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ANXIETY AND QUALITY OF LIFE KIDNEY FAILURE PATIENTS UNDERGOING HEMODIALYSIS

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ABSTRAK
Gagal ginjal kronik masih merupakan masalah yang mendapat perhatian baik di dunia maupun di Indonesia. Hal ini berkaitan dengan peningkatan prevalensi yang utamanya didorong oleh peningkatan diabetes melitus, hipertensi, kegemukan dan ketuaan, meskipun ada faktor lainnya yang akan mempengaruhi seperti infeksi, racun, daun-daunan dan lingkungan. Pasien memerlukan pilihan terapi pengganti ginjal untuk mempertahankan kelangsungan hidupnya. Pasien memilih upaya untuk mempertahankan kondisinya terutama dengan menggunakan terapi hemodialisis. Hal ini berkaitan dengan kebermanfaatan pelayanan hemodialisis, biaya dan hasil yang diharapkan. Kecenderungan pasien gagal ginjal kronik yang menjalani terapi ini mengalami kualitas hidup yang rendah. Salah satu faktor yang mungkin berhubungan adalah kecemasan. Tujuan penelitian ini adalah menganalisis hubungan kecemasan dengan kualitas hidup pada pasien gagal ginjal kronik yang menjalani hemodialisis di RS Dr. Pirngadi Medan. Penelitian ini menggunakan metode analitik korelasi dengan desain *cross sectional*. Sampel berjumlah 44 orang dengan teknik pengambilan sampel adalah *purposive sampling*. Instrumen penelitian menggunakan kuesioner HAR-S untuk mengukur tingkat kecemasan sebanyak 14 pertanyaan, serta WHOQOL-BREF untuk mengukur kualitas hidup sebanyak 26 pertanyaan. Data dianalisis menggunakan uji Chi-Square. Hasil penelitian menunjukkan tingkat kecemasan cenderung berat sebanyak 50,0% dan kualitas hidup cenderung buruk 63,6% dan p-value = 0,0001. Dapat disimpulkan bahwa terdapat hubungan antara tingkat kecemasan dengan kualitas hidup pasien gagal ginjal kronik yang menjalani hemodialisis.

Kata kunci : Kecemasan, kualitas hidup, pasien gagal ginjal yang menjalani hemodialisis

ABSTRACT
Chronic kidney failure is still a problem that receives attention both in the world and in Indonesia. It is related to the increase in prevalence mainly driven by increases in diabetes mellitus, hypertension, obesity, old age, and other factors influenced by infections, toxins, leaves, and the environment. Patients require renal replacement therapy options to maintain their survival. The patient chooses efforts to defend his condition, especially by using hemodialysis therapy. It relates to the usefulness of hemodialysis services, costs, and expected results. There is a tendency for chronic kidney failure patients who undergo this therapy to experience a low quality of life. One factor that may be related is anxiety. This study aimed to analyze the relationship between anxiety and quality of life in chronic kidney failure patients undergoing hemodialysis at Pirngadi Hospital, Medan. This research uses a correlation analytical method with a cross-sectional design. The sample consisted of 44 people using purposive sampling. The research instrument uses the HAR-S questionnaire to measure anxiety levels with fourteen questions *and the WHOQOL-BREF to measure the quality of life with 26 questions. Data were analyzed using the Chi-Square test. The results showed that the level of anxiety tended to be severe by 50.0%, the quality of life tended to be poor by 63.6%, and the p-value = 0.0001. We can conclude that there is a relationship between the level of anxiety and the quality of life of chronic kidney failure patients undergoing hemodialysis.*

Keywords *: anxiety, quality of life, kidney failures patients undergoing hemodialysis*

INTRODUCTION
Chronic kidney failure is a public health problem that is still a global issue and also in Indonesia. Experts estimate that the prevalence of chronic kidney failure in the world is 13.4%

(11.7-15.1%). Patients requiring kidney replacement therapy are estimated to number between 4,902 and 7,083 million people. The causes of the increase in this disease were the increasing prevalence of diabetes mellitus, hypertension, obesity, and aging. However, in several other areas, there are still other causes by infections, toxins, plants, and the environment (Lv,J-C,Zhang, 2019).

