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# The Relationship Between Length of Hemodialysis Therapy and age With Quality of Life in Chronic Kidney Failure Patients at PKU Muhammadiyah Gamping Hospital

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***Abstract***. *Chronic kidney failure in the end stage requires kidney replacement therapy in the form of haemodialysis. Haemodialysis is not to cure but as a replacement therapy for kidney function to clean the blood from various substances that cannot be excreted naturally by the kidneys which must be done for life. Chronic kidney failure patients undergoing haemodialysis can cause life changes that will affect the patient's quality of life. This study aims to determine the relationship between the duration of haemodialysis therapy and age and the quality of life in chronic kidney failure patients at PKU Muhammadiyah Gamping Hospital. This study employed a descriptive correlation study with a cross-sectional method. The study population was 165 patients with a sample of 115 respondents. The instrument to determine the quality of life was the Kidney Disease Quality of Life (KDQOL) Questionnaire and interviews were done to determine the age and duration of haemodialysis therapy. The results of statistical tests using the Kendall Tau test showed a p-value> 0.05, which is 0.059 for the test of the duration of haemodialysis therapy with quality of life. Thus, it can be concluded that there is no significant relationship between the duration of haemodialysis therapy and quality of life in chronic kidney failure patients at PKU Muhammadiyah Gamping Hospital. Statistical tests for age with quality of life using the Kendall Tau test showed a p-value> 0.05, which is 0.694. Therefore, it can be concluded that there is no significant relationship between age and quality of life in chronic kidney failure patients at PKU Muhammadiyah Gamping Hospital.*

***Keywords*** *Duration of Hemodialysis Therapy, Age, Quality of Life, Chronic Kidney Failure*

## 1. INTRODUCTION

Chronic renal failure is a disorder of the kidneys characterized by the presence of uremia or urea and other nitrogen waste in the sufferer's blood (Yuliawati, 2022). Chronic kidney failure patients require further treatment to replace damaged kidney function in the form of hemodialysis, peritoneal dialysis and kidney transplantation (Natalia, 2020). According to the World Health Organization (WHO), in 2021 there will be 843.6 million chronic kidney failure patients worldwide and it is estimated that the number of deaths due to chronic kidney failure will increase to 41.5% in 2040.

According to the results of the 2023 Indonesian Health Survey (SKI) conducted by the Ministry of Health, the prevalence of chronic kidney failure in Indonesia reached 638,178 patients and included 8,988 patients in the Special Region of Yogyakarta. The government provides support through the National Health Insurance (JKN) program in accordance with Minister of Health Regulation Number 8 of 2022 concerning Dialysis Service Standards (Permenkes, 2022). The community also provides support by forming

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communities such as the Indonesia Kindey Care Club, Young Kidney Life, Indonesian Dialysis Patient Community which act as forums for discussions between patients and provide mutual motivation (Noviana, 2022).

Chronic kidney failure in the final stages requires kidney replacement therapy in the form of hemodialysis. Hemodialysis is not for cure but as a replacement therapy for kidney function to cleanse the blood of various substances that cannot be excreted naturally by the kidneys which must be done throughout life with a frequency of 2-3 times a week (Fitriani, 2020). Chronic kidney failure patients undergoing hemodialysis can cause changes in their lives, for example physical, psychological changes, lifestyle and social changes which will have an impact on the patient's quality of life. The term quality of life really describes how well-being is in terms of the happiness a person has in their life. Hemodialysis patients have a quality of life that is influenced by various factors such as age, gender, education, how the individual undergoes medically recommended treatment and the extent to which the patient undergoes hemodialysis therapy (Widyawati, 2023).

Age is a factor that influences quality of life because the kidneys experience atrophy and the thickness of the renal cortex decreases by around 20% every decade. Another change that occurs with increasing age is the thickening of the glomerular basement membrane, causing glomerulosclerosis which will have an impact on the physical, psychological and social conditions of chronic kidney failure patients (Siwi, 2021). All ages have the same risk of changes in quality of life due to the chronic disease they suffer. Long periods of hemodialysis therapy cause the quality of life in chronic kidney failure patients to change according to the time needed to adapt to the conditions they experience (Kusuma, 2022). Long hemodialysis therapy will cause complications in the form of arrhythmia, cardiomyopathy, uremic pericarditis, pericardial effusion, heart failure, pulmonary edema, pleural pain, pleural effusion, uremic lung, shortness of breath, and even death (Gracia, 2021).

