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Relationship of Knowledge with PGK Patient compliance Underwent Hemodialysis in the Hemodialysis Unit of the Hospital Santa Elisabeth Medan

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ABSTRACT

The 2015 IRR data showed that hemodialysis service facilities in Indonesia were classified into two institutions, namely 92.1% hospital installations and 7.9% clinics. The cost burden incurred by BPJS for the treatment of kidney failure was the second largest sequence after heart disease. Costs incurred in 2014 amounted to 1.6 trillion rupiahs, increased to 2.7 trillion rupiahs in 2015 and decreased slightly in 2016 to 2.5 trillion rupiahs. Success in maintaining kidney health and restoring kidney function to PGK patients requires knowledge as a guide in implementing healthy living behavior for people who are still healthy kidney and undergoing dialysis therapy for PGK patients. This study aims to determine the relationship between knowledge of hemodialysis and treatment of carrying out hemodialysis at the Hospital Unit of Santa Elisabeth Medan in 2018. This type of survey research was explanatory. The research sample was 30 people, using a total sample with consecutive sampling technique. Methods of data analysis used univariate and bivariate with p value 0.001, meaning that there was a relationship between knowledge of hemodialysis and adherence to hemodialysis in the Hemodialysis Unit of the Hospital Elisabeth of Medan. Further analysis obtained OR value of 22,667 with 95% CI (3,140 -163,629), meaning that PGK patients undergoing hemodialysis who were obeyed 22,667 times were likely to have good knowledge about hemodialysis compared with PGK patients undergoing non-adherent hemodialysis. Students are expected to provide health education,

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1. Introduction

Chronic Kidney Disease (CKD) is a progressive decline in kidney function in a few months or years. Chronic kidney disease is defined as kidney damage and / or a decrease in Glomerular Filtration Rate (GFR) of less than 60mL / min / 1.73 m2 for a minimum of 3 months. PGK in the world is currently experiencing an increase and is becoming a serious health problem. Data from the United Stated Renal Data System in 2005 found that more than 300,000 Americans experienced End Stage Renal Disease (ESRD). In 2008 there were more than 470,000 people living with ESRD, and every year more than 100,000 people are diagnosed with ESRD each year.

Patients with ESRD continued to increase in America from 261.3 per 1000 population in 1994 to 348.6 per 1000 population in 2004. Based on the 2010 Global Burden of Disease study, chronic kidney disease was the 27th leading cause of death in the world in 1990 and increased to 18th in 2010. More than 2 million people in the world get treatment with dialysis or kidney transplantation and only about 10% actually experience the treatment. Ten percent of the world's population experiences chronic kidney disease and millions die every year because they don't have access to treatment. The cause of death in Indonesia 73% is caused by Non-Communicable Diseases (PTM). The number of deaths from PTM was 1,340,000 people, and 27% risk of early death due to PTM.

PGK is a global public health problem with high numbers, poor prognosis, and large costs.Around 1 in 10the global population experiences PGK at some stage. The prevalence of PGK increases with increasing numbers of elderly people, the incidence of diabetes mellitus, and hypertension. Some of the causes of PGK are due to diabetes mellitus, hypertension, chronic glomerulonephritis, chronic interstitial nephritis, polycystic kidney disease, obstruction, urinary tract infections, and obesity.

Estimated World Health Organization (WHO, 2012), globally more than 500 million people experience chronic kidney failure. About 1.5 million people have to live their lives depending on hemodialysis. Data and Information of the Indonesian Hospital Association in 2012, stated the number of patients with chronic kidney failure is estimated at around 50 people per one million

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population, 60% are adults and elderly.

