

## HEALTH RELATED QUALITY OF LIFE (HRQoL) IN CHRONIC KIDNEY FAILURE PATIENTS AT ARIFIN AHMAD REGIONAL GENERAL HOSPITAL RIAU PROVINCE

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### Abstract

After tuberculosis, the illness with the highest death rate is chronic kidney failure. Renal function declines in patients with chronic kidney failure until, eventually, they are unable to filter and eliminate the body's electrolytes at all. Metrics about quality of life are necessary because the patient's health will suffer if medical therapy fails. This research aims to determine the description of health-related quality of life (HRQoL) in chronic kidney failure patients at the Arifin Achmad Regional General Hospital, Riau Province. The samples used in this study were chronic kidney failure patients who underwent treatment at the Arifin Achmad Regional General Hospital, Riau Province, in the period January-December 2022 and met the inclusion and exclusion criteria. This study is observational and descriptive. Non-probability sampling was employed to select 74 participants for the study. Based on the results of research that has been carried out regarding the description of health-related quality of life (HRQoL) in patients with chronic kidney failure at the Arifin Achmad Regional General Hospital, Riau Province, it was found that chronic kidney failure has an impact on the quality of life in health with an average utility value of EQ-5D -5L and VAS namely 0.6235 and 0.7177. Anxiety or depression (40.5%) and pain or discomfort (52.7%) were the most commonly reported health issues.

**Keywords:** chronic kidney failure, EQ-5D-5L, EQ-VAS, health-related quality of life

### Introduction

The illness known as chronic kidney failure causes the kidneys to lose all function until they are incapable of producing urine, maintaining the proper balance of bodily chemicals and fluids in the blood, or filtering and excreting the body's electrolytes. These complications occur in the chronic kidney failure phase and require medical therapy. Patients with chronic kidney failure must be heavily dependent on therapy for the remainder of their lives, as not doing so could seriously harm their health and possibly result in death.<sup>1</sup>

According to data from Basic Health Research, 31.7% of Indonesians had chronic kidney failure in 2018. The highest prevalence of chronic kidney failure occurred in North Kalimantan Province, reaching 0.64%, followed by North Maluku Province, reaching 0.56%, and third place was occupied by North Sumatra Province, reaching 0.53%. In Riau Province, chronic kidney failure reached 0.26%.<sup>2</sup>

The illness known as chronic kidney failure causes the kidneys to function less and less until they are completely incapable of filtering blood and producing urine. These issues arise during the stage of chronic kidney failure and call for medical intervention. Patients with chronic kidney failure must be heavily dependent on therapy for the remainder of their lives, as not doing so could seriously harm their health and possibly result in death.<sup>1</sup>

In chronic kidney failure, one of the therapies needed is kidney replacement therapy. The impact of decreased kidney function means that urine cannot be produced and excreted, toxins will accumulate, blood pressure cannot be controlled, and fluid balance is disturbed, which can cause the body to become swollen, short of breath, and experience anemia. Kidney replacement therapy that can be performed on patients with chronic kidney failure is hemodialysis therapy, peritoneal dialysis, and kidney transplantation. The therapy most often chosen by patients is hemodialysis therapy because the cost is relatively more affordable than others. Hemodialysis therapy is only limited to maintaining patient survival but not to cure chronic kidney failure. This can have an impact on the patient's quality of life.<sup>3</sup>

Health-Related Quality of Life (HRQoL) is defined as a person's perception regarding their health, which concerns physical, spiritual, and social function and their role in society. An individual who can carry out their functions and roles in daily life well is someone with a good quality of life.<sup>4</sup>

Based on the research results of measuring the quality of life of patients using the WHOQOL-BREF questionnaire scores obtained from several variables, namely, in the age variable, the majority of patients are aged 46-65 (62.2%), and the majority are male.<sup>5</sup> As many as (62.2%), with the majority of hemodialysis duration <12 months (42.2%). The description of the quality of life of patients is that (37.8%) have poor quality of life in the health domain, (13.3%) have poor quality of life in the psychological domain, (31.1%) have poor quality of life in the social relations domain and (13.3%) had poor quality of life in the environmental domain.

