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Factors associated with quality of life among patients undergoing haemodialysis in Indonesia

Abstract

Background: Studies have shown that patients on dialysis have a poor quality of life that influenced by physical, biological, psychological, social and cultural factors

Objectives: Thus, this study aimed to explore factors associated with quality of life among patients undergoing hemodialysis in Indonesia.

Methods: A cross-sectional study was conducted in Karawang, Indonesia during August to December of 2021. Participants had to be over the age of 20 and engaged in HD for at least six months to be considered. Volunteers were selected using a method known as convenience sampling. The Kidney Disease and Life Quality-SFTM v1.3 Survey was used to assess quality of life in those with kidney disease. In this study, we employed the independent t test and the Pearson correlation to analyze the association between demographic and clinical characteristics and depression.

Results: About 190 participants agreed to join in this study (response rate: 84.4%). Their mean age was 51.87 years (SD: 19.33), and the average length of hemodialysis treatment was 13.87 months (SD: 4.29). No correlation was found between demographic characteristics with quality of life in patients undergoing HD (p>0.05), except for except for length of hemodialysis (p=0.001), and number of comorbidity (p=0.001).

Conclusion: This study discovered that patients undergoing HD had a mild to moderate level of depression. Future research should examine the numerous psychiatric co-morbidities that can

occur in HD patients, as well as the biopsychosocial impact of these symptoms and their relationship to disease progression.

Keywords: quality of life, haemodialysis, cross-sectional, Indonesia.

Introduction

The most frequent form of renal replacement therapy that helps people with CDK live longer and with fewer symptoms is hemodialysis (HD) (1). Chronic kidney disease (CKD) is a progressive condition that causes a wide range of physical, mental, social, and financial difficulties for individuals. Dialysis patients, like those with other chronic diseases, can experience high levels of stress, and often even more stress than those with other chronic diseases (2,3). Study showed that lifestyle changes and patient dependent on a machine for survival could lead to issues such as depression, resignation, and anxiety (4). Furthermore, hemodialysis complications (i.e., hypotension, headache, and air embolism) can lead to a decreased capacity to work and adversely affect individual productivity (5).

Patients on dialysis now have a much better chance of surviving than they did three decades ago thanks to advances in our understanding of chronic kidney disease (CKD) and its consequences. However, research shows that the physical, biological, psychological, social, and cultural elements all contribute to dialysis patients' low quality of life (5,6). Patients on dialysis often feel like they have a much harder time of it than those with other chronic diseases or cancers (7–10). The World Health Organization (WHO) defines quality of life as a person's subjective appraisal of how a disease and its treatment affects one's physical, mental, and social capacities and well-being. Dialysis patients with low quality of life scores have an increased risk of being hospitalized and dying (7). Lower quality of life in long-term hemodialysis patients has

been linked to issues like financial reliance, inability to fulfill family responsibilities, and lack of an active social life, all of which can contribute to mental health issues like depression and anxiety (10). Moreover, poor QOL is a risk factor for CVD and death in its own right among individuals with (11). It is widely accepted that intensive HD can improve HD patients' quality of life (12). Additional variables related to HD patients' quality of life include disease duration, age, and ethnicity (13). Therefore, the purpose of this investigation was to identify what factors are connected to better quality of life for hemodialysis patients in Indonesia.

Methods

Study design

A cross-sectional study was conducted in Jakarta, Indonesia during August to December of 2021. There are ten HD centers covered by national health insurance in Jakarta.

Sample

Subjects had to be over the age of 20, receiving HD for at least six months, competent to read and write Indonesian, and willing to take part in the study. Participants were excluded if they were pregnant, receiving hemodialysis, or had a known illness that impairs cognitive function (e.g., a history of neurological disability such as stroke, Alzheimer's disease, autism, head injury dementia, or parkinson's disease; a history of chronic diagnosis of a mental disorder; a history of drug or alcohol abuse; terminal cancer; or encephalopathy).