The results of Riskesdas 2013 showed that as many as 0.2% of the population over 15 years had been diagnosed with CKD. More men suffer from PGK than women (0.3% and 0.2%, respectively). The incidence of this disease is higher in rural communities (0.3%), not attending school (0.4%), self employed, farmers / fishermen / laborers (0.3%). Whereas the provinces with the highest prevalence of PGK were Central Sulawesi at 0.5%, followed by Aceh, Gorontalo and North Sulawesi at 0.4% each. Deaths in patients undergoing dialysis during 2015 were recorded at 1,243 people. On average undergo dialysis treatment for 1-317 months. The highest proportion occurs in patients with length of stay for 6-12 months (IRR, 2017). United States Renal Data System (USRDS) in 2014, responsible for the incidence of first and second chronic renal failure are diabetes mellitus by 34% and hypertension by 21%, then followed by glomerulonephritis by 17%, chronic pyelonephritis by 3.4%, polycystic kidney by 3.4% and others by 21%. The results of a systematic review and meta-analysis conducted by Hill et al, 2016, found a global prevalence of PGK of 13.4%.

According to Thaha (2017) one of the main causes of the high rate of kidney failure is because there has been an epidemiological transformation of the disease in the last few decades. "In the past, the high incidence rate was an infectious disease, so in the last 10 years chronic diseases that have high incidence rates, including metabolic diseases such as hypertension and diabetes, are the main causes of CKD," The lack of public information about kidney disease is also another cause. With the symptom of PGK without symptoms at an early stage, people will realize that they have kidney failure when it is in its final stage. As a result, further treatment must be done, including one of them with replacement therapy for kidney function, namely dialysis / dialysis, including hemodialysis, peritoneal dialysis, and kidney transplants (kidney transplants). This time we will discuss about hemodialysis.

It is predicted that in 2019 around 100,000 patients (400 / million population) will be found who need kidney replacement therapy (Ridho, 2017). .Hemodialysis is an action to partially replace the function of the kidneys. This action is carried out routinely in patients with stage IV CRD. According to data from the Indonesia Renal Registry (2012), the number of patients in the 2012 hemodialysis unit was around 19621 new patients and 9161 active patients. More than 70% of countries report at least 80% of patients using hemodialysis therapy (Smeltzer & Bare 2010). Patients with chronic kidney failure will experience kidney function loss of up to 90% or more, so that the body's ability to maintain fluid and electrolyte balance becomes impaired, the function of secretions becomes inadequate,

This disease shows no signs and symptoms, but can develop deadly. PGK does not cause symptoms and signs up to an average rate of blood filtration (glomerular filtration) of 60%. The abnormality is only seen when the glomerular filtration rate drops to 30%. At that time, patients will complain of weak body, nausea, decreased appetite, and weight loss. The symptoms and signs of uremia will be increasingly felt when the glomerular filtration rate is less than 30%. The highest proportion of patients is still in the age category 45 to 64 years (Report of Indonesian Renal Registry, 2015).

Hemodialysis is a substitute therapy for kidney function that uses special tools with the aim of removing uremic toxins and regulating body electrolyte fluids. Smeltzer & Bare (2010) the process of dialysis will be undertaken throughout the life of CRF patients. Based on 2015 IRR data, dialysis service facilities in Indonesia are classified into two institutions namely 92.1% hospital installations and 7.9% clinics. Dialysis service facilities are health service facilities that are used to carry out dialysis services, both inside and outside the hospital. The majority of services provided at dialysis service facilities are hemodialysis (82%). The rest are in the form of CAPD services (12.8%), transplants (2.6%) and CRRT (2.3%).

The number of new HD patients continues to increase from year to year, new patients are patients who first underwent dialysis in 2015 while active patients are all patients both new patients in 2015 and old patients from the previous year who are still undergoing routine HD and still live up to December 31, 2015. The difference in HD data compared to the year before 2015 more active patients than the number of new patients, this shows that more patients can undergo hemodialysis longer, it seems JKN factors play a role in maintaining the continuity of this therapy. The number of these patients has not shown data throughout Indonesia but can be used as a representation of current conditions.

