Enough	13	38.2
Less	21	61.8
Total	**34**	**100**
4. Knowledge level		
Well	13	38.2
Less	21	61.8
Total	**34**	**100**
5. Family support		
Well	19	55.9
Less	15	44.1
Total	**34**	**100**

Table II: Frequency Distribution of Respondents Based on Hemodialysis Decision

Hemodialysis Decision	Frequency	Percentage (%)
No Delay	15	44.1
Delay	19	55.9
Total	34	100

The results of the statistical analysis of factors related to the patient's decision to undergo hemodialysis can be seen in Table III. Based on Table III, there is a relationship of age (p=0.033), level of knowledge (p=0.049), and

family support (p=0.030) with the patient's decision to undergo hemodialysis. While the other two factors namely distance of residence and economic status, have no relationship with patient decisions with p values of 0.475 and 0.867, respectively. The results of the relationship closeness test that is being obtained from the age factor with a value of φ=0.518, while the level of knowledge and family support obtained a weak relationship closeness with values φ=0.370 and φ=0.396.

Table III: Distribution of Test Results for Factors Associated with Patient's Decision to Hemodialysis

Related Factors	Hemodialysis Decision		N	P	φ
	No Delay	Delay			
Age					
Young adult	2	0	2		
Early adulthood	7	2	9		
Middle adult	6	10	16	0.033*	0.518
Elderly	0	7	7		
Total	**15**	**19**	**34**		
The distance of residence to BahteramasGeneral Hospital					
Close	6	5	11	0.475 **	
Far	9	14	23		
Total	**15**	**19**	**34**		
Economic Status					
Enough	5	8	13	0.867	
Less	10	11	21		
Total	**15**	**19**	**34**		
Knowledge level					
Well	9	4	13	0.049	0.370
Less	6	15	21		
Total	**15**	**19**	**34**		
Family support					
Well	12	7	19	0.030	0.396
Less	3	12	15		
Total	**15**	**19**	**34**		

DISCUSSION

Respondents in this study were patients with end-stage chronic kidney disease who were being admitted to the Bahteramas General Hospital, which consisted of 34 respondents. Patients with chronic kidney disease are usually not aware of the symptoms of the disease until the disease reaches its final stage (1), so it requires hemodialysis to purify the blood helping in impaired kidney function. The decision to undergo hemodialysis is vital to consider because hemodialysis is a long-term therapy that will affect the life of the patient.

Some factors related to the patient's decision to undergo hemodialysis include increasing age (5), level of knowledge (4), the distance between residence and place of health care (6), economic status (7), and family

support (8). Denic, Glassock & Rulestates (10) stated that in the age above 50 years, the amount of kidney volume and glomerular filtration rate decreases, and there is an increase in the prevalence of nephrosclerosis with aging. Besides, age can also affect the decisionmaking of the person and acceptance of his health-related changes, where patients with older age tend to delay dialysis (5). In this study, most respondents were aged between 40-65 years (middle adult), chose to delay undergoing hemodialysis.

Based on the results of statistical tests, there is a relationship between age and decision making in patients with end-stage chronic kidney disease to undergo hemodialysis at Bahteramas General Hospital in Southeast Sulawesi Province with a moderate level of closeness. In a study based on interviews of 10 patients with end-stage renal disease it was observed that four patients agreed to perform hemodialysis because they wanted to recover. While 6 patients who refused to do hemodialysis immediately, said they were worried that his condition would not improve despite undergoing hemodialysis. Moreover, the distance of the house was too far. So, apart from age, the distance of the patient's residence to the dialysis service is also a factor that determines the patient's decision, meaning that the farther the place of residence, the lower the level of community visit to the health service place (11). To support this study, it was found that Bahteramas General Hospital is the main hospital that became a referral in Southeast Sulawesi, so many patients from other areas in Southeast Sulawesi were referred here because of their severe conditions or the unavailability of hemodialysis facilities in their area. This study found that many patients were delaying undergoing hemodialysis because of their distance from the hospital.

But the results of statistical tests showed that there is no relationship between distance of residence from health center with decision making in patients with final stage of kidney disease to undergo hemodialysis at Bahteramas General Hospital in Southeast Sulawesi Province. In fact, it was also found that some patients did not delay undergoing hemodialysis because with the ease of transportation nowadays, patients can still seek treatment at the hospital, even though the distance from their place of residence is far from the hospital. This result is in line with research conducted by Daryani (12), which stated that there is no relationship between the distance traveled from home to get to the hospital with the decision to initiate hemodialysis.

Smeltzer & Suzanne (13) suggested that hemodialysis is a long-term therapy that puts patients in a condition dependent on the dialysis for life. Hemodialysis changes the lifestyle of patients with kidney failure, such as a reduction in productivity that would affect their economic status (13). In this study, most patients had less economic status, namely, 21 respondents (61.8%).

Poor economic status makes a person more careful in making decisions because this is very related to work and the amount of family income (14). In one dialysis, the patient is burdened with substantial costs. However, statistical analysis shows that there is no relationship between economic status and decision making in patients with the final stage of kidney disease to undergo hemodialysis in this study.

The results of this study are in line with research conducted by Daryani (12), who stated that there is no relationship between income and the decision to undergo hemodialysis. Cost of hemodialysis is no longer a serious problem for patients because the government bears all costs through Health Insurance Administration Agency of the Indonesian government (12).

Other than age important factor that affects the decision of hemodialysis is the distance of residence and economic status of patient. Another factor that affects the decisions to undergo hemodialysis is the level of knowledge among patient and family about the condition of the disease. Knowledge or cognitive domain is a fundamental domain in shaping one's actions (overt behavior) (15). Nursalam stated that knowledge can be interpreted as actionable information or information that can be used as a basis for action, to make decisions and to take specific directions or strategies (16).

The present data shows that most respondents lack knowledge, but there are six respondents with less knowledge who do not delay hemodialysis. This result reveal that though they are unfamiliar with hemodialysis, respondents still follow the advice of the doctor if it is the only alternative treatment for the disease while 15 other people chosen to delay hemodialysis. Statistical test results show that there is a relationship between the level of knowledge and decision making in patients with end-stage renal disease to undergo hemodialysis. A study showed that a person's knowledge of end-stage kidney disease can affect the ability to choose and decide on hemodialysis therapy according to his condition (4).

In addition to understanding the patient about his illness, the family must understand the condition of patients with end-stage renal failure. The family is included in the support system as they are closest to the patient. According to Friedman family support include attitude, actions, and family acceptance of the patient's condition. The family functions as a support system for its members and family members must be always ready to provide help and assistance if needed (17). In the health care or maintenance function, the family must make decisions on appropriate health measures and provide care for sick family members (18).

In the present study chi-square test results obtained p-value=0.030, which means there is a relationship of family support with the decision of patients undergoing

hemodialysis. Tonapa, Kundre & Masialso stated that excellent family support helps patients in choosing better treatment decisions, adherence to medicines, and nutrition, which leads to better clinical outcomes(8). A lower level of social support is associated with an increased risk of death and reduced adherence to treatment (9).

CONCLUSION

From the above study it is evident that age, level of knowledge and family support is related to the patient's decision to hemodialysis. Decision-making of hemodialysis in case of patient with chronic kidney disease is multifaceted and dynamic and evolves with time. The factors are complex and operate differently for different patients. Therefore, more research on shared decision-making are necessary.

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