

Conference Paper

Path Analysis of the Factors Affecting the Quality of Life of Chronic Kidney Failure Patients Receiving Hemodialysis

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Abstract.

Patients undergoing hemodialysis for chronic kidney failure will experience physical and psychosocial changes that affect their physical, psychological, social, and economic quality of life. Several factors can affect the quality of life of patients with chronic kidney failure, including self-management, self-efficacy, and religiosity. This study aimed to determine the effects of religiosity, self-efficacy, and self-management on the quality of life of hemodialysis patients with chronic kidney failure. This research is a correlational study. The sample size was 71, and the sampling strategy was total sampling. The instrument employs the KDQoL to assess the quality of life, the general self-efficacy (GSE) questionnaire to assess self-efficacy, the hemodialysis self-management instrument (HDSMI) to assess self-management, and the Duke University Religion Index to assess religious affiliation (DUREL). Utilizing path analysis for statistical analysis. Results indicated that the mean and standard deviation of quality of life was 62.76 (8.36), self-management was 51.56 (5.64), self-efficacy was 71.11 (8.44), and religiosity was 21.02. (2.78). Self-management ($b = 0.280$, $p = 0.006$), self-efficacy ($b = 0.270$, $p = 0.013$), and religiosity ($b = 0.425$, $p = 0.000$) have a direct influence on the quality of life. Religiosity indirectly influences the quality of life via self-efficacy and self-management. Through self-management, self-efficacy has an indirect effect on the quality of life. The conclusion is that religiosity, self-efficacy, and self-management can enhance the quality of life for patients with chronic kidney failure. In order for the hospital to improve the patient's quality of life, intensive education concerning the three variables is therefore anticipated.

Keywords: quality of life, religiosity, self-management, self-efficacy

1. Introduction

Indonesia is one of the nations with chronic disease-related problems. According to data from the World Health Organization (WHO), Indonesia is the third country in the 21st century with the highest prevalence of chronic diseases, including chronic kidney

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Published 4 August 2023

Publishing services provided by
Knowledge E

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Selection and Peer-review under the responsibility of the ICHSSSE Conference Committee.



failure (1). WHO (2019) reported that chronic diseases cause approximately 2 million deaths, 19 million disabilities, and 18 million annual deaths, of which approximately 1.2 million are due to kidney failure. which has increased by approximately 32% since 2005 (3).

Chronic kidney failure is a pathophysiological process that manifests as a decrease in kidney function and can cause disturbances in various organs of the body due to the kidneys' inability to excrete urea, a toxin that can damage all cells in the body, including neurons. Smeltzer & Bare (2010), chronic kidney failure is a progressive and irreversible disorder that causes kidney problems in which the kidneys are unable to perform their normal regulatory functions, namely the removal of metabolic waste from the body (5).

The number of patients with chronic kidney failure has increased annually. According to information from WHO (2016), chronic kidney failure has the 20th highest mortality rate in the world. In addition, chronic kidney failure affects 10% of the global population and is projected to increase by 8% annually (7). Indonesia is one of the countries that contribute to the extremely high number of patients with kidney failure. According to information contained in the 10th Annual Report of the Indonesian Renal Registry, there were 22,446 new cases and 52,835 active patients undergoing hemodialysis in 2016. In 2017, there were 30,831 new cases and 77,892 hemodialysis patients who were actively receiving treatment (8).

A hemodialysis is a form of treatment that patients with chronic kidney failure can use to sustain their lives. Hemodialysis is a treatment (replacement treatment) performed to replace kidney function with a dialyzer/rlled a dialyzer so that substances dissolved in the patient's blood are transferred into the dialysis fluid or vice versa (9). Long-term hemodialysis therapy is a necessary treatment for patients with chronic kidney failure. It can even be performed forever (7).