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The cost burden incurred by BPJS for the treatment of kidney failure is the second largest after heart disease. Costs incurred in 2014 amounted to 1.6 trillion rupiahs, increased to 2.7 trillion rupiahs in 2015 and decreased slightly in 2016 to 2.5 trillion rupiahs. The prevalence of PKG will continue to increase along with changes in the lifestyle of the global community and the people of Indonesia. This lifestyle will increase obesity. Obesity is a risk factor for the main causes of CKD, such as hypertension and diabetes.

Success in maintaining kidney health and restoring kidney function for PGK patients requires knowledge as a guideline in carrying out healthy living behaviors for people whose kidneys are still healthy and undergoing dialysis therapy for PGK patients. Someone's knowledge about something is usually supported by education, information, age, occupation and length of undergoing hemodialysis (Notoadmojo, 2012). Age is one of the important domains that influence one's level of knowledge in his life. The older a person is, the more experience that person will have. The more age, the maturity level and strength of a person will be more mature in thinking and working.

It is not only age that affects knowledge, based on the results of the study obtained data that most respondents are influenced by the level of education. Research shows that patients who have a high school equivalent education and even some of them have completed college education have good knowledge about hemodialysis. Education affects the learning process, the higher a person's education is, the easier it is for the person to receive information. Someone who has higher education, tends to be easier to get information, either from other people or the mass media. Therefore knowledge is very closely related to education, people who are highly educated, will have extensive knowledge.

Information obtained from formal education (education) and non-formal education (mass media such as television, radio, newspapers, magazines) can have an immediate impact (immediate impact) so as to produce changes or increase knowledge, which has an impact on public opinion and trust in also change for the better too. According to Notoatmojo (2012), a low level of education will make it difficult for someone or the community to receive and understand health messages delivered while a higher level of education will make it easier for a person or society to absorb information. Experience as a source of knowledge.

Experience is a way to obtain the truth of knowledge by repeating the knowledge gained in solving problems encountered in the past. The experience can be obtained by hemodialysis patients based on the length of time undergoing hemodialysis. According to Notoatmojo (2012), behavior supported by knowledge will be more lasting than behavior that is not based on knowledge. Knowledge or cognitive is an important domain in shaping one's actions. Cognitive abilities will shape a person's way of thinking including the ability to understand the factors associated with illness and use that knowledge to overcome the health problems they experience. Patients who have good knowledge will undergo hemodialise obediently. This is in line with the study of Bertalina and Sumardilah, (2012) showing that well-informed patients adhere to a 70.6% diet with p 0.001, meaning that there is a meaningful relationship between knowledge and adherence. Multipariate analysis showed that knowledge was more dominant in affecting compliance with CRF with an OR value of 5.98 (1,808-19502), meaning that patients undergoing hemodialysis with good knowledge were 6 times more likely to adhere to the CRF diet compared to CRF patients with poor knowledge.

Widiany's study, 2016, showed that PGK patients who had good knowledge 79% adhered to the diet of hemodialysis patients and the results of statistical analysis with the chi-square test, obtained the results of knowledge factors significantly influence diet compliance with p = 0.027. Further analysis was obtained OR 3,667 (1,125-11,955) meaning that PGK patients with good knowledge were 3.7 times more likely to comply with the hemodialysis diet given by hospital nutritionists than PGK patients who were not well-informed.

Santa Elisabeth Hospital Medan is one of the private hospitals known for good nursing services. Since the Santa Elisabeth Medan Hospital in Medan has provided BPJS services the number of patients seeking treatment has continued to increase, including PGK patients undergoing hemodialysis. This is proven by the number of PGK patients undergoing hemodialysis at Santa Elisabeth Hospital Medan in 2017 as many as 3,225 outpatients and inpatients as many as 342 patients (RSE Medical Records, 2017). This data shows the number of PGK patients undergoing hemodilysis that need to be known,