The prevalence of chronic kidney failure in Indonesia has increased significantly from 2013 to 2018. In 2013, there was an increase in the disease by 0,2 %, and an increase of 0,38 % in 2018. The same thing also happened in North Sumatra, where there was an increase in the disease by 2013, by 0,2 % and an increase of 0,33 % in 2018 (Badan Penelitian dan Pengembangan Kesehatan,Kemenkes RI.2013)(Tim Riskesdas 2018Badan Penelitian dan Pengembangan Kesehatan.Kemenkes RI., 2019).

The progression of this disease is usually slow and can last for several years. It can categorized as kidney failure within 5 degrees, the first with a GFR >90ml/min, the second with a GFR of 60-89 ml/min, the third with a GFR of 30-59 ml/min), the fourth with a GFR of 15-29 ml/min), and the fifth GFR <15ml/min (Siregar,C,T., 2020). In order to maintain life, renal replacement therapy is required. It can be hemodialysis therapy, peritoneal dialysis, and kidney transplantation (Kharbanda,K.,Iyasere,O.,Caskey,F.,Marlais,M.,Mitra,S., 2021). Dialysis is the more common method of treating this condition (Thurlow,J,S.,Joshi,M.,Yan,G.,Norris,K,C.,Agodoa,L,Y.,Yuan,C,M.,Nee,R., 2021). Peritoneal therapy can be recommended for young, want to do activities and prioritize patients who live far from the center kidney don't have dialysis machine. Other indications may be offered in patients with heart disease, stroke and diabetic kidney (Rasyid,H., 2017). Hemodialysis was the more frequently used therapy, from 89% of individuals who use dialysis, about 69% comes from the use of hemodialysis therapy. This was due to the availability of HD services, access and costs and outcomes that always vary across countries, especially among low-income populations (Bello,A,K.,Okpechi,I,G., Osman,M,A.,CHo,Y.,Htay,H.,Jha,V.,Wainstein,M.,Johnson,D,W., 2022)

Chronic renal failure patients on hemodialysis tend to experience a low quality of life (Joshi,U.,Subedi,R.,Paudel,P.,Ghimire,P,R.,Panta,S.,Sigdel,M,R., 2017)(Al Salmi,I.,Kambie,P.,Lazarus,E,R.,D'Sauza,M,S.,Al Maiman,Y.,Hannawi, 2021).

Quality of life is a person's view of one's place in life in the value system and cultural context in which that person lives and its relevance to his expectations, standards, goals, and concerns. It consists of physical, and psychological, levels of independence, relationships with other people, and the environment (WHO., 2012).

The descriptions of the physical dimensions of CKD patients with HD that most often occur include fatigue/lack of energy, muscle cramps, and bone/joint pain (Hintistan,S.,Deniz,A., 2018). While the psychological dimension includes not much enjoy life, feel a little bit of meaning in life, less able to concentrate, accept little about their appearance, are dissatisfied with themselves, and often have negative feelings (Suwanti.,Taufikurrahman,Rosyidi,M,I.,Wakhid,A., 2017).

On the other hand, independence is at a low level (Dhia,D.,Al-Baghdad,H.,Al Kassar,R,A,H., 2018). Elderly patients can experience poor support from family and society, as the financial burdens eventually leave them in a state of loneliness and a bad mood. In general, these patients experience lower social relationships and an unsatisfactory sexual life (Joshi,U.,Subedi,R.,Paudel,P.,Ghimire,P,R.,Panta,S.,Sigdel,M,R., 2017).