The results of research conducted by Siwi<sup>6</sup> with the percentage of quality of life of chronic kidney failure patients with good and bad scores, seen in terms of the physical health dimension, namely patients who experience poor physical health 56.1% and those who experience good physical health 43.9%. The psychological health dimension of patients in poor condition was 58.5%, while in good condition, it was 41.5%. The social relationship dimension of patients in poor condition was 48.8%, while in good condition, it was 51.2%. The quality of life dimension of patients in poor condition was 61%, while in good condition, it was 39%.

EuroQOL-5 Dimension (EQ-5D) is a simple, generic method. It has been validated in various countries such as Nice (United Kingdom) and Hitap (Thailand) as a method for measuring health status.<sup>7</sup> This study uses the EQ-5D-5L questionnaire, which is used as a method to measure patient quality of life. The EQ-5D-5L questionnaire is a valid instrument and has an Indonesian value set.<sup>8</sup>

Several studies on quality of life in health (HRQoL) in patients with chronic kidney failure have been carried out in Indonesia. The score obtained for each EQ-5D-5L utility was 0.673, and that for EQ-VAS was 71.4. The most frequently reported problem in patients with chronic renal failure is pain or discomfort (38%), followed by activities that can be done (29%), and then anxiety or depression (22%). This proves that chronic kidney failure has a significant impact on reducing the patient's quality of life.<sup>9</sup>

The characteristics of each influence the differences in quality of life. One characteristic that influences quality of life is age. Research conducted by Firmansyah<sup>10</sup> Chronic kidney failure cases often occurs at the age of 41-50 years with several 30%. This is following research conducted by Badariah *et al.*<sup>11</sup> where the most cases of chronic kidney failure occur in the 41-50 year age range with 30%.

This research was conducted at the Arifin Achmad Regional General Hospital (RSUD), Riau Province. In Riau Province, especially at Arifin Achmad Regional Hospital, quality of life measurements have never been carried out using the EQ-5D questionnaire, which consists of the EQ-5D-5L and EQ-VAS. In initial observations, chronic kidney failure is the 7th most common inpatient disease and the 6th most common outpatient disease in 2022 at the Arifin Achmad Regional General Hospital. In 2022, data was obtained from January to December for 280 patients with chronic kidney failure. Thus, based on this description, researchers at the Arifin Achmad Regional General Hospital in the Province of Riau were interested in studying the health-related quality of life (HRQoL) of patients with chronic kidney failure.

## Materials

The population in this study were patients with chronic kidney failure who underwent treatment at the Arifin Ahmad Regional General Hospital, Riau Province, from January to December 2022. The sample chosen for this study was patients with chronic kidney failure at the Arifin Achmad Regional General Hospital Riau Province period from January to December 2022 with a sampling method, non-probability sampling using a purposive sampling technique, and a sample of 74 respondents was obtained. The inclusion criteria in this study were respondents willing to be research subjects, respondents who were at least 18 years old, and respondents who could read and write. The exclusion criteria in this study were respondents whose medical record data was incomplete and respondents whose questionnaire data was incomplete. Data collection in this research was through primary and secondary data. Primary data in this research is obtained from research questionnaires, while secondary data is medical record data. Primary data collection was carried out using a questionnaire given directly to respondents. The instruments used in this research were the consent form to become a respondent and the Indonesian version of the EQ-5D-5L and EQ-VAS questionnaires, measured using the value set of Purba, and this questionnaire has been validated throughout Indonesia.<sup>8</sup> In the EQ-5D-5L questionnaire, there are five domains, namely, ability to walk or move, self-care, usual activities, pain or discomfort, and anxiety or depression. Each of these dimensions has a question: a value or score. There are five categories of response levels in each domain, namely: no problem, a little problem, quite problematic, very problematic, and very, very problematic.<sup>8</sup>

## Methods

This research is descriptive observational research. Data analysis uses univariate analysis, which aims to explain or describe the characteristics of each research variable. The variables whose descriptions will be looked at in this research are age, gender, education level, employment status, and length of suffering.