For patients with chronic kidney failure, hemodialysis therapy has several life-sustaining benefits. Individuals will also experience changes in their diet, drug administration, and daily activities, all of which have the potential to affect their emotions (9,10). In addition, Georgianni et al (2014), describe the physical effects, such as anemia, pain, and bone disorders, and the psychosocial effects, such as depression, disease resistance, anxiety, low self-esteem, social isolation, impaired body image, fear, disability, job loss, and financial issues (12). The emergence of diverse clinical manifestations from the physical, psychological, and social aspects of hemodialysis patients with chronic kidney failure can impact their quality of life. This can lead to a decrease in the quality of life

for patients with chronic kidney failure undergoing hemodialysis if it is not addressed promptly and appropriately (13).

According to WHO (1996), quality of life is a perception held by individuals in the context of the surrounding culture and norms and is related to their goals, expectations, standards, and concerns. Physical, psychological, social, and environmental factors can be used to determine a person's quality of life (14,15). In the process, the quality of life of patients with chronic kidney failure is influenced by various factors. Various factors, such as self-efficacy, self-management, and religiosity, can influence the quality of life of patients (16,17).

Self-efficacy is an individual's perception of their confidence in themselves and their capacity to carry out their duties and responsibilities. It is also believed that self-efficacy is a key factor in an individual's life that influences attitudes and actions (human agency) regarding what they think, believe, and feel (18). When a person has a high sense of self-efficacy, it is easier for him to accept his illness. Aside from this, it is believed that self-efficacy can also increase an individual's motivation to fight his illness. High self-efficacy will also influence the individual's perception of his treatment so that the sick individual will believe that the series of treatments he is undergoing is unquestionably a way to improve his quality of life (17).

Self-management is another factor that affects the quality of life of patients with chronic kidney failure (19). Self-management is a method for attaining self-discipline in carrying out treatments that aim to enable an individual to observe his or her own needs without relying on the surrounding environment. Chronic kidney failure is one of the chronic diseases for which interventions rely heavily on self-management (20). Hemodialysis patients are expected to be able to control their diet, carry out activities according to their abilities, and manage stress. Self-management in hemodialysis patients entails adherence to hemodialysis, medication, fluids, and diet, so that good self-management in hemodialysis patients can ultimately enhance their quality of life (21).

The patient's religiosity is another factor that affects the quality of life of chronic kidney failure patients. Individuals' quality of life can be enhanced by the positive effects of religiosity on their health, their life satisfaction, and their fear (22,23). Religiosity is a complex system that begins with a belief in God and continues with activities related to servitude (24). Increasing religiosity in the care of hemodialysis patients can improve

various aspects of their quality of life, and religious support from the patient's family can also have a positive effect on the patient's quality of life (25).

The number of patients with chronic kidney failure is inseparable from the Sukabumi Regency. The average annual number of hemodialysis patient visits for the period 2015–2021 is over 5,000. As many as 8,074 visits are anticipated in 2020, the year with the highest visitation total. The number of chronic kidney failure patients undergoing hemodialysis at the Sekarwangi Hospital was 7,978 between 2021 and 2023, including 7,613 outpatients and 544 hospitalized patients.

Multiple studies have shown that several variables, including self-efficacy, self-management, and religiosity, can influence life satisfaction. However, in previous research, the effect of the existing variables has been studied separately, even though the three variables have a mutual influence and can affect an individual's quality of life simultaneously. The objective of this study was to determine the impact of self-efficacy, self-management, and religiosity on the quality of life of chronic kidney failure patients undergoing hemodialysis at Sekarwangi Hospital, Sukabumi Regency.

2. Methods

2.1. Study design

This research type is correlational with descriptive approach.

2.2. Sample

All 71 CKD patients undergoing hemodialysis at Sekarwangi Hospital, Sukabumi Regency, comprised the population of this study. The sampling used is total sampling.

2.3. Instrument

The research instruments for self-efficacy are the General Self-Efficacy (GSE), the Hemodialysis Self Management Instrument (HDSMI), the Duke University Religion Index (DUREL), and the Kidney Disease Quality of Life Short Form (KDQOL-SFTM).