In general, the environmental dimension is good. However, respondents can feel that their presence is in their place of live and work is less needed because it does not work and can be considered not to have the ability to activity dan also in terms of opinion (Suwanti.,Taufikurrahman,Rosyidi,M,I.,Wakhid,A., 2017). One of the factors that may be associated with decreased quality of life is anxiety

(Wilmer,M,T.,Anderson,K.,Reynolds,M.,2021)(Raknas,S.,Pallesen,S.,Himle,J,A.,Bjaastad,J, F.,Wergeland,G,J.,Hoffart,A.,Dyregrov, K.,Haland,A,T.,Haugland,B,S,M., 2017). Previous studies have shown a relationship between anxiety and medical areas of human life. This is based on findings relating to slower health recovery. Anxiety triggers sedentary behavior and has been shown to have a strong negative effect on health. In another study, it was also found that there was an inverse or direct correlation between pessimistic or optimistic orientation in life and level of anxiety experienced (Nechita,D.,Nechita,F.,Motorga,R., 2018).

Patients with chronic kidney failure who undergo hemodialysis showed that the mental illness or mental problems experienced by the patient were as significant as the medical condition they were undergoing (Kimmel & Cukor, 2019). Anxiety is a psychiatric problem that commonly occurs in chronic kidney disease patients undergoing hemodialysis (Cohen, Cukor, & Kimmel, 2016), (Goh & Griva, 2018),(Al-Shammari et al., 2021). Patients often experiencing ignore it in daily practice. Characteristics of anxiety include feelings of uncertainty, very high levels of fear, and fear. Physical manifestations include heart palpitations, trembling extremities, indigestion, tingling sensation, nervousness, shortness of breath, excessive sweating, and expressions of fear (Cohen et al., 2016). Anxiety in chronic kidney failure patients undergoing hemodialysis can result in increased fatigue (Sulistni, Damanik, & Lukman, 2021). Based on a systematic review, it shows that anxiety symptoms show a significant increase from existing research, and there is an increase in anxiety between before hemodialysis and those currently undergoing hemodialysis, although it is not statistically different (Huang et al., 2021). Increased anxiety in chronic kidney failure patients undergoing hemodialysis has a negative correlation with their quality of life (Ottaviani et al., 2016). There was around 36% influence of anxiety symptoms on decreasing the quality of life of chronic kidney failure patients undergoing hemodialysis (Antari & Widyanthari, 2020). Anxiety conditions were associated with all-cause mortality in these patients after one year of hemodialysis (Schouten et al., 2019). The risk of hospitalization and death usually causes anxiety in the somatic stage (Schouten et al., 2020).

A preliminary survey has been carried out at Dr. Pirngadi General Hospital Medan and found 8039 CKD patients. Researchers also found that some patients who underwent hemodialysis had poor quality of life and experienced anxiety. The purpose of this study was to analyze the relationship between anxiety and quality of life of patients with chronic renal failure undergoing hemodialysis.

METHOD

This type of research was correlation analysis with a cross-sectional approach. The population in this study were all patients with chronic renal failure undergoing hemodialysis at Dr. Pirngadi General Hospital, Medan. The sample was measured using the Slovin formula and obtained 44 respondents with purposive sampling as a participant determination technique. This study used an anxiety instrument from HARS with 14 questions, and the WHOQOL-BREF consisted of 26 questions. These instruments were standard scales and were tested for validity and reliability. This study was ethically feasible with number 01.0859/KEPK/POLTEKKES KEMENKES MEDAN 2022. This research analyzed data using a chi-square test through IBM SPSS.

RESULT

The study was conducted from June to July 2022 with 44 participants. We can see in Tables 1 to 3. Table 1 showed the majority of chronic kidney failure patients undergoing hemodialysis experienced severe anxiety in 22 respondents (50.0%).

Table 1. Frequency Distribution of Quality of Life of Chronic Kidney Failure with Hemodialysis Respondents

Anxiety	Frequency	Percentage
Mild	6	13,6%
Moderate	7	15,9%
Severe	22	50,0%
Very Heavy	9	20,5%
Total	**44**	**100.0%**

Table 2. Frequency Distribution of Quality of Life of Chronic Kidney Failure with Hemodialysis Respondents

Quality of Life	Frequency	Percentage
Good	16	36,4%
Bad	28	63,6%
Total	**44**	**100,0%**

Table 2 showed that most patients have poor quality of life in 28 respondents (63.6%).

