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Coping mechanism with anxiety levels in chronic kidney disease patients undergoing hemodialysis at Toto Kabila Hospital

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Abstract--Chronic kidney disease is a progressive and irreversible renal disorder in which the body fails to maintain metabolism, balance, and electrolytes. Patients with such a disease should undergo regular hemodialysis therapy, leading to physical and psychological problems, i.e., anxiety. Inappropriately treated anxiety will cause the patients to not stick to the dietary pattern, hemodialysis, and infantilism. They need to strive to deal with their problems, known as a coping mechanism. The purpose of this study was to determine the correlation between coping mechanisms and anxiety levels of patients with chronic kidney disease that underwent hemodialysis at Toto Kabila Regional Public Hospital. It relied on a quantitative method with the cross-sectional approach. A total of 30 respondents were taken as the sample using the purposive sampling technique. Moreover, the Somers'D test with a questionnaire instrument was applied to analyze the data. It was shown that coping mechanisms correlated with anxiety levels of patients with chronic kidney disease who underwent hemodialysis therapy (p-Value = 0.005) in the site area.

Keywords---hemodialysis, coping mechanism, anxiety.

Introduction

Chronic kidney disease (CKD) is currently recognized as one of the most common diseases drawing the world's attention, including in Indonesia. (Kamil, 2018) CKD is a condition where the kidneys are damaged and cannot filter blood as well as they should (CDC, 2022). According to World Kidney Day in 2017, one in ten people worldwide suffered from this disease (Ariyanti, 2020). The data from the Ministry of Health, Indonesia, mentioned that the prevalence of chronic kidney disease was 2% of the total population or approximately 499,800 people (Ministry of Health of the Republic of Indonesia, 2018). Next, the World Health Organization (WHO) data showed that people suffering from chronic kidney disease in 2013 increased by 50% from the previous year (Bayhakki, 2017). Basic Health Research (known as Riskesdas in Indonesia) in 2018 also found that chronic kidney disease in Indonesia increased by 0.38% or approximately 739,208 people. In 2019, 447 people suffered from kidney failure (Health Office of Gorontalo Province).

The tendency of the increasing number of kidney failure patients is viewed from the growing number of patients who undergo dialysis (on average, 250 people per year). Indonesian Renal Registry (2018) also showed that there were 66,433 new patients undergoing hemodialysis. The management provided to the patients with chronic kidney failure is diet and medical therapy. The patients also need renal replacement therapy as the only option to maintain the existing kidneys' functions and prolong their lives. The frequently done renal replacement therapies include kidney transplants, peritoneal dialysis, and hemodialysis (Kusyati, 2018).

Hemodialysis is among the therapies to replace kidneys' functions by using a tool to remove uremic toxins and regulate electrolytes. The treatment also serves to improve the life quality of the patients with chronic kidney failure (Infodatin, 2017). Patients suffering from chronic kidney failure will experience anxiety. Anxiety refers to a vague concern related to uncertain feelings (Kusyati, 2018). It is an unpleasant emotional state characterized by fear and physical symptoms of stress (Yanti & Miswadi, 2018). Yanti (2018) argues that each individual has their own ways or responses to deal with a stressor; they may use coping mechanisms required to manage anxiety or threatening situations. One can apply adaptive and maladaptive coping mechanisms.

A coping mechanism is employed to solve problems, adjust oneself to changes, and respond to situations one faces (Kusyati, 2018). Adaptive coping mechanism leads the patients to behave constructively. This process involves looking for more information on the problem encountered and being able to cope with a stressor. On the other hand, maladaptive coping mechanism leads the patients to deviant behavior, running away from problems, and self-injury (Kusyati, 2018). The preliminary study at the Hemodialysis Unit in Toto Kabila Regional Public Hospital indicated that 55 patients with chronic kidney disease underwent hemodialysis therapy in 2020. The interview result with five patients undergoing hemodialysis showed that three of them felt anxious, afraid, found it hard to make a decision, looked nervous and worried during the interview. They could not accept their situations and tended to blame themselves for failing to maintain good health. The other two patients were not anxious, remained calm during the

interview, felt good enough with their conditions, took up hemodialysis as the only therapy for their recovery, and got closer to God. Drawing upon the above rationale and observation result, this research was conducted to dive deeper into the correlation between coping mechanisms and anxiety levels of patients with chronic kidney disease who undergo hemodialysis therapy in the aforementioned hospital.

