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Quality of Life of Chronic Renal Failure Patients Undergoing Hemodialysis During Post Covid 19 Pandemic

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Chronic Kidney Disease (CKD) is one of the most involved diseases of the urinary system, which is becoming a serious public health problem among the world's population characterized by high prevalence, mortality, and health costs. CKD is defined as a progressive abnormality of kidney structure and/or function for more than three months followed by health implications. It can be determined using the glomerular filtration rate, which is used to classify the severity of the disease. The majority of patients with stage 4 and all stage 5 require renal replacement therapy to maintain their quality of life, including hemodialysis (HD). Hemodialysis (HD) is a procedure in which a dialysis machine and a special filter called an artificial kidney, or dialyzer are used to clean the patient's blood, which can improve the patient's quality of life. Basically, the hemodialysis process carried out by CKD patients is able to increase serum creatinine, albumin, and pre-albumin, then also able to normalize the catabolic rate of protein and increase the food intake of CKD patients. However, most previous studies have found that the hemodialysis process can increase the prevalence of malnutrition and reduce the quality of life of patients. This study aims to determine the picture of the quality of life of CKD patients undergoing hemodialysis during the post-COVID 19 pandemic period. Data collection of this study was carried out in the Hemodialysis room of Arifin Achmad Hospital Pekanbaru, with a total of 65 samples with the criteria of patients undergoing regular HD at least 2 times a week. Data analysis in this study using univariate for demographic data and quality of life picture of chronic kidney failure patients. The results showed that the majority of respondents were male as many as 37 people (56.9%), almost all of them were married as many as 62 respondents (95.4%), the majority had high school education as many as 41 respondents (63.1%), almost half were not working, namely as many as 29 respondents (44.6%), and the majority aged 51-60 years as many as 30 respondents (46.2%). While the picture of quality of life 2 shows that the majority of respondents have a good quality of life, namely 33 respondents (50.8%). Based on the results of this study, it is hoped that families can play an important role in providing support and motivation during hemodialysis therapy so as to increase expectations and higher quality of life for patients.

1. Introduction

The COVID-19 pandemic became one of the highest causes of death in early 2020. Its rapid and uncontrolled spread is the reason for many people to stay at home and avoid places with the highest spread, one of which is hospitals. Many people delay treatment, choose alternatives, and decide to no longer be in a hospital setting. This also applies to patients with chronic kidney failure, where sufferers are required to continue therapy to achieve a good quality of life (Susantri, W. et al). Chronic Kidney Disease (CKD) is one of the most involved diseases of the urinary system, which is becoming a serious public health problem among the world's population characterized by high prevalence, mortality, and health costs. Correspondingly, WHO (2019) has reported that CKD affects about 850 million or one in ten of the global adult population and is projected to increase to 10%.

Recently, the National Kidney Foundation (2021) estimated that around 8% to 16% of the global population lives with various stages of CKD. The CDC (2021) has reported that 1 in 7 or about 15% of the U.S. adult population lives with chronic kidney disease, 9 out of 10 of them don't know they have the disease, and 2 out of 5 adults with severe kidney disease. CKD doesn't know realizing they have the disease. Therefore, chronic kidney disease poses a major challenge to the global healthcare system and prioritizes the Sustainable Development Goals.

KDIGO (2021) defines CKD as a progressive abnormality of kidney structure and/or function for more than three months followed by health implications. It can be determined using the glomerular filtration rate, which is used to classify the severity of the disease. Therefore, the National Kidney Foundation (2021) classifies stage CKD as stage 1 if $GFR \geq 90 \text{ ml/min/1.73 m}^2$ indicates normal or increased GFR, stage 2 with $GFR 60\text{-}89$ means slightly decreased, stage 3a with $GFR 45\text{-}59$ means mild to moderate decrease, stage 3b with $GFR 30\text{-}44$ means moderate to severe decrease, stage 4 with $GFR 15\text{-}29$ means weight loss and stage 5 with $GFR < 15$ is considered kidney failure. Furthermore, the American Kidney Fund (2021) reports that the severity of CKD has a linear relationship with CKD complications such as anemia, fluid retention (edema), hyperuremia, bone disease, heart disease, hyperpotassemia, and hypercalcemia. Synergistically, Rini et al., (2021) have stated in their research that the majority of patients with stage 4 and all stage 5 require renal replacement therapy to maintain their quality of life. In 2010, it was projected that 2.3–7.1 million people with end-stage kidney disease died without access to dialysis (Luyckx et al., 2018).

Indonesia is one of the middle-income countries in the Southeast Asian region where the prevalence of CKD is rapidly increasing to a significant national alert. Recently, CNN Indonesia (2021) reported that the prevalence of CKD in the Indonesian population increased by 4% in just one year from 66,433 patients in 2018 to 69,124 patients in 2019. The Kidney Dialysis Outcomes Initiative (K/DOQI) for chronic kidney disease has defined renal failure as stages 4 and 5 with glomerular filtration rates (GFR) of $< 29 \text{ ml/min/1.73 m}^2$ characterized by oliguria, anuria, high serum creatinine, and urea levels demanding of PRC. Campos et al. (2020) have reported that global premature deaths due to lack of access to the PRC reach 7 million people annually.

Turangan and Dewi (2016) assert that kidney replacement therapy is the best option for kidney failure patients. Furthermore, Campos et al. (2020) reported that 67% of the majority

of chronic kidney disease patients underwent hemodialysis (HD) therapy, 13% underwent peritoneal dialysis (PD), and another 20% of patients were without access to any PRC.