Research conducted by Kusuma in 2022 stated that there was a significant relationship between the duration of hemodialysis and the quality of life of chronic kidney failure patients undergoing hemodialysis with a statistical test result of $p < 0.005$, namely 0.028. Research conducted by Fitriani in 2020 showed statistical results of $p > 0.005$, namely 0.06, which means there is no significant relationship between the length of

undergoing hemodialysis and the quality of life in patients with chronic kidney disease. According to a preliminary study conducted by researchers at PKU Muhammadiyah Gamping Hospital on June 12 2024, there were 165 chronic kidney failure patients undergoing hemodialysis with an age range of 24-79 years whose quality of life was unknown after undergoing hemodialysis. Patients also experience pain, fatigue, itching, and psychological stress due to medical complications and the burden of chronic diseases.

Based on this and the results of research that has been carried out show different results, researchers are interested in conducting research on the relationship between length of hemodialysis therapy and age with the quality of life of chronic kidney failure patients at PKU Muhammadiyah Gamping Hospital. This study aims to determine the relationship between length of hemodialysis therapy and age with quality of life in chronic kidney failure patients at PKU Muhammadiyah Gamping Hospital.

## 2. LITERATURE REVIEW

Chronic renal failure is a damage to the pathophysiological processes of the kidney with various etiologies, resulting in a progressive and irreversible decline in kidney function, to a degree that requires permanent assistance in the form of dialysis and kidney transplantation (Yunidar, 2022). According to (Sirait, 2023) signs that appear include gastrointestinal and nutritional disorders such as nausea, vomiting (anorexia), stomach pain or cramps, ulcers, malnutrition, bad breath, dry lip mucosa, weight loss, decreased appetite, and stomatitis.

Hemodialysis is a dialysis therapy method used to remove fluids and waste products from the body when the kidneys are accurately or progressively unable to carry out this process (Pratama, 2020).

Age is defined as the time span that has passed since an individual was born until a certain time or as an important indicator in relation to determining individual development (Seventeen, 2023). Quality of life is an individual's perception of their position in life both from the cultural context and the value system in which they live and their existing life is guaranteed by their life goals, hopes, standards and focus in life which includes physical, psychological, social and environmental aspects of life. everyday (Ariyanto, 2020).

## 3. METHODS

This research is a quantitative research with a descriptive correlation research design with a cross-sectional method, namely a type of method carried out at one time. The population in this study were all chronic kidney failure patients undergoing hemodialysis at PKU Muhammadiyah Gamping Hospital, totaling 165 patients. The sampling technique in this research used non-probability sampling with a purposive sampling technique with inclusion and exclusion criteria, resulting in 115 respondents. The data collection tool uses the KDQOL questionnaire which contains 36 questions to determine the patient's quality of life and interviews to determine the patient's age and duration of hemodialysis therapy. Univariate analysis was used to determine the characteristics of each variable in the study. Bivariate analysis used the Kendall Tau test to determine the relationship between duration of hemodialysis therapy and quality of life in patients with chronic kidney failure. The Kendall Tau bivariate statistical test was also used to determine the relationship between age and quality of life in chronic kidney failure patients. If the p-value > 0.05 then Ho is accepted, meaning there is no relationship. If the p-value ≤ 0.05 then Ho is rejected, meaning there is a relationship. This research has received approval from the PKU Muhammadiyah Gamping Hospital Ethics Commission and has complied with ethical principles on August 30 2024 with Letter Number 172/KEP-PKU/VIII/2024.