## Result

### Respondent Characteristics

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

No	Respondent Characteristics	n = 74	%
1.	Age		
	Early Adulthood (18-40 years)	19	25,7
	Middle Adult (41-60 years)	43	58,1
	Older Adults (>60 years)	12	16,2
2.	Gender		
	Male	40	54,1

**Table 1.** (Extension)

No	Respondent Characteristics	n = 74	%	
	Female	34	45,9	
3.	Level Education	Lower Education (Primary School and Middle School)	29	39,2
		Higher Education (High School and College)	45	60,8
		Doesn't work	40	54,1
4.	Job-status	Work	34	45,9
		< 1 year	22	29,7
5.	Long Suffering	> 1 year	52	70,3

### Health-Related Quality of Life (HRQoL) in Chronic Kidney Failure Patients

**Table 2.** Frequency of Respondents in Each EQ-5D-5L Domain

Levels	Dimensi	n = 74	%
<b>Walking Ability</b>			
1	No problems with walking ability	45	60,8
2	Slight problems with walking ability	17	23
3	Quite problematic in the ability to walk	7	9,4
4	Very problematic in the ability to walk	2	2,7
5	Very, very problematic in the ability to walk	3	4,1
<b>Self-care</b>			
1	No problems with self-care	51	68,9
2	Some problems with self-care	14	18,9
3	Quite problematic in self-care	4	5,4
4	Very problematic in self-care	2	2,7
5	Very very problematic in self-care	3	4,1
<b>Commonly Performed Activities</b>			
1	No problems with usual activities	26	35,1
2	Slight problems in usual activities	29	39,2
3	Quite problematic in usual activities	11	14,9
4	Very problematic in usual activities	4	5,4
5	Very very problematic in normal activities Done	4	5,4
<b>Pain or discomfort</b>			
1	No problems with pain or discomfort	16	21,6
2	Slight problems with pain or discomfort	39	52,7
3	Quite problematic in terms of pain or discomfort	15	20,3
4	Very problematic in pain or discomfort	2	2,7
5	It matters whether you feel pain or not comfortable	2	2,7
<b>Anxiety or Depression</b>			
1	No problems with anxiety or depression	26	35,1
2	Slight problems with anxiety or depression	30	40,5
3	Quite problematic to feel anxious or depressed	10	13,5
4	Very problematic in feeling anxious or depressed	6	8,2
5	Very problematic feelings of anxiety or depression	2	2,7

## Utility Value in Chronic Renal Failure Patients

**Table 3.** Utility Value in Patients with Chronic Renal Failure

Utilitas	Mean	Standard Deviasi	Median	Minimum-Maksimum
EQ-5D-5L	0,6235	0,3870	0,745	-0,865-1
EQ-VAS	0,7177	0,1601	0,715	0,3-0,99

## Discussion

### Respondent Characteristics

#### Analysis Based on Age Range

In terms of age characteristics, the middle adult group (41-60 years) is the largest age group that experiences chronic kidney failure with a total of 43 patients (58.1%), followed by early adults (18-40 years) with a total of 19 patients (25.7 %), then the elderly group (>60 years) with a total of 12 patients (16.2%). These results are supported by research at the same location, namely Arifin Achmad Regional Hospital. Based on Sambiring, where the highest frequency of chronic kidney failure patients was aged 45-60 years, at 74%.<sup>12</sup>

Based on the description above, it is known that chronic kidney failure often occurs in the 41-60-year age group. This can be caused by the aging process, which causes changes in kidney structure with a decrease in overall kidney mass due to changes in kidney structure. Microscopically, changes occur due to a decrease in the Glomerular Filtration Rate (GFR) by 50% from normal, as well as a decrease in the glomerular filtration rate of the nephron.<sup>13</sup> Furthermore, a decline in kidney function may worsen the kidneys' condition. As a result, the ability of the kidney tubules to reabsorb and concentrate urine decreases, and metabolic syndromes such as hypertension, hyperglycemia, and hyperuricemia are experienced.<sup>14</sup>

The second highest incidence of chronic kidney failure occurs in the early adult age group (18-40 years). This is due to an unhealthy lifestyle, so at a young age, many people suffer from chronic kidney failure. The main factors in the occurrence of chronic kidney failure at a young age are a lack of maintaining a healthy diet such as consuming fruit and vegetables, rarely exercising, and bad habits of smoking and alcohol.<sup>15</sup>