2.4. Data collection procedure

Methods of data collection using a questionnaire. Researcher met respondents who were sampled to obtain informed consent. It begins by presenting a questionnaire to the participants consisting of the respondent's characteristics, quality of life, self-efficacy, self-management, and religiosity

2.5. Data analysis

In this study, descriptive statistical analysis was used to describe the socio-demographic characteristics of each respondent group using socio-demographic data. Univariate analysis of research variables, such as religiosity, self-efficacy, self-management, and quality of life variables, also employs descriptive analysis. Utilizing path analysis for statistical analysis. The ethical approval was given by the STIKes Sukabumi Ethics Committee with the number 06/IV/KEPK/STIKESMI/2022. Informed consent was given before administering the questionnaire. Respondents were given the freedom to choose whether to take part in the research or not.

3. Result

Based on table 1 shows that the majority of respondents aged 51-65 years (38.0%), female sex are 57.7%, married status 91.5%, primary school and junior high school 32.4%, unemployed 81.7%, long undergoing hemodialysis more than 3 months as many as 69.0%, long-suffering from chronic kidney failure less than 1 year as many as 40.8%.

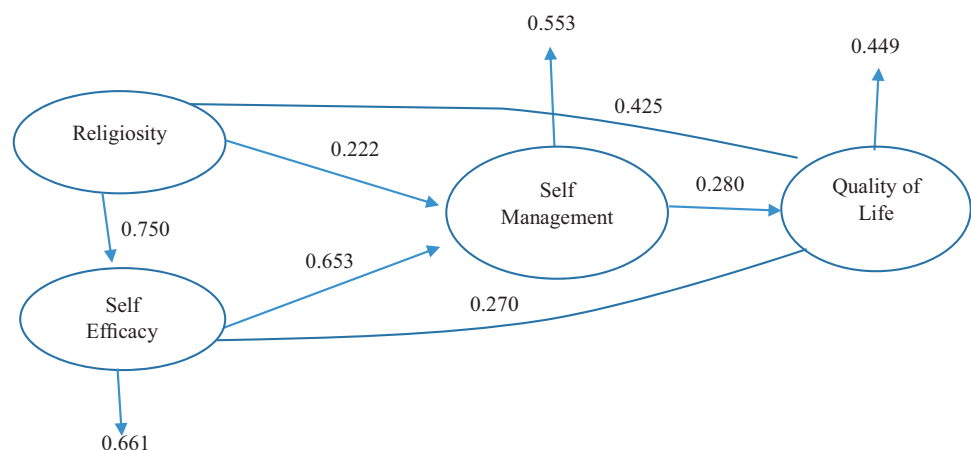


Figure 1: Path Analysis Model of Quality of Life Chronic Kidney Failure.

TABLE 1: Characteristics Of Respondents.

Characteristics	f	%
Age		
20-35	14	19.7
36-50	22	31.0
51-65	27	38.0
>65	8	11.3
Gender		
Female	41	57.7
Male	30	42.3
Marital Status		
Single	6	8.5
Married	65	91.5
Education		
Not School Primary School	5	7.0
Junior High School	23	32.4
Senior High School	16	22.6
College	4	5.6
Job Status		
Unemployed	58	81.7
Employed	13	18.3
Long Time From Hemodialysis		
1-3 Month	22	31.0
>3 Month	49	69.0
Long Time Suffering From Chronic Kidney Failure		
<1 Year	29	40.8
1-3 Year	28	39.4
>3 Year	14	19.8

Based on table 2 shows that the mean value of religiosity is 21.37 (2.784), on self-efficacy mean value is 71.11 (8.446), on self-management mean value is 51.56 (5.649), on quality of life obtained mean value of 62.76 (8.368). Figure 1 shows that religiosity has a direct effect on the quality of life (b=0.425, p=0.000), self management (b=0.222, p=0.032), self efficacy (r=0.750, p=0.000). Self efficacy also directly affects quality of life (b=0.270, p=0.013), self management (b=0.653, p=0.000). Self-management directly affect quality of life (b=0.280, p=0.006).