## 4. RESULTS

**Table 1. Frequency Distribution of Respondent Characteristics**

| Characteristics | Frequency (n=115) | Percentage (%) |
|---|---|---|
| Gender | | |
| - Man | 66 | 57.4 |
| - Woman | 49 | 42.6 |
| Level of education | | |
| - Elementary school | 17 | 14.8 |
| - Junior High School | 14 | 12.2 |
| - Senior High School | 56 | 48.7 |
| - College | 15 | 13.0 |
| - No school | 13 | 11.3 |
| Work | | |
| - Doesn't work | 31 | 27.0 |

| | | | |
|---|---|---|---|
| - | Civil servants | 9 | 7.8 |
| - | Farmer | 8 | 7.0 |
| - | Retirement | 12 | 10.4 |
| - | Self-employed | 20 | 17.4 |
| - | Housewife | 29 | 25.2 |
| - | Laborer | 6 | 5.2 |

This research was conducted on 115 respondents with chronic kidney failure who underwent hemodialysis at PKU Muhammadiyah Gamping Hospital in September 2024. The description of the characteristics of the respondents included gender, education level and occupation. Based on Table 1, it is known that more than half of the respondents were male, namely 66 respondents (57.4%) and 49 respondents (42.6%) female. A total of 56 respondents (48.7%) had a high school education and 13 respondents (11.3%) did not attend school. 31 respondents (27.0) did not work and 6 respondents (5.2%) worked as laborers.

**Table 2. Frequency Distribution of Respondents' Age**

| Age | Frequency (n=115) | Frequency (%) |
|---|---|---|
| Late teens: 17-25 years | 3 | 2.6 |
| Early adulthood 26-35 years | 5 | 4.3 |
| Late adulthood 36-45 years | 10 | 8.7 |
| Early seniors: 46-55 years | 34 | 29.6 |
| Late elderly: 56-65 years | 42 | 36.5 |
| Elderly humans: >65 years | 21 | 18.3 |

Based on table 2, it is known that the majority of respondents aged 56-65 years were 42 respondents (36.5%) and those aged 17-25 years were at least 3 respondents (2.6%). The age classification in this study is based on the division of age categories according to the Ministry of Health (MOH) in 2022.

**Table 3. Frequency Distribution of Respondents' Hemodialysis Time**

| Long Hemodialysis | Frequency (n=115) | Percentage (%) |
|---|---|---|
| ≤ 12 months | 26 | 22.6 |
| 13-24 months | 23 | 20.0 |
| >24 months | 66 | 57.4 |

Based on table 3, it is known that more than half of the respondents have undergone hemodialysis > 24 months, namely 66 respondents (57.4%) and the least

number of respondents have undergone hemodialysis for 13-24 months, namely 23 respondents (20.0%).

**Table 4. Frequency Distribution of Respondents' Quality of Life**

| Quality of Life | Frequency (n=115) | Percentage (%) |
|---|---|---|
| Bad | 3 | 2.6 |
| Currently | 35 | 30.4 |
| Good | 64 | 55.7 |
| Very good | 13 | 11.3 |
| Perfect | 0 | 0.0 |

Based on table 4, it is known that more than half of the respondents have a good quality of life, 64 respondents (55.7%) and no respondents have a perfect quality of life, namely 0 respondents (0.0%).

**Table 5. Average Distribution of Quality of Life Dimensions**

| Dimensions of Quality of Life | Average |
|---|---|
| Physical Function | 62.39 |
| Physical Function Limitations | 50.98 |
| Painful | 69.39 |
| General Health | 57.85 |
| Vitality/Energy | 64.55 |
| Social Function | 71.85 |
| Mental Health | 82.90 |
| Emotional Role Limitations | 64.64 |

Based on table 5, it is known that the average results carried out based on the quality of life dimension for 115 respondents showed that the highest average result was in the mental health dimension of 82.90 and the lowest average was in physical function limitations of 50.98.