Method

The present study was conducted in the hemodialysis unit of Toto Kabila Regional Public Hospital from July 15, 2021, to July 28, 2021. It applied a descriptive correlation design with the cross-sectional approach. In addition, the sample (patients of chronic kidney disease undergoing hemodialysis in the site area) was selected using purposive sampling. The data were collected from a questionnaire regarding coping mechanisms and anxiety levels.

Discussion

Results

Univariate Analysis

a. Distribution of Respondents Based on Family Support

No	Coping Mechanisms	n	%
1	Maladaptive	9	30
2	Adaptive	21	70
	Total	30	100

Source: Primary Data

The majority of respondents (21 respondents or 70%) apply adaptive coping mechanism. The remaining nine respondents (30%) rely on the maladaptive one.

b. Distribution of Respondents Based on Anxiety Level

No	Anxiety Levels	N	%
1	Mild Anxiety	18	60
2	Moderate Anxiety	7	23.3
3	Severe Anxiety	5	16.7
	Total	30	100

Source: Primary Data

Most respondents (18 respondents or 60%) experience a mild level of anxiety, followed by a moderate level of anxiety (seven respondents or 23.3%) and severe anxiety (six respondents or 16.7%).

Bivariate Analysis

Coping Mechanism	Anxiety Level						Total		<i>p-Value</i>
	Mild		Moderate		Severe				
	N	%	N	%	N	%	N	%	
Maladaptive	2	6.7	4	13.	3	10	9	30	0.005
Adaptive	16	53.3	3	10	2	6.7	2	70	
Total	18	60	7	23.3	5	16.7	3	100	

Source: Primary Data

Distribution of the analysis of the correlation between coping mechanisms and anxiety levels of patients with chronic kidney disease who undergo hemodialysis therapy at Toto Kabila Regional Public Hospital. The Somers'D statistical test obtained the $p\text{-Value} = 0.005 < \alpha = 0.05$, so that H_0 is rejected. Therefore, the coping mechanisms and anxiety levels of patients with chronic kidney disease that undergo hemodialysis in the site area are correlated.

Coping mechanisms of patients with chronic kidney disease undergoing hemodialysis therapy at Toto Kabila Regional Public Hospital

Out of 30 respondents suffering from chronic kidney disease, 21 respondents (70%) employ adaptive coping mechanism and nine respondents (30%) use maladaptive coping mechanism. Accordingly, most respondents have an adaptive or good coping mechanism. Such findings are consistent with the study by (Pratama 2020) on coping mechanisms of patients with chronic kidney disease undergoing hemodialysis therapy. It discovers that the majority of respondents (74.5%) rely on the adaptive coping mechanism.

This research also shows that many respondents (70%) use adaptive coping mechanism. It is because they can express their feelings during this situation, be very open, ask others for help, solve their problems, and accept their situations. An adaptive coping mechanism is proven by respondents' answers in the research questionnaire about coping mechanism. Most patients with adaptive coping mechanism state that they take hemodialysis as the sole therapy to get them recovered. They always talk about their problems during the therapy to health workers, get help and full support from their family members, feel good enough with and accept their conditions. Besides, the patients try to enjoy and keep relaxed during the hemodialysis therapy, as well as get closer to God.

The most common coping mechanism the patients use is the constructive adaptive mechanism as an effective and realistic way to resolve psychological problems for a long period of time. The mechanism involves talking with other people, e.g., friends, family, or professionals, regarding their problems, finding more information on the problems, and solving them. In contrast, maladaptive coping mechanism leads patients with chronic kidney disease who undergo hemodialysis therapy to deviant behavior, such as grumpy, irritable, disoriented, withdrawn, and unable to overcome problems. The coping mechanism itself refers

to an effort to manage stress, i.e., a way to overcome issues with a defense mechanism for self-protection (Stuart, 2012).

Asmadi (2017) opines that coping mechanisms will be effective if strengthened by self-confidence or support from family members, relatives, health workers, and other hemodialysis patients. Next, Stuart (2012) points out that one of the coping mechanism sources is social support that is able to help individuals solve problems. Coping mechanisms are formed through learning and remembering processes. The learning process refers to the ability to adapt to internal and external factors. If the coping mechanism is successful, the person can adapt to changes (Suliswati, 2015).