Based on table 3, shows that religiosity has an indirect effect on the quality of life through self-management (b=0.062), through self-efficacy (b=0.202), through self-efficacy and self-management (0.137). While self-efficacy has an indirect effect on the quality of life through self-management (0.183)

TABLE 2: Univariate Analysis of Research Variables.

Variable	Mean	Standard Deviation (SD)	Max	Min
Religiosity	21.37	2.784	25	16
Self Efficacy	71.11	8.446	86	52
Self Management	51.56	5.649	59	37
Quality of Life	62.76	8.368	71.35	44.37

TABLE 3: Direct Effect, Indirect Effect and Total Effect of Independent Variables on Quality Of Life of Chronic Kidney Failure.

Variables	Direct Effect	P-Value	Indirect Effect	Total Effect
Religiosity	0.425	0.000	(0,222x0,280)	+ 0.764
Efficacy	0.280	0.006	(0,750x0,270)	+ 0.452
Management			(0,750x0,653x0,280)	0.280
			(0,653x0,280) -	

4. Discussion

The results demonstrated that religiosity has a significant impact on the quality of life of patients with chronic kidney failure. The results of this study are consistent with previous research Mulyadi & Almaini (2018) indicating that religiosity has a positive effect on the care of patients undergoing hemodialysis by improving multiple aspects of quality of life (26). Improving the quality of life can be done by increasing religious support. The findings of this study are supported by additional research before that indicating a significant relationship between religiosity and quality of life in chronic kidney failure patients (30).

According to Koenig et al (2001), religiosity is the spiritual expression of a person in relation to their belief systems, values, symbols, and rituals (27). Religion typically entails rules that must be followed and implemented, binding an individual to God, other people, and the natural environment. Religiosity manifests itself at the level of an individual's attachment to their religion, affecting all actions and perspectives on life (28).

Religiosity is an important contributing factor to the patient's recovery process. The aspect of religiosity is very important for patients who are suffering from an illness to be able to help cure the disease they are suffering from. Religiosity has a positive effect on health. The higher the religiosity of a person experiencing a critical illness, the better the quality of his life (29). A person with a high level of religiosity recognizes that illness is a trial or a test from God, so that they view what is happening to them as a part of life that must be lived and can still be grateful for their difficult circumstances because they

view life as having meaning and purpose. As such, it plays a crucial role in maintaining the quality of life as a foundation (30).

Religiosity is a personality trait that has the capacity to motivate an individual both intellectually and emotionally in pursuit of the meaning of life. Even with difficult conditions or suffering, patients with chronic kidney failure who have a high level of religiosity will find meaning in life. By having a meaningful perspective on life, one will continue to feel grateful and accept both happy and challenging circumstances. The degree to which a person interprets his life positively is closely related to the religious principles that serve as his life's compass. Those who are grateful for everything that occurs to them will derive pleasure from affliction. Their belief that the suffering they are experiencing is God's will enables them to pray for relief from their suffering. This will promote an improvement in their quality of life (31,32).

For people with kidney failure, religiosity is one of the effective coping mechanisms for self-management. Chronic kidney failure has detrimental effects on the patient's physical condition, social life, function, and mental health. This condition causes patients to reflect and question the meaning and purpose of their lives. Religion recognizes God's role in determining the psychological state of patients with kidney failure in relation to the disease's cause and God's provision. This concept provides patients peace if they constantly remind themselves that their conditions cannot be separated from God's provisions and that their disease will improve due to God's will and decree. This will encourage patients to have high self-efficacy and better self-management in dealing with their illness, including resolving difficulties, losses, and pain caused by the illness, thereby enhancing the quality of life for the patient (33).

Chronic renal insufficiency patients with a high level of religiosity comprehend chronic pain conditions and require long-term treatment to express acceptance of their disease, increase hope in their illness, and reveal the meaning and purpose of illness and life. This improves self-confidence and self-management during the ordeal of the disease, and ultimately contributes to a higher quality of life.