**Table 6. Relationship between duration of hemodialysis therapy and quality of life in chronic kidney failure patients at PKU Muhammadiyah Gamping Hospital**

| Long Hemodialysis | Quality of Life | | | | | | | | | | | | *P*-Value | *Correlation coefficient* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Bad | | Currently | | Good | | Very good | | Extraordinary | | Amount | | | |
| | F | % | F | % | F | % | F | % | F | % | F | % | | |
| 0-12 Month | 2 | 7.7 | 10 | 38.5 | 12 | 46.2 | 2 | 7.7 | 0 | 0.0 | 26 | 100 | 0,059 | 0,1613 |
| 13-24 Month | 0 | 0.0 | 9 | 39.1 | 11 | 47.8 | 3 | 13.0 | 0 | 0.0 | 23 | 100 | | |
| >24 Month | 1 | 1.5 | 16 | 24.2 | 41 | 62.1 | 8 | 12.1 | 0 | 0.0 | 66 | 100 | | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | 3 | 2.6 | 35 | 30.4 | 64 | 55.7 | 13 | 11.3 | 0 | 0.0 | 115 | 100 |

Based on Table 6, it is known that the results of statistical tests using Kendall Tau obtained a p-value > 0.05, namely 0.059 with a correlation coefficient of 0.1613.

**Table 7. Relationship between age and quality of life in chronic kidney failure patients at PKU Muhammadiyah Gamping Hospital**

| Age | Kualitas Hidup | | | | | | | | | | | | *P*-Value | *Correlation coefficient* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Bad | | Currently | | Good | | Very good | | Extraordinary | | Amount | | | |
| | F | % | F | % | F | % | F | % | F | % | F | % | | |
| 17-25 | 0 | 0.0 | 0 | 0.0 | 3 | 100 | 0 | 0.0 | 0 | 0 | 3 | 100 | | |
| 26/35 | 0 | 0.0 | 2 | 40.0 | 2 | 40.0 | 1 | 20.0 | 0 | 0 | 5 | 100 | | |
| 36-45 | 0 | 0.0 | 3 | 30.0 | 6 | 60.0 | 1 | 10.0 | 0 | 0 | 10 | 100 | 0,694 | -0.032 |
| 46-55 | 0 | 0.0 | 12 | 35.3 | 18 | 52.9 | 4 | 11.8 | 0 | 0 | 34 | 100 | | |
| 55-65 | 2 | 4.8 | 12 | 28.6 | 23 | 54.8 | 5 | 11.9 | 0 | 0 | 42 | 100 | | |
| >65 | 1 | 4.8 | 6 | 28.6 | 12 | 57.1 | 2 | 9.5 | 0 | 0 | 21 | 100 | | |
| Total | 3 | 2.6 | 35 | 30.4 | 64 | 55.7 | 13 | 11.3 | 0 | 0 | 115 | 100 | | |

Based on Table 7. It is known that the results of statistical tests using Kendall Tau obtained a p-value > 0.05, namely 0.694 with a correlation coefficient of -0.032.

## 5. DISCUSSION

### Characteristics of Chronic Kidney Failure Patients Undergoing Hemodialysis at PKU Muhammadiyah Gamping Hospital

Based on the research results (Table 1), the gender of chronic kidney failure patients at PKU Muhammadiyah Gamping Hospital was 66 male respondents (57.4%) and 49 female respondents (42.6%). The results of this research are in line with research conducted by Sembiring which stated that there were more male respondents than female respondents, namely 47 respondents. Sembiring assumes that men tend not to pay attention to the food and drink intake they consume, if they do heavy work men tend to rarely consume water and prefer to drink drinks that contain flavors which cause an increase in plasma concentration and a decrease in blood volume. . Researchers assume that women are more likely to pay attention to their health by paying attention to the types of food and drinks consumed every day so that they can minimize the occurrence of disease.

Based on the research results (Table 1), the education level of chronic kidney failure patients at PKU Muhammadiyah Gamping Hospital contained 56 respondents (48.7%) with high school education, 17 respondents (14.8%) with elementary school education, 15 respondents (13.0%) with tertiary education, 14 respondents (12.2%) with junior high school education, and 13 respondents (11.3%) with no education. The results of this research are in line with research conducted by Devi in 2022 which stated that the education level of the respondents in her research was mostly at the high school level with 15 respondents (46.9%). Devi assumes that a higher level of education will have broader knowledge, thus enabling self-control in dealing with problems, easily understanding what is recommended by health officials and can reduce anxiety, thereby helping individuals make decisions. Researchers assume that the higher an individual's level of education, the knowledge and skills they possess will increase so they will better understand what is best for them.