Based on age level, the age group (>60 years) is more susceptible to chronic kidney failure than the age group (41-60 years). However, many patients aged (>60 years) have died due to low life expectancy. They can no longer carry out physical activities that provide extra energy for daily activities, improve sleep quality, strengthen muscles, reduce stress, and improve mental health. Chronic kidney failure patients also depend on medical therapy. In patients who undergo kidney transplantation, kidney health, and life expectancy will improve better than patients who survive with therapy.<sup>16</sup>

#### Analysis Based on Gender

In terms of gender characteristics, it was found that the group of patients most affected by chronic kidney failure was a group of male patients, 40 patients (54.1%), but not much different from female patients, namely 34 patients (45.9%). Tiar supports the results of this research,<sup>17</sup> most patients with chronic kidney failure were found to be male patients, with 28 patients (68.3%) out of a total of 41 patients at Ambarawa Regional Hospital, Semarang. The same results were obtained at RSUD Dr. Saiful Anwar Malang obtained 22 male patients (59.5%) from a total of 37 patients.<sup>18</sup>

The data above shows that men are predominantly affected by chronic kidney failure because men pay less focus on their health and uphold a healthy way of living

compared to women. This is proven by the results of physical activity behavior, which is more common in women (52.1%) compared to men (47.1%).<sup>19</sup> The percentage of men is greater than women because men have a smoking habit. In contrast, active smokers are seven times more likely to suffer from chronic kidney failure when compared to non-smokers. This is also because women have the hormone estrogen, which functions to balance calcium levels and can stop oxalate from being absorbed, as this can lead to kidney stones and chronic kidney failure, so the risk for men to experience chronic kidney failure can be greater than that of women<sup>5</sup>

### **Analysis Based on Education Level**

The education level categories in this study were divided into low education (Primary School and Junior High School) and high education (High School and College). In terms of educational level characteristics, the largest group of chronic kidney failure patients was the higher education group, with 45 patients (60.8%), and the low education group of chronic kidney failure patients (Primary School and Junior High School) with 29 patients (39.2%).

In terms of educational level characteristics, it was found that the group of patients most affected by chronic kidney failure was the higher education group with 45 patients (60.8%), where the most chronic kidney failure patients were high school graduates (SMA) with 26 patients and university graduates. (PT) as many as 19 patients. The results of this research are supported by Edriyan<sup>20</sup> the majority of chronic kidney failure patients were high school graduates, 16 patients (53.3%) out of a total of 30 patients at RSU Royal Prima Medan. The same results were obtained Anasulfalah<sup>21</sup> where individuals suffering from long-term renal failure at RSUD Dr. Moewardi Surakarta is dominated by a high school education level of 21 patients (47%).

Education is an effort by society to behave or adopt behavior using appeals and invitations, as well as providing information and awareness. Education also influences a person's level of knowledge about the disease they are suffering from.<sup>22</sup> A person's level of education will certainly shape a person's character to become a more critical person in dealing with various problems. A person's perspective is wider, and they can adopt Clean and Healthy Living Behaviors the more educated they are.<sup>23</sup>

However, not all highly educated people think the same way. For someone who is highly educated and has a lot of wealth who can buy and do everything, without being accompanied by a willingness to learn and a high curiosity for his health, it does not guarantee that someone has a good level of knowledge on the contrary, other people are willing to learn and increase their knowledge. With information, even though their educational background is low, they can have better knowledge.<sup>24</sup>

### **Analysis Based on Employment Status**

Regarding the characteristics of work status, the majority of patients suffering from chronic kidney failure are 40 patients (54.1%) not working and 34 patients (45.9%) who are working, whereas respondents who do not work stay at home due to poor physical health. Able to work. Research result Tiar<sup>18</sup> at Dr. Hospital. Saiful Anwar Malang, where 31 patients did not work (83.8%) and six patients worked (16.2%). The research results were similar Anasulfalah<sup>21</sup>, carried out at Moewardi Hospital on patients with chronic kidney failure, where 18 were in the non-working category (43%).