Basically, the hemodialysis process carried out by CKD patients is able to increase serum creatinine, albumin, and pre-albumin, then also able to normalize the catabolic rate of protein and increase the food intake of CKD patients. However, most previous studies have found that the hemodialysis process can increase the prevalence of malnutrition and reduce the quality of life of patients. It is reported that about 4.6% to 19% of CKD patients undergoing hemodialysis may experience severe malnutrition, while 72% to 90.9% of them experience mild malnutrition (Wong, Chan & Lim, 2011). Then the quality of life of patients suffering from end-stage kidney disease was significantly influenced by the type of kidney replacement therapy undertaken by patients, then other research findings found that CKD patients who underwent kidney transplantation experienced a better quality of life than CKD patients who underwent the dialysis process (Yusop, Yoke Mun, Shariff & Huat, 2013).

Although hemodialysis is one of the common treatments that have been used for CKD patients, many CKD patients undergoing hemodialysis cannot accept the condition while some patients feel frustrated. Therefore, hemodialysis treatment will be used for life to replace kidney function (Laila Ramatillah, Syed Sulaiman, Hayat Khan & Loke Meng, 2017). Therefore, the quality of life of CKD patients is significantly affected by this ongoing hemodialysis treatment.

2. Research Method

This research is a quantitative research with a descriptive form. Descriptive research in this study is to know the picture of the quality of life of patients with chronic kidney failure hemodialysis program during the post COVID 19 pandemic. This research was conducted in the hemodialysis room of Arifin Achmad Hospital Pekanbaru, which is a referral hospital at the Riau provincial level. The study was conducted on November 6,7,8, 2023. The population in this study was all patients who did HD regularly a week 2 which amounted to 143 patients. The number of samples taken was 65 people.

The data collection tool used is a questionnaire sheet containing demographic data from respondents to be studied including respondent characteristics (age, gender, education, occupation, marital status and quality of life of kidney failure patients. Respondents' demographic data will be analyzed descriptively (frequency, percentage, mean, median and standard deviation). Quantitative data of research variables were analyzed univariately.

3. Result and Discussion

Table 1. Demographic characteristics of CRF patients undergoing HD at RSUD AA Pekanbaru

No	Characteristic	Frequency	Percentage (%)
	Gender		
	Man	37	56,9
	Woman	28	43,1
	Marital Status		
	Marry	62	95.4
	Unmarried	3	4,6

Education		
SD	3	4,6
SMP	4	6,2
SMA	41	63,1
College	17	26,2
Work		
Does not work	29	44,6
PNS	10	15,4
Wiraswasta	25	38,5
Other	1	1,5
Age (years)		
<40	12	18,5
41-50	16	24,6
51-60	30	46,2
61-70	7	10,8

Table 1 shows that the majority of respondents were male as many as 37 people (56.9%), almost all of them were married as many as 62 respondents (95.4%), the majority had a high school education of 41 respondents (63.1%), almost half were not working at 29 respondents (44.6%), and the majority were aged 51-60 years as many as 30 respondents (46.2%).

Based on gender characteristics, in this study the majority were men, namely 37 people (56.9%), this is in line with the results of research by Bassi, A. et al (2020) and Sultan (2022) which in their research stated that the majority of male respondents. A risk factor for chronic kidney failure in men is high levels of testosterone which can lead to loss of kidney function. In addition, a risk factor that affects chronic kidney failure in men is an unhealthy lifestyle (NKF, 2023). Based on age, it was found that the majority of respondents were aged between 51-60 years, this is in line with the results of Nurchayati's research (2022), which states that this phenomenon shows that the prevalence of chronic kidney failure in Indonesia is clearly influenced by age process factors. Age risk factors are one of the important things affecting the prevalence of chronic kidney failure where nephron filtration function in the kidneys gradually decreases by 1% each year as the age of 40 years and above (CDC, 2019).

Table 2. Frequency distribution of respondents based on quality of life (N=65)

Quality of Life	Frequency	Percentage (%)
Good	33	50,8
Not good	32	49,2

Table 2 shows that the majority of respondents had a good quality of life of 33 respondents (50.8%). Based on table 2, it is known that the majority of respondents have a good quality of

life, namely 33 respondents (50.8%). The results of this study are in accordance with Nurchayati (2022) which states that CKD patients who undergo HD are mostly with a good quality of life. Carrero et al's (2020) research found that there are differences in quality of life between men and women undergoing dialysis, where men have higher quality of life scores than women in all domains. This is in accordance with the results of this study that the number of men is more, thus affecting the number of respondents who have a good quality of life to be more numerous.

In contrast to research Darsini et al., (2022) It was found that during the pandemic, more than half of the respondents in the study had a poor quality of life. More than half of the respondents had a physical health dimension in the poor category, more than half of the respondents had a mental health dimension in the bad category, more than half of the respondents had a social health dimension in the bad category, a functional health dimension in poor condition.

Quality of life is an individual's perception of his position in life based on culture, value systems related to life goals, expectations, standards and everything related to that. Problems related to quality of life are physical health status, psychological status, social and personal environment (Jacob & Sandjaya, 2018). Based on the results of the study, it can be concluded that the quality of life is influenced by several domains; physical, psychological, social, and spiritual.

4. Conclusion

1. The majority of respondents were male as many as 37 people (56.9%), almost all of them were married as many as 62 respondents (95.4%), the majority had a high school education of 41 respondents (63.1%), almost half were not working as many as 29 respondents (44.6%), and the majority aged 51-60 years as many as 30 respondents (46.2%).
2. The majority of respondents had a good quality of life at 33 respondents (50.8%).

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