Based on the research results (Table 1), the type of work of chronic kidney failure patients at PKU Muhammadiyah Gamping Hospital, there were 31 respondents (27.0%) not working, 29 respondents (25.2%) as housewives, 20 respondents (17.4%) as self-employed, 12 respondents (10.4%) as retirees, 9 respondents (7.8%) as civil servants, 8 respondents as farmers (7.0%), and 6 respondents (5.2%) as laborer. The results of this research are in line with research conducted by Devi who stated that the majority of respondents in her research did not work, namely 20 respondents (62.5%). Devi assumed that the respondent did not have the ability to carry out activities because he had to undergo hemodialysis and often felt worried about his unpredictable illness and disruption to his life. Researchers assume that chronic kidney failure patients do not work because hemodialysis causes significant fatigue and must be carried out twice a week. Chronic kidney failure patients undergoing hemodialysis also experience complications such as anemia, hypertension, decreased stamina or physical strength so they are unable to do heavy work.

**Age of Chronic Kidney Failure Patients Undergoing Hemodialysis at PKU Muhammadiyah Gamping Hospital**

Based on the research results (Table 2), the age of chronic kidney failure patients at PKU Muhammadiyah Gamping Hospital was 42 respondents (36.5%) aged 56-65 years, there were 34 respondents (29.6%) aged 46-55 years, 21 respondents (18.3% ) aged

> 65 years, 10 respondents (8.7%) aged 36-45, 5 respondents (4.3%) aged 26-35 and the remaining 17-25 years old were 3 respondents (2.6%). The results of this research are in line with research conducted by Sembiring in 2024 where the majority were occupied by patients aged 56-65 years with 22 respondents (32.4%).

Sembiring assumes that age influences the occurrence of chronic kidney failure because as people get older, kidney function will decrease. Those aged > 55 years tend to experience various disease complications that worsen kidney function compared to those aged under 40 years. Patients who are in their productive age feel motivated to recover considering that they are still young and have a higher life expectancy compared to those in old age who tend to leave all decisions to their family or children. Changes in kidney function occur with increasing age from 40 years, namely a decrease in Glomerulo Filtration Rate (GFR) and Renal Blood Flow (RBF) which occurs around 8ml/minute/1.73m2.

Researchers assume that as you get older, physical performance decreases and the chance of developing disease increases, such as diseases that can increase the risk of developing chronic kidney failure, namely heart disease, diabetes mellitus and hypertension. This occurs due to damage to the kidney blood vessels. As the body ages, it becomes more difficult to regulate blood sugar levels, the blood vessels in the kidneys become harder and less elastic, and the kidneys' ability to receive oxygen and nutrients from the heart decreases.

**Duration of Hemodialysis Therapy for Chronic Kidney Failure Patients at PKU Muhammadiyah Gamping Hospital**

Based on the research results (Table 3), the duration of hemodialysis therapy in chronic kidney failure patients at PKU Muhammadiyah Gamping Hospital, there were 66 respondents (57.4%) who had undergone hemodialysis > 24 months, 23 respondents (20.0%) who had undergone hemodialysis ≤ 12 months, and 26 respondents (22.6%) underwent hemodialysis for 13-24 months. The results of this study are in line with research (Yonata et al., 2022) where more patients have undergone hemodialysis for more than > 24 months with a median value of 5 years (1-12 years). This occurs because some respondents have adapted to hemodialysis and health. In general they are stable. This research is also in line with Sinaga's research in 2022 where the most patients undergoing hemodialysis therapy > 24 months were 42 respondents (63.6%) because patients

undergoing hemodialysis > 12 months have started to get used to accepting the limitations and complications of hemodialysis such as fatigue. , physical limitations, or psychological problems. Self-acceptance of the health condition they are experiencing and dependence on the dialysis machine is one of the factors that causes patients to continue to carry out treatment with discipline.