Table 3. Anxiety and Quality of Life of Chronic Kidney Failure with Hemodialysis

Anxiety	Quality of Life				Total		*P - value*
	Good		Bad		N	%	
	n	%	n	%			
Mild	5	11,4	1	2,3	6	13,6	
Moderate	6	13,6	1	2,3	7	15,9	0.0001
Severe	4	9,1	18	40,9	22	50,0	
Very Heavy	1	2,3	8	18,2	9	20,5	
	16	36,4	28	63,6	44	100,0	

Table 3 showed the highest quality of life in chronic kidney disease undergoing hemodialysis is in severe anxiety in 18 respondents (40.9%). The chi-square test obtained a p-value of 0.0001, so we can conclude that there is a significant relationship between anxiety and the quality of chronic kidney failure patients undergoing hemodialysis.

DISCUSSION

Studies showed that the anxiety levels of chronic kidney failure patients in the severe and very severe categories are higher than those in the moderate and mild. One of the most common disorders in patients with chronic kidney failure undergoing hemodialysis is anxiety(Rahman & Rangga Pradido, 2020). Previous studies regarding the highest level of anxiety in chronic kidney failure patients undergoing hemodialysis produced various percentages. There was a study that states patient anxiety is between moderate and severe anxiety(Shafi & Shafi, 2017). Another study explained that the group of patients with the most number was severe, followed by moderate and the least mild (Kao, Lee, Wang, & Chen, 2019).

This difference occurs because various risk factors can cause patient anxiety. One study stated that several risk factors for high patient anxiety were women and a history of consuming alcohol (Hou et al., 2014). Some of the patient's risk factor based on other previous studies are family support, socioeconomic factors, and comorbidities (Rahman & Rangga Pradido, 2020).

Studies showed that the quality of life of chronic kidney failure patients undergoing hemodialysis tends to be poor. The quality of life of chronic renal failure patients who were on hemodialysis was in the low category for every physical, psychological, social, and

environmental dimension (Joshi et al., 2017). Some of the quality of life problems from the physical dimension in patients with chronic kidney failure are anemia, metabolic acidosis, bone and mineral disorders, and heart problems (Chen, Knicely, & Grams, 2019). Quality of life from a psychological and social perspective often causes feelings of anxiety, depression, and low social support (McKercher et al., 2013).

However, there were also chronic kidney failure patients with hemodialysis who had a good quality of life. In previous studies, the majority of patients with chronic kidney failure who underwent hemodialysis had a good quality of life. One of the factors that can improve the quality of life if the patient can improve the ability to carry out daily activities (Rini, Rahmayani, Sari, & Lestari, 2021). Studies showed that the majority of the quality of life of chronic kidney failure patients who undergo poor hemodialysis is in severe anxiety by 40.9%. The correlation test supported by chi-square and obtained a p-value of 0.0001. Anxiety in chronic kidney failure patients undergoing hemodialysis will prolong the occurrence of physical and cognitive impairments suffered by patients and will have a significant impact on decreasing their quality of life (Vasilopoulou et al., 2015).

On the other hand, some patients have a poor quality of life but have mild and moderate anxiety in small percentage. It means that other factors that can reduce the quality of life in patients with chronic kidney failure undergoing hemodialysis. These factors were not getting formal education, being female, not having a place to live, having co-morbidities, using drugs for a long time, and elderly patients (Zyoud et al., 2016). Because there is a relationship between anxiety and the quality of life of chronic kidney failure patients undergoing hemodialysis, it is necessary to improve the quality of life of patients wih managing anxious condition through providing psychotherapy (Cohen et al., 2016).