All types of work, both formal and informal, cause work fatigue. Individuals who feel worn out at work experience symptoms such as feeling lethargic, yawning, drowsiness, dizziness, difficulty thinking, lack of concentration, lack of alertness, poor and slow perception, stiffness and awkwardness in movement, lack of passion for work, unbalanced standing, tremors in the limbs, inability to control posture, and a decline in both spiritual and physical performance.<sup>25</sup>

Work problems: Some patients used to work but had to stop working because of their illness. According to Abdelghany<sup>26</sup> this is attributed to the patient retiring, not being suitable for work, or having physical limitations in carrying out work, so the patient chooses not to work. Patients also experience limitations in working because they have to undergo hemodialysis treatment, which is carried out twice a week by patients so that patients are more comfortable not working. This is supported Firmansyah<sup>27</sup> that some patients cannot return to their previous jobs because of chronic kidney failure. Other research explains that patients with jobs become more independent and can meet their needs independently, making them more confident and secure. This is the opposite if the patient does not work.<sup>28</sup>

### **Suffering for a long time**

In terms of long-suffering characteristics, 22 patients (29.7%) had chronic kidney failure for less than one year and more than one year, namely 52 patients (70.3%). This long-suffering has been observed since a doctor first diagnosed it. Research conducted by Suparti<sup>29</sup> states that the survival time of patients with chronic kidney failure decreases with increasing time and only depends on the treatment they are undergoing.

Based on the research location, namely the Arifin Achmad Regional General Hospital, Riau Province, which is a government hospital and is the referral center for all district and city hospitals in Riau Province, in this study, many chronic kidney failure patients were found who had suffered for >1 year. Because the patient was referred to Arifin Achmad Regional Hospital when he had been sick for > one year, his illness had to be treated in a hospital with better quality treatment.<sup>30</sup>

### **Health-Related Quality Of Life (HRQoL) In Chronic Kidney Failure Patients**

In Table 2, the frequency of respondents in each EQ-5D-5L domain is obtained. The results of each dimension in the question showed that chronic kidney failure patients had problems in each dimension and level. In the dimension of walking ability, it was found that 60.8% of respondents had no difficulty walking, 23% had little difficulty, 9.4% had moderate difficulty, 2.7% had very difficulty, and 4% had very, very difficulty in walking ability 1%.

These results show that most respondents tend not to have difficulty in the dimension of walking ability. The results of this research follow research conducted by Amaliyah<sup>31</sup> it was found that some respondents did not experience difficulties in mobility or walking ability, amounting to 73 respondents out of a total of 100 respondents with a percentage of 73%. Apart from that, research conducted at Buleleng Hospital, Bali, showed that (69.7%) of respondents did not experience difficulty walking.<sup>32</sup>

The ability to walk influences the treatment therapy the patient undergoes. Dependence on therapy, medication, and medical assistance describes the level of the patient's ability to walk.<sup>17</sup> Most patients do not experience difficulty in walking. This is due to the successful therapy, which is quite effective, and the drugs the patient uses to support the therapy the patient is undergoing.<sup>33</sup> Based on the description above, it can be concluded that the majority of respondents do not have difficulty walking, but there are a small number of respondents who have little to very little difficulty in their ability to walk, so they need the help of other people, sticks, and wheelchairs to walk, and can even only lie in bed.<sup>32</sup>

The second dimension of this research is self-care in bathing and dressing oneself. It was found that 68.9% of respondents had no difficulty in self-care, 18.9% had a little difficulty, 5.4% had quite difficulty and had very difficulty, and 2.7 % were unable to self-care by 4.1%. Based on these results, it can be seen from the dimensions of self-care in the form of bathing and dressing oneself, showing that most respondents tend to have no problems. The results of this research following research conducted by Amaliyah<sup>31</sup>

the results showed that some respondents did not experience difficulties in self-care, amounting to 82 respondents out of a total of 100 respondents with a percentage of 82%, supported by research conducted by Yuliawati<sup>32</sup>. The same results were obtained, namely that the majority of 70.8% of respondents did not have problems in caring for themselves. Likewise, the results of research conducted by Hartini<sup>34</sup> showed that the majority of respondents, 66%, did not experience difficulties in self-care.