Researchers assume that respondents who have undergone hemodialysis for > 24 months tend to have experienced a process of accepting their health condition. Respondents also began to develop a sense of responsibility for their health by becoming more compliant with treatment, namely hemodialysis, and realizing the importance of undergoing this procedure to maintain better health. Respondents who have undergone hemodialysis for > 24 months have more effective coping strategies, accept their physical limitations, and become more disciplined in maintaining treatment which will contribute to health stability and improved quality of life.

**Quality of Life of Chronic Kidney Failure Patients Undergoing Hemodialysis at PKU Muhammadiyah Gamping Hospital**

Based on the research results (Table 4), the quality of life in chronic kidney failure patients at PKU Muhammadiyah Gamping Hospital, there were 64 respondents (55.7%) who had good quality of life, 35 respondents (30.4%) had moderate quality of life, 13 respondents (11.3%) had good quality of life. life is very good, and 3 respondents (2.6%) have poor quality of life. The results of this research are in line with research conducted by Bellasari in 2021, there were 32 respondents (42%) who had a good quality of life in the highest position because respondents maintained a healthy lifestyle and routinely underwent hemodialysis so that they could improve their quality of life. Researchers assume that quality of life is influenced by several interrelated factors such as pain, physical activity, psychology, social relationships. Respondents who have a good quality of life are because they have made peace with their situation and have a stable health condition so they can still carry out activities that affect their quality of life.

Based on the results of the research (Table 5), the mean for respondents' quality of life was physical function (62.39), limited physical function (50.98), pain (69.39), general health (57.85), vitality/energy ( 64.55), social function (71.85), mental health (82.90), emotional role limitations (64.64). The lowest mean was obtained in the dimension of limited physical function which will affect the respondent's ability to carry

out daily activities and increase dependence on other people (Syifa, 2022). The average result of limited physical function of 50.98 occurred because respondents limited several jobs and had difficulty completing work, as research results showed 31 respondents (27.0) did not work.

The general health dimension is a physical, mental and social condition that is completely prosperous or free from disease or weakness/disability (Sembiring, 2024). The average result of the general health dimension was 57.85. This occurred because the respondent had limited physical function due to chronic kidney failure which made him difficult to carry out activities that required a lot of energy.

The dimension of physical function is the body's ability to complete the functions of the body's organs within physiological limits under environmental conditions or sufficient physical work without excessive fatigue (Sembiring, 2024). Decreased physical function is caused by fatigue, anemia, and decreased muscle mass (Gustin, 2024). The average result of the physical function dimension was 62.39. This happened because based on the results of interviews with respondents, it was stated that respondents got tired easily when doing activities that required a lot of energy but could still do light activities. Decreased physical function can be caused by decreased kidney function, fatigue, and side effects from treatment.

The vitality/energy dimension is the strength and life force needed by humans for continuous physical and mental activity (Sembiring, 2024). Fatigue is a common symptom experienced by chronic kidney failure patients undergoing hemodialysis which can affect daily activities (Fatonah, 2021). The average result of the vitality dimension was 64.55. This occurred because respondents experienced fatigue quickly when carrying out activities.

The dimension of emotional role limitations is a person's reaction to a situation. The average result was 64.64, this happened because young respondents felt worried about their condition and future. The dimensions of pain in chronic kidney failure patients are caused by dialysis procedures or other accompanying medical conditions. Effective pain management is needed to reduce pain, such as meditation or warm/cold compresses (Khaled et al., 2024). The average result in this dimension is 69.39. This occurs because respondents experience pain in the head, back, stomach and head. in the mild pain category.

The social function dimension is interaction with other people and the surrounding environment to establish good communication. The average result for the social dimension was 71.85. This happened because respondents were still able to interact with family, neighbors, the surrounding environment, hemodialysis patients, and health workers who were in the hemodialysis room without feeling awkward. The mental health dimension is a state of well-being where individuals realize their potential, are able to cope with stress in life, work productively and are able to contribute to their environment (Sembiring, 2024). The average mental health was 82.90, this happened because respondents did not feel nervous and felt full of enthusiasm.