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2. Research Methods

This type of research is an explanatory survey that explains the relationship between independent variables, knowledge and patient compliance with Chronic Kidney Disease (CKD) hemodialysis in the Hemodialysis Unit of the Hospital Santa Elisabeth, Medan. This research was conducted in the Hemodialysis Unit of the Hospital Santa Elisabeth Medan. The study was conducted in April 2018. The population in this study were all patients who underwent hemodialysis in the Hemodialysis Unit of the Santa Elisabeth Hospital in Medan, both outpatients and inpatients. The number of outpatients was 3,225 and inpatients were 342 patients (RSE Medical Record, 2017). The sample in this study used a total sample, meaning all patients with Chronic Kidney Disease (CKD) who underwent hemodialysis in the Hemodialysis Unit of the Hospital Santa Elisabeth Medan during the study (April 2018) both outpatients and inpatients. The sampling technique in this study was consecutive sampling that took all patients with Chronic Kidney Disease (CKD) who underwent hemodialysis at the Santa Elisabteh Hospital in Medan in April 2018 to meet a minimum sample size of 30 people. The sample criteria in this study are: 1) Undergoing hemodialysis in the Hemodialysis Unit of the Santa Elisabeth Hospital in Medan, 2) Can read and can speak Indonesian, and 3) willing to be a research respondent, by signing research informed consent (Sudigdo, 2008). Data collection method in this research is direct interview based on the prepared questionnaire. The primary data in this study is knowledge of Chronic Kidney Disease (CKD) patients undergoing hemodialysis at the Hemodialysis Unit of the Santa Elisabeth Hospital in Medan.

3. Results and Discussion

a. Research result

The results showed that the knowledge of PGK patients undergoing hemodialysis was the highest proportion with good knowledge of 20 people (66.7%). More detailed research results can be seen in the following table.

Table 1.
Distribution of Respondents by Knowledge Category on Hemodialysis at Hospital Santa Elisabeth Medan in 2018

No	Knowledge of Hemodialysis	amount	Percentage
1	Good	20	66.7
2	Less	10	33.3
	Total	30	100.0

The results showed that the highest proportion of PGK patients who underwent hemodialysis were 19 people (63.3%) obediently underwent hemodialysis. More detailed research results can be seen in the following table.

Table 2.
Distribution of Respondents Based on Compliance Underwent Hemodialysis at Santa Elisabeth Hospital Medan in 2018

No	Knowledge of Hemodialysis	amount	Percentage
1	Obedient	19	63.3
2	Not obey	11	36.7
	Total	30	100.0

The results showed PGK patients undergoing hemodialysis who had good knowledge as many as 20 people, who complied with hemodialysis as many as 17 people (85%) while PGK patients who underwent hemodialysis who had less knowledge of 10 people, the highest proportion of non-adherent undergoing hemodialysis was 8 people (85%) 80%). Statistical test results obtained p value = 0.001; p <0.05. The results showed that there was a significant relationship between PGK patients' knowledge about hemodialysis and compliance with performing hemodialysis. Further analysis obtained an OR value of 22,667 with 95% CI (3,140-163,629), meaning that PGK patients undergoing compliant hemodialysis are 22,667 times likely to have good knowledge about hemodialysis compared to PGK patients who undergo non-adherent hemodialysis.

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Table 3.
Relationship of Knowledge with Compliance Underwent Hemodialysis at Santa Elisabeth Hospital, Medan in 2018

No	Knowledge	Obedient		Not obey		Total		Score *p*	OR 95% CI
		f	%	f	%	f	%		
1	Good	8	80	2	20	10	100	.001	22,667 (3,140 -163,629)
2	Less	3	15	17	85	20	100		

b. Discussion

Based on the results of the study, it was obtained the results of hemodialysis knowledge of patients with Chronic Kidney Disease (CKD) who underwent hemodialysis in the Hemodialysis Unit of the Hospital Santa Elisabeth in Medan that based on 9 indicators including the definition of hemodialysis, hemodialysis purposes, hemodialysis indications, contraindications to hemodialysis, diets of patients undergoing hemodialysis in Medan, based on 9 indicators including the definition of hemodialysis, hemodialysis purposes, hemodialysis indications, contraindication of hemodialysis, diets of patients who serve hemodialysis in Medan. the amount of fluid intake, hemodilysis complications, and indicators of hemodialysis success. The results showed that the 9 indicators of knowledge of patients with Chronic Kidney Disease (CKD) who underwent hemodialysis in general the highest proportion was knowledge categorized as good, namely: knowledge of the definition and indications of hemodialysis was already 100% good, dietary knowledge of the highest proportion of hemodialysis patients was 23 people (76.7%),