Self-care is an activity and initiative carried out by patients to fulfill their life needs. Self-care is a dimension that aims to avoid having to ask for help.<sup>35</sup> This statement is based on the research results obtained, where most respondents said they had no trouble taking care of themselves.<sup>36</sup> Patients who experience difficulty carrying out self-care, such as bathing and dressing themselves, are mostly patients who have problems in the dimension of walking ability and, therefore, require help from the family. This often happens in elderly patients because patients have experienced serious complications due to medical therapy, so caring for themselves, such as bathing and dressing, requires the help of other people for some patients.<sup>37</sup>

The third dimension in this research is the usual activities in the form of work, studying, doing household work, family activities, relaxing, and recreation. It was found that respondents who had no difficulty in carrying out their usual activities were 35.1%, with little difficulty at 39.2%, moderate difficulty at 14.9%, very difficulty at 5.4%, and unable to carry out usual activities at 5.4%. Based on these results, it can be seen that in the dimensions of activities they usually carry out, respondents tend to have a little difficulty in these dimensions.

These results show that most respondents have little difficulty in the dimensions of activities that are usually carried out. The results of this research were conducted by Maulida<sup>38</sup> at the Cibabat Regional Hospital, and the results showed that the majority of respondents, 77.4%, experienced little difficulty carrying out their usual activities.

However, other research found that most respondents did not experience challenges in performing their daily tasks. Research conducted by Yuliawati<sup>32</sup> it was found that some respondents with chronic kidney failure did not experience difficulties in carrying out their usual activities, amounting to 70.8%. Research conducted by Amaliyah<sup>31</sup> the findings indicated that most of the participants had chronic kidney failure, 65 respondents out of a total of 100 respondents with a percentage of 65% of respondents not experiencing difficulties in their usual activities.

The usual activities are daily activities carried out by the patient and have become the patient's habits. However, these activities change due to the patient's illness.<sup>37</sup> Based on the description above, it was found that most respondents had some difficulty carrying out their usual activities such as working, studying, doing household chores, family activities, relaxing, and recreating. This was caused by the decline in the health condition of patients who could no longer complete their usual activities.<sup>31</sup>

The results of interviews with respondents showed that respondents had carried out activities that they usually did before suffering from chronic kidney failure, and these activities continued to be carried out repeatedly. Still, only some respondents experienced problems carrying out their usual activities because they had to be hospitalized at Arifin Achmad Regional Hospital with shortness of breath. There has been a conflict with the disease, and there is a lack of appetite, so he needs an infusion. Apart from that, family activities such as relaxation or recreation are activities where the patient gets support from the family. Family support is really needed by chronic kidney failure patients in facing life after a diagnosis of chronic kidney failure and its treatment so that it can improve the patient's quality of life.<sup>39</sup>

The fourth dimension in this study, namely pain or discomfort, was found by respondents who did not feel pain or discomfort at 21.6%, felt a little pain or discomfort at 52.7%, felt quite painful or uncomfortable at 20.3%, felt very painful or uncomfortable



was 2.7%, and felt very painful or uncomfortable was 2.7%. Based on these results, it can be seen in the dimension of pain or discomfort, showing that most respondents tend to feel a little pain or discomfort in this dimension.

The results of this research are by research conducted by Amaliyah<sup>31</sup> it was found that some respondents felt a little pain or discomfort, amounting to 59 respondents out of a total of 100 respondents with a percentage of 59% of respondents. Similar results were obtained in other research carried out at RSBSA Bandung and RSD Cimahi by Hartini<sup>34</sup> the results showed that most respondents felt a little problematic in the dimension of pain or discomfort, with a percentage of 40%.

It can be concluded that most respondents felt a little pain or discomfort. The majority of patients complain of pain caused by high uric acid levels in the serum due to kidney damage. As is known, gout is a condition resulting from the final metabolism of purines, which can result in joint swelling, excruciating pain, and a burning feeling.<sup>37</sup> Other causes of pain in chronic kidney failure patients are usually a factor in the patient's medical therapy, such as hemodialysis. This is due to the theory that chronic kidney failure patients will experience discomfort, such as muscle pain or cramps during hemodialysis or complications during hemodialysis access, which will have an impact on their quality of life.<sup>38</sup>

The fifth dimension in this study, namely feeling anxious or depressed or sad, was found by respondents who did not feel anxious or depressed or sad at 35.1%, felt slightly anxious or depressed or sad at 40.5%, felt quite anxious or depressed or sad 13.5%, feeling anxious or depressed or sad at 8.2%, and feeling very anxious or depressed or sad at 2.7%. Based on these results, it can be seen in the dimensions of feeling anxious or, depressed or sad showing that most respondents tend to feel a little anxious or depressed or sad in these dimensions.