The findings revealed a relationship between self-efficacy and life quality. This study's findings are consistent with previous research Kusumastuti (2016) and Anasulfalah (2018) indicating that self-efficacy significantly influences the quality of life in patients with chronic kidney failure (34,35). Self-efficacy can improve the quality of life for patients undergoing the healing process for chronic diseases. Individuals with a higher sense of self-efficacy mobilize their personal and social resources to maintain and improve their

quality and length of life, thereby enhancing their quality of life (36,37). The self-efficacy of patients with kidney failure can affect their quality of life in both the short and long term. There are some patients with chronic kidney disease who are unable to control their disease. As a result of kidney failure, they no longer have confidence in their ability to overcome obstacles. Patients undergoing hemodialysis for chronic kidney disease must have a high level of self-efficacy to increase their compliance, improving their quality of life (36).

Self-efficacy is very important for patients with chronic kidney failure undergoing hemodialysis, namely to maintain their survival (38). According to Balaga It is stated that self-efficacy influences a person's decision to engage in self-care at home. Self-efficacy mediates the relationship between changes in quality of life and physiological function in hemodialysis patients with chronic renal failure (39).

The results demonstrated that self-efficacy indirectly impacts the quality of life of patients with kidney failure. Self-efficacy plays an important role in self-management in the maintenance of health behavior; therefore, it is believed that increasing self-efficacy in health behavior can improve the patient's ability to deal with problems that arise during the therapy process, provide motivation to recover, and enhance the patient's quality of life (40).

Self-efficacy plays an important role in regulating an individual's health behavior, influencing his self-management of his illness. Patients with high self-efficacy are more likely to face life stressors with confidence and engage in the behaviors necessary to improve their self-management in order to maintain or restore their health (41).

Patients with higher self-efficacy will improve self-management so that they are more likely to participate in effective strategies for achieving desired psychological and medical outcomes than patients with lower self-efficacy. Patients who strongly believe that they can exert control over their health and that their health is their responsibility practice effective self-management, resulting in higher quality of life ratings (42). Self-efficacy of chronic kidney disease patients undergoing hemodialysis can increase compliance in self-management and self-care; this is necessary for determining whether or not to take action. Self-efficacy will motivate actual self-care management behavior, resulting in an improved quality of life.

The findings revealed that self-management has a significant impact on life quality. This study's findings are consistent with prior research Yuliana & Junaidin (2021) dan Hidayat (2019) which indicates that self-management affects life quality (43,44). Chronic

kidney failure and self-management patients undergoing hemodialysis make a concerted effort to locate and engage with their health services in order to optimize health, prevent complications, control symptoms, organize treatment resources, and minimize life-threatening disease disturbances (45). Good self-management will encourage the patient to take the initiative and demonstrate self-awareness to maintain life, health function, and well-being by identifying the need for regulating function and development, thereby improving the patient's quality of life.

Self-management skills are one method for treating chronic kidney failure patients. According to Barlow et al (2002), Self-management is highly effective in enhancing the quality of life of chronic disease patients. Self-management is the component that enables the patient to adapt to his situation to alter his ingrained behaviors. Self-management aims to improve a person's quality of life by teaching them skills for caring for their health, thereby altering behaviors that hinder their ability to adapt and cope with a given situation (47).

5. Conclusion

Based on the results of the study, religiosity, self-efficacy, and self-management can improve quality of life. This research has an impact on the development of the field of nursing, especially in dealing with religiosity, self-efficacy, and self-management and quality of life in chronic kidney disease patients. Research has proven that the three variables significantly improve quality of life. The results of this study are expected to be further developed as research material in overcoming chronic kidney disease.

6. Conflict of Interest

The authors have no conflict of interest to declare.

7. Funding

No funding by other institution.

Acknowledgement

The author would like to thank the Sekarwangi Hospital for the information and information provided regarding CKD patient data.

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