This has led to the category of knowledge of PGK patients undergoing hemodialysis in the Hemodialysis Unit of the Santa Elisabeth Hospital in Medan showing the highest proportion having good knowledge of 20 people (66.7%). The results of this study also showed that the highest proportion of 19 people (63.3%) PGK patients who underwent hemodialysis were obedient underwent hemodialysis. The results of biparіat analysis showed PGK patients undergoing hemodialysis who had good knowledge as many as 20 people, who complied with hemodialysis as many as 17 people (85%) while PGK patients who underwent hemodialysis who had less knowledge as many as 10 people, the highest proportion of non-adherent undergoing hemodialysis was 8 people (80%), with p value = 0.001; it means that there is a significant relationship between PGK patient's knowledge about hemodialysis and compliance with performing hemodialysis. Further analysis was obtained. Further analysis obtained an OR value of 22,667 with 95% CI (3,140-163,629), meaning that PGK patients undergoing compliant hemodialysis were 22,667 times likely to have good knowledge about hemodialysis compared to PGK patients undergoing non-adherent hemodialysis.

This study is in line with Bertalina and Sumardilah (2012) showing that well-informed patients adhere to a hemodialysis diet of 70.6%. The statistical test results obtained p value = 0.001, it can be concluded that there is a difference in the proportion of dietary adherence events between respondents with good knowledge and less knowledgeable (there is a significant relationship between the level of knowledge and diet adherence). This research is supported by Sari, Utami, Misrawati (2014) research, that the level of knowledge is related to the dietary compliance of patients with chronic renal failure in patients undergoing hemodialysis p value (0.026).

This study is in accordance with research conducted by Martoni, et al (2013) who tested the factors that most strongly influenced HIV / AIDS patients against ARV therapy. The results obtained indicate that knowledge is the most powerful factor in influencing adherence to ARV therapy. Multivariate analysis with the backwaid wald method obtained p value = 0.009 with an OR value = 9.003, 95% CI = 1.733-46.770, which means. Knowledge has a 9 times greater tendency to influence adherence to ARV therapy than people with no or no knowledge. This study is supported by Ariyani (2013), showing that a statistical analysis of α = 0.05 obtained r = 0.383 and ρ = 0.015, which means there is a relationship between the level of knowledge and adherence in the treatment of pulmonary TB.

Kartini, Ismonah, and Shobirun research, (2015) obtained good knowledge 90% of the statistical test results obtained p value 0,000. meaning that there is a relationship between knowledge of adherence to the restriction of fluid intake in chronic kidney disease patients undergoing hemodialysis. Furthermore, with research Saputro, Kaunang and Woodford, (2016), the results obtained p = 0.032, which means there is a relationship between knowledge and compliance with

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ARV therapy. Based on further analysis the OR value of 2.653 with 95% CI (1.157-6.082) states that respondents with good knowledge have a tendency to be three times more likely to be obedient compared to respondents with poor knowledge.

Likewise, research by Purnamasari, Margawati, and Widjanarko, (2016), showed that 60.4% of respondents had quite high or good knowledge of anemia. Pregnant women who have high enough knowledge / are well obedient to drink ferrun tablets. This proves that knowledge is closely related to one's obedience in doing something. Widiany's study, 2016, showed that PGK patients who had good knowledge 79% adhered to the diet of hemodialysis patients and the results of statistical analysis with the chi-square test, obtained the results of knowledge factors significantly influence diet compliance with p = 0.027. Further analysis obtained OR3,667 (1,125-11,955) means that PGK patients with good knowledge have the possibility of 3,

Yulike research, (2017), found that the most knowledge is sufficient with high adherence that is 12 respondents (37.5%) and the least good knowledge with low adherence is 0 respondents (0.0%). Chi-square statistical test obtained value ρ = 0.008 which means there is a significant relationship between knowledge and treatment compliance in hypertensive patients. Based on the results of this study and previous studies it can be concluded that a person's knowledge will be able to improve compliance in doing something.