**Relationship between duration of hemodialysis therapy in chronic kidney failure patients at PKU Muhammadiyah Gamping Hospital**

Based on the research results (Table 6), it was found that 41 respondents (62.1%) who had undergone hemodialysis > 24 months had a good quality of life, 16 respondents (24.2%) who had undergone hemodialysis > 24 months had a moderate quality of life, 12 respondents (46.2% ) who had undergone hemodialysis ≤ 12 months had a good quality of life, 11 respondents (47.8%) who had undergone hemodialysis 13-24 months had a good quality of life good, 10 respondents (38.5%) who underwent hemodialysis ≤ 12 months had moderate quality of life, 9 respondents (39.1%) who underwent hemodialysis 13-24 months had moderate quality of life, 8 respondents (12.1%) who underwent hemodialysis > 24 months had quality of life is very good, 3 respondents (13.0%) have undergone hemodialysis 13-24 months have very good quality of life, 2 respondents (7.7%) have undergone hemodialysis ≤ 12 months had poor and very good quality of life, 1 respondent (1.5%) had undergone hemodialysis > 24 months had poor quality of life, and there were no respondents (0.0%) who had perfect quality of life. The results of statistical tests using Kendall Tau obtained a p-value > 0.05, namely 0.059, which can be concluded that there is no relationship between the duration of hemodialysis and the quality of life in chronic kidney failure patients at PKU Muhammadiyah Gamping Hospital with a correlation coefficient value of 0.1613.

The results of this study are in line with research conducted by (Gebrie et al., 2023) with the results that there was no relationship between the duration of hemodialysis and the quality of life of chronic kidney failure patients. Gabrie assumes that every patient has side effects from hemodialysis in the form of negative feelings that appear

continuously, feelings of tiredness and disgust, an inability to deal with the symptoms of hemodialysis that continue continuously throughout their life. This study used the KDQOL questionnaire to determine the quality of life in chronic kidney failure patients.

Other research that is in line with the research results is research conducted by Fitriani in 2020 which stated that there was no significant relationship between the length of hemodialysis therapy and the quality of life in chronic kidney disease patients in the Hemodialysis Room at Dr Sintala Hospital Tangerang using the KDQOL-SF 1.3 questionnaire. with a statistical test result of 0.06. Fitriani assumes that quality of life is a subjective feeling that an individual has and is not influenced by external factors.

Other research that supports this is research conducted by Sembiring in 2024 which stated that there was no relationship between the length of undergoing hemodialysis and the quality of life for chronic kidney failure at H. Adam Malik General Hospital, Medan in 2023, which used the KDQOL-SF 36 questionnaire with a statistical result of 0.103. Sembiring believes that the length of time undergoing hemodialysis does not necessarily affect a person's quality of life, it could be that a person's quality of life is influenced by psychological, spiritual and social aspects.

The results of this study are not in line with research conducted by Kusuma in 2022 which stated that there was a relationship between the duration of HD and the quality of life of Chronic Kidney Failure patients undergoing hemodialysis using the WHOQOL-BREF questionnaire with a statistical result of 0.028. Kusuma is of the opinion that chronic kidney failure patients who undergo hemodialysis for more than 12 months have reached the long-term adaptation stage so they are starting to get used to accepting the limitations and complications they experience.

Researchers assume that respondents who have undergone hemodialysis for > 24 months tend to experience a decrease in psychological impacts even though their physical quality is still affected by side effects of therapy such as fatigue. Respondents think more realistically about their health conditions and are better able to overcome the physical discomfort they experience.