According to Kusyati (2018), coping mechanisms of patients who take hemodialysis therapy are influenced by several factors, namely age, education, personality, social support, financial situation, and disease progression. The present work's factors contributing to the coping mechanisms following the respondents' demographic characteristics are age and education. Respondents employing adaptive coping mechanism are mostly middle-aged adults (46-55 years) and graduate from senior high school. Those with maladaptive coping mechanism are also middle-aged adults (46-55 years), yet graduating from elementary school.

Patients suffering from chronic kidney disease who undergo hemodialysis therapy will generally experience emotional turmoil characterized by rejecting the diagnosis. Such turmoil causes them to need more time to agree to take hemodialysis therapy as the required treatment for patients with chronic kidney disease. Every person has different coping mechanisms for dealing with a stressor, e.g., improving spirituality, remembering the family for serenity, enjoying the situation, and keeping oneself busy with activities (Hidayati, 2012).

The Correlation between Coping Mechanisms and Anxiety Levels of Patients with Chronic Kidney Disease who Undergo Hemodialysis Therapy at Toto Kabila Regional Public Hospital

The Somers'D statistical test obtained the $p\text{-Value} = 0.005 < \alpha = 0.05$, so that H_0 is rejected. Hence, there is a correlation between coping mechanisms and anxiety levels of patients with chronic kidney disease that undergo hemodialysis in the research area. This research has found that the majority of respondents (18 respondents) are in a mild level of anxiety (60%) due to their good coping mechanism, in which 21 respondents (70%) apply the adaptive coping mechanism. Widiyati (2016) notes that coping mechanisms play a significant role in the anxiety management of patients undergoing hemodialysis therapy. The mechanisms take part in dealing with a stressor leading to anxiety that can worsen the patients' psychological conditions.

This is in line with Stuart's theory about coping mechanisms and anxiety levels. The well-used source of coping can help patients with chronic kidney disease develop adaptive coping mechanisms. As a result, those who take hemodialysis therapy can cope with mild, moderate, and severe anxiety. The more severe the anxiety is, the worse the applied coping mechanism will be (Smeltzer, 2013). In

this study, two respondents have severe anxiety, yet rely on the adaptive coping mechanism; this is affected by age and education factors. Age relates to one's experience in coping mechanisms; the older one is, the more experienced s/he will be in employing coping mechanisms according to the situation (Mutoharoh, 2012). Notoatmodjo (2013) states that the higher education level a person has, the more opportunities s/he will get for new insights to maintain their health. The findings also indicate that the patients have not accepted their conditions and are unconfident. Some theories strengthening this research assume that two respondents experiencing severe anxiety, yet applying adaptive mechanism coping, are middle-aged adults with a good level of education. For this reason, they have more experiences and insights into coping mechanisms to maintain their health.

Additionally, two respondents have a mild level of anxiety with a maladaptive coping mechanism. The patients state they lack family support and always hide their sadness. They cannot express their feelings to others and accept their situations. This is influenced by gender and hemodialysis duration. Gender has something to do with one's sensitivity towards emotions, in compliance with Myres' theory that women get anxious more easily than men. Men are more active and explorative; conversely, women are more sensitive. Compared to women who panic a lot, men are more likely to stay calm when dealing with problems. This affects how people choose coping mechanisms for solving problems (Hawari, 2011). Wahyuni (2019) argues that hemodialysis duration correlates with the patients' life qualities, particularly those who undergo the therapy in less than one year. They are not ready to accept and adapt to their life changes, i.e., inability, dependence on other people, and treatment cost, that will interfere with their normal activities. These issues will impact spiritual, psychological, social, and family aspects, and further on the physical, cognitive, and emotional aspects of the patients. Social support is essential, especially in handling unusual problems, including serious illnesses. Social and family supports can improve the respondents' coping mechanisms. Once the patients get social support from their surroundings, it will affect their thoughts about choosing a proper coping mechanism to resolve problems (Kusyati, 2018).

Conclusion

- 1) Compared to the maladaptive coping mechanism, the majority of the 30 patients with chronic kidney disease who undergo hemodialysis therapy at Toto Kabila Regional Public Hospital rely on the adaptive coping mechanism.
- 2) Most patients with the disease mentioned above that take hemodialysis therapy experience a mild level of anxiety.
- 3) Coping mechanisms significantly correlate with anxiety levels with a strong and negative correlation, meaning that the better or the more adaptive the coping mechanism, the milder the respondents' anxiety level.

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