This is clear because someone knows the benefits of doing something and the impact that will arise if not doing it, for example not hemodilysis the patient will feel a variety of complaints that have discomfort and even helpless and vice versa if the patient serves obediently then the patient will feel healthy can carry out their activities everyday so they can feel their prosperity fulfilled. All research described above is also supported by Notoatmodjo, (2012) which states that knowledge is the result of the realm of knowing after people have sensed a certain object through the five human senses, namely vision, hearing, smell, taste, and touch.Knowledge arises when a person uses his intellect to recognize certain objects or events that have never been seen or felt before. Knowledge will lead someone to do something, for that PGK patients who undergo hemodialysis know what things need to be done related to hemodialysis therapy.

Knowledge means everything that is known about something, as well as knowledge about hemodialysis. Knowledge provides a correct understanding of what hemodialysis is, its purpose for what, indications, contraindications, diet, permissible fluid intake, complications that will arise if they do not comply and indicators of successful hemodialysis. With this knowledge, patients with PGK will comply with hemodialysis, this is in accordance withNotoatmodjo, (2012) which states pknowledge or cognitive domain is a very important domain in shaping one's actions (over behavior).

Researchers assume that good knowledge possessed by PGK patients can help the belief that hemodialysis will be able to improve the quality of life and be able to move back so that it adheres to the hemodialysis schedule. In addition, patients who have undergone hemodialysis have benefited from hemodialysis, this is evident from the length of PGK patients undergoing hemodialysis as many as 20 people (66.6%) over 13 months so that they have felt the true benefits of hemodialysis. Another thing that might affect the knowledge of PGK patients undergoing hemodialysis is education, this is supported by the results of research showing as many as 20 PGK patients have upper secondary education or are said to be highly educated. With education that is owned will make it easier for someone to absorb information and find information from various sources so that they have extensive knowledge including knowledge about hemodialysis. This assumption is supported byNiven (2002) and Stein (1986), factors that influence compliance are understanding of instruction (knowledge), quality of interaction, social and family isolation, attitudes and personality beliefs and education.

Knowledge of patients with PGK undergoing hemodialysis Hemodialysis Unit at the Hospital of Santa Elisabeth Medan is also well supported by good nurse interactions with patients, so patients are always reminded of the next hemodialysis schedule and what patients should do. Nurses who are in the Hemodialysis Unit at the Hospital Santa Elisabeth in Medan always provide health education to patients undergoing hemodilaisa. This nurse's habit automatically reminds and motivates patients to be obedient in maintaining hemodialysis, this is in accordance with what was conveyed by Niven (2002).

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Based on the results of this study and some of the results of research and the researchers' assumptions it can be concluded that good knowledge will make someone obedient in carrying out an action or behavior. Likewise, PGK patients undergoing hemodilysis with good knowledge about hemodialysis make patients adherent to hemodialysis.

4. Conclusion

1) This study shows that the knowledge of PGK patients undergoing hemodialysis has the highest proportion of good knowledge of 20 people (66.7%).
2) Research shows that the highest proportion of PGK patients undergoing hemodialysis is 19 (63.3%) adherent to hemodialysis.
3) The statistical test obtained p value = 0.001, which means that there is a significant relationship between the knowledge of PGK patients about hemodialysis with adherence to hemodialysis. Further analysis obtained an OR value of 22,667 with 95% CI (3,140-163,629), meaning that PGK patients undergoing compliant hemodialysis 22.667 tendency to have good knowledge about hemodialysis compared to PGK patients undergoing non-adherent hemodialysis.

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