The results of this research are under research conducted by Amaliyah<sup>31</sup> that some respondents with chronic kidney failure felt a little anxious or depressed, amounting to 52 respondents out of a total of 100 respondents with a percentage of 52%. The results of the research are in line with those carried out by Yuliawati<sup>32</sup> the results showed that 41.8% of respondents experienced slight anxiety or depression. However, other research states that the majority of respondents do not feel anxious or depressed. Research conducted by Maulida<sup>38</sup> found that most respondents did not feel anxious or depressed, with a percentage of 82.3%. Likewise, research conducted at RSUD Dr. Aloi Saboi Gorontalo, the results showed that the majority of respondents, 67%, did not feel anxious or sad.<sup>37</sup>

Based on the description above, it can be concluded that most respondents feel a little anxious or depressed. This is because chronic kidney failure patients have thoughts about the suffering they will experience throughout their life, which gives rise to feelings of anxiety in them.<sup>37</sup> This has a big influence on the physical and psychological changes in chronic kidney failure patients, which have the potential to cause psychological disorders in sufferers, which can be manifested in the form of complaints of depression, anxiety, nervousness, and feelings of uselessness, with family support which is manifested in the form of attention to chronic kidney failure sufferers. And always accompanying you in the treatment process will help the sufferer's health recovery.<sup>39</sup>

### **Utility Value in Chronic Renal Failure Patients**

In the results of this research, the utility values of the EQ-5D-5L and EQ-VAS can be seen in Table 3, where the mean value for each EQ-5D-5L utility value is 0.6235, and the EQ-VAS value is 0.7177. This can be caused by the emergence of the effects of treatment therapy carried out by the patient, thereby affecting the patient's health status. The results of this research are supported by research by Madania,<sup>37</sup> which showed that

the respective utility values of the EQ-5D-5L and EQ-VAS were 0.673 and 71.4, respectively.

However, different results were obtained by Rahmani,<sup>40</sup> which states the utility value of the EQ-5D-3L and the VAS value is 0.65 and 62.29, respectively. The use of different questionnaires could cause this difference in utility values. The EQ-5D-5L questionnaire is more sensitive and precise than the EQ-5D-3L because the EQ-5D-5L has five levels in the assessment of each domain.<sup>8</sup>

In this study, the results of the EQ-5D-5L utility value for one of the patients were (-0.787) and EQ-VAS (0.4), where these results indicated that the patient's health condition was approaching death, caused by the patient's kidney function having decreased by 10 % of normal. The Glomerular Filtration Rate (GFR) decreased to <15 of normal. The patient's health is also decreasing due to the conflict between chronic kidney failure and the patient's comorbidities. The condition of the kidneys, which are no longer able to remove and filter the body's electrolytes, results in the condition getting worse so that the patient can only lie down and cannot carry out activities that could improve the patient's condition.<sup>37</sup>

The EQ-5D-5L and EQ-VAS have differences in assessment. Namely, the EQ-5D-5L consists of 5 dimensions with five levels of answers, ranging from no problems to very serious problems. The EQ-5D-5L utility index range is between 0 (very poor health condition equivalent to death) and 1 (very good health condition).<sup>8</sup> Furthermore, the Visual Analog Scale (EQ-VAS) can be used to assess the health status of respondents using a 20 cm vertical scale. The EQ-VAS assessment is based on respondents' answers regarding their health condition with a score range of 0 (worst health or equivalent to death) to 100 (best health condition).<sup>41</sup> There is no difference in the average EQ-5D-5L and EQ-VAS scores in this study, where the EQ-5D-5L and EQ-VAS quality of life scores should be the same.

## Conclusion

Based on research conducted on Health-Related Quality of Life (HRQoL) in patients with chronic kidney failure at Arifin Achmad Hospital, Riau Province, it was found that chronic kidney failure affects health-related quality of life, with average utility values of EQ-5D-5L and VAS of 0.6235 and 0.7177, respectively. The most frequently reported health problems were pain or discomfort (52.7%) and anxiety or depression (40.5%).

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