**Relationship between Age and Quality of Life in Chronic Kidney Failure Patients at PKU Muhammadiyah Gamping Hospital**

Based on the results of research on age and quality of life, 23 respondents (54.8%) aged 56-65 years had a good quality of life, 18 respondents (52.9%) aged 46-55 years had

a good quality of life, 12 respondents (35.3%) aged 46-55 years have a moderate quality of life, 12 respondents (57.1%) aged > 65 years have a good quality of life, 12 respondents (28.6%) aged 56-65 years have moderate quality of life, 6 respondents (28.6%) aged > 65 years had a moderate quality of life, 6 respondents (60.0%) aged 36-45 years had a good quality of life, 5 respondents (11.9%) aged 56-65 years had a very good quality of life good, 4 respondents (11.8%) aged 46-55 years had a very good quality of life, 3 respondents (30.0%) aged 36-45 years had a moderate quality of life, 3 respondents (100%) aged 17-25 years had good quality of life, 2 respondents (12%) aged 56-65 years had poor quality of life, 1 respondent (4.8%) aged >65 years had poor quality of life, 1 respondent (20.0%) aged 26-36 years had a very good quality of life, 1 respondent (10.0%) aged 36-45 years had a very good quality of life, and there were no respondents who had a perfect quality of life. The results of statistical tests using Kendall Tau obtained a p-value > 0.05, namely 0.694, which can be concluded that there is no relationship between age and quality of life in chronic kidney failure patients at PKU Muhammadiyah Gamping Hospital with a correlation coefficient of -0.032.

The results of this study are in line with research conducted by Zulfan in 2021 which stated that there was no significant relationship between age and the quality of life of patients undergoing hemodialysis at Arifin Achmad Hospital Pekanbaru. Zulfan assumes that quality of life is not only influenced by age but is supported by other factors such as psychological factors in the form of family support and good mental condition so that differences in age do not always reflect differences in quality of life.

This research is not in line with research conducted by Aditama in 2024 which stated that there was a relationship between the age factor and the quality of life of chronic kidney failure patients at Depati Bahrin Sungailiat Regional Hospital in 2023 with a p-value of 0.030. Aditama assumes that older patients' treatment and management of chronic kidney failure involves various aspects including special diets, use of drugs, dialysis and other medical procedures that can affect their quality of life. Chronic kidney failure in patients of various ages will also have psychological impacts such as experiencing depression, anxiety, changes in self-image which will impact their quality of life and mental well-being.

Researchers assume that older respondents tend to have better coping mechanisms because they tend to have more life experience, which helps them manage their health

conditions, including facing challenges caused by chronic kidney failure and hemodialysis, such as decreased physical strength, limited mobility, fatigue and pain. Apart from that, at the same age, the health condition and quality of life of patients also differ from one individual to another.

The quality of life of chronic kidney failure patients is closely related to hemodialysis therapy. Hemodialysis itself is not a therapy to cure but to maintain continuity of life functions where the patient will be dependent for life on undergoing hemodialysis. Chronic kidney failure patients will have a better quality of life if they undergo hemodialysis therapy.

This study has the limitation of not testing other factors that influence quality of life so it cannot compare what factors can influence quality of life in patients with chronic kidney failure. This research also only used 115 respondents, which means it is still not enough to test whether there is a relationship or correlation.

## 6. CONCLUSION

Based on the results of research conducted with a sample of 115 respondents regarding the relationship between duration of hemodialysis therapy and age with quality of life in chronic kidney failure patients at PKU Muhammadiyah Gamping Hospital in September 2024, it can be concluded that the results of statistical tests using Kendall Tau obtained a p-value > 0 .05, namely 0.059, it can be concluded that statistically there is no significant relationship between the length of hemodialysis therapy and the quality of life in chronic kidney failure patients at PKU Muhammadiyah Gamping Hospital. The results of statistical tests using Kendall Tau also obtained a p-value > 0.05, namely 0.694. It can be concluded that statistically there is no significant relationship between age and quality of life in chronic kidney failure patients at PKU Muhammadiyah Gamping Hospital.

## 7. SUGGESTION

It is recommended that patients with chronic kidney failure always comply with treatment, especially when undergoing hemodialysis and comply with the prohibitions and recommendations given by health workers, both doctors and nurses, so that they can improve their quality of life. Apart from that, it is also recommended that you be able to

carry out daily activities according to your ability to maintain physical function and also give yourself enough time to rest so that you don't get tired easily.

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