One psychotherapy is psychoeducation, which nurses can offer to these patients. This intervention is three one-hour group educational sessions held every two days. The educational themes in the three sessions are an overview of anatomy, pathophysiology, causes and advantages and disadvantages of types of kidney failure treatment, dialysis mechanisms, patient care with dialysis, problem-solving skills, stress management, human adaptive responses to dialysis and muscle relaxation (Espahbodi, Hosseini, Mirzade, & Shafaat, 2015).

Other psychotherapies are cognitive and narrative interventions that can stimulate a deeper analysis of the issues discussed by chronic kidney failure clients undergoing hemodialysis (Bargiel-Matusiewicz, Łyś, & Stelmachowska, 2019), mindfulness-based cognitive therapy (Khoshkhatti, Majd, Bazzazian, & Yazdinezhad, 2020), cognitive behavioral therapy (Valsaraj, Shripathy M. Bhat, & Latha, 2016), (Lerma et al., 2016), (Ng et al., 2019), (Haghshenas, Assarian, Omidi, Razaghof, & Rahimi, 2019), Benson relaxation training was implemented in the intervention group for 15 minutes twice a day for four weeks (Gorji, Davanloo, & Heidarigorji, 2014).

Hope therapy is also a type of psychotherapy that nurses can offer to patients who experience anxiety due to undergoing hemodialysis. This therapy includes seven sessions, the first is to introduce oneself and communicate the structure of the therapy session, the second is to discuss the development of hope and its influence and the role of problem solving on psychological conditions including anxiety, the third session is to examine and identify the client's hope and help develop the client's problem solving method, the fourth session is to detect success client cases related to hopes in their lives, the fifth session gives the client the opportunity to state recent life experiences that are felt to be necessary and give rise to satisfaction, the sixth session helps the client set goals in each domain of life and helps overcome existing obstacles, the seventh session asks the client to find strategies the right way to achieve goals, teaching clients to find simple ways or backup ways to achieve goals, educating clients to be able to determine their own goals and overcome obstacles that occur (Rahimipour, Shahgholian, & Yazdani, 2015).

Nurses can also offer exercise programs to anxious patients undergoing hemodialysis. This program consists of a bicycle ergometer, treadmill, or upper limb ergometer, 60 minutes per session, three times a week, for 12 weeks, will improve psychological status, namely reducing anxious condition and depression and improving the quality of life of hemodialysis patients on long-term maintenance (Suh, Jung, Kim, Park, & Yang, 2002). Another training program is the Fordyce Happiness Training, carried out in 6 sessions of 20 minutes (1 session per week), and the content of the sessions comes from Fordyce studies. This program has two dimensions, that is cognitive and behavioral. The cognitive consists of group discussions, and the person uses the behavioral consists of the actions to achieve happiness. The Fordyce Happiness Training Program has 14 principles (6 behavioral and eight cognitive). The Fordyce Happiness Training Program can reduce stress, anxiety, and depression in patients on hemodialysis (Mehrabi, Ghazavi, & Shahgholian, 2017).

The nurse can offer aromatherapy to anxious patients undergoing hemodialysis because it can reduce some hemodialysis complications and improve the patient's quality of life (Bouya, Ahmadidarehsima, Badakhsh, Balouchi, & Koochakzai, 2018). Several types of aromatherapy can use to reduce anxiety in hemodialysis patients. Inhalation aromatherapy using damask rose oil can decrease depression, anxiety, and stress in hemodialysis patients (Dehkordi, Tayebi, Ebadi, Sahraei, & Einollahi, 2017). Lavender aromatherapy can be applied as an effective nursing intervention to reduce anxiety and fatigue in patients with chronic kidney failure and undergoing hemodialysis treatment (Karadag & Samancioglu Baglama, 2019).

CONCLUSION

There was a relationship between anxiety and the quality of life of chronic kidney failure patients undergoing hemodialysis. Recommended the need to improve the quality of life of patients by managing anxiety by providing psychotherapy, referral to mental health professionals, and cooperation in provided pharmacotherapy

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