G-Power Software Version 3.1.6 is used to determine the sample size using the t test with the assumptions that = 0.05, = 0.05, effect size= medium effect size (14), and power level= 0.80. The initial sample size estimate was 128 and a 20% attrition rate is anticipated. As a result, the

estimated total sample size required for recruitment was 184. A convenience sampling technique was used to assign participants who agreed to participate in this study.

Measures

Demographic information includes things like gender, age, marital status, education level, occupation, and duration of HD treatment. Clinical variables derived from laboratory test results such as urea, creatinine, hemoglobin, and interdialytic weight gain data (IDWG). IDWG was determined from the previous session by subtracting the patient's pre-dialysis weight from his or her post-dialysis weight (dry weight).

As a KDQOL short-form questionnaire, the Kidney Disease and Life Quality-SFTM v1.3 Survey (The KDQOL-SFTM v1.3) is divided into two sections: a general core and a disease-specific core (Joshi VD, 2010). The eight sub-scales of the general health items, plus the overall health item, cover a wide range of topics related to both physical and mental wellness. The eight categories are as follows: energy/fatigue, social functioning, general health, emotional well-being, and role emotional. The response scale runs from 0 to 5, with 0 being the worst and 5 being the highest possible health. A higher HRQOL score indicates a higher level of health and functioning. Scoring was done using the user manual's provided scoring algorithms. The scores are shown as a percentage of a perfect score of 100, where a perfect score indicates the highest possible quality of life. The KDQOL guideline does not specify a cutoff score that indicates better or worse HRQOL.

Data collection

It was determined that a web-based survey with closed-ended questions was the best method for collecting the necessary information for the study. To facilitate this, the author used a

Google Form throughout. If the survey has previously been completed, the computer would not allow more than one person from the same email address to access it again. The online search took somewhere between five and ten minutes to complete.

Ethical consideration

Ethics committees of the Institutional Review Board (43/K.E-UMJ/2021) gave the permission prior to data collection. The consent form was clearly explained to participants before they began the survey. The data was collected on a separate drive that was only accessible to management.

Data Analysis

The standard deviation (SD) was used to assess the continuous data, while the frequency and percentage were used to examine the categorical variables. Kolmogorov–Smirnov test results indicated that data on depressive symptoms followed a normal distribution. In this study, we used the independent t test and the Pearson correlation to analyze the association between demographic and clinical factors and depression. SPSS for Windows (version 22.0.0) was used for the statistical analysis, and a two-tailed P value of 0.05 was taken to denote statistical significance.

Results

About 184 participants agreed to join in this study (response rate: 84.4%). Participant demographics are represented in Table 1. The majority of the patients (54.7%) were male, 51.6% had education above senior high school. 81% married, 70% unemployed. Their mean age was 51.87 years (standard deviation: 19.33), and the average length of hemodialysis treatment was 13.87 months (standard deviation: 4.29) (Table 1).

Table 2 shows no correlation was found between demographic characteristics with quality of life in patients undergoing HD (p>0.05), except for except for length of hemodialysis (p=0.001), and number of comorbidity (p=0.001).

Discussion

However, in this study we did not find any correlation between sociodemographic characteristics with quality of life. Previous research has shown that when multiple diseases are present at the same time, the burden of physical, psycho-emotional symptoms, and essential care increases. This, in turn, leads to increased limits, which in turn worsens quality of life and disease progression (15). Factors such as financial dependence, inability to accomplish household tasks, and inactive social life were associated with lower quality of life in long-term hemodialysis patients. Depression and anxiety are only two of the mental health issues that might result from these situations (16). The elderly are thought to have greater resilience and maturity in the face of HD, allowing them to better cope with the disease and its associated stresses (15). The authors found that lower levels of education were associated with impaired cognitive, sleep, sexual, and social functioning (17). It follows that people with low levels of education are less likely to be able to cope with or recover from the psychological effects of traumatic events, such as increased worry, anxiety, insomnia, and a lack of motivation to engage in other activities. Patients who have a significant other report feeling more confident in their ability to deal with the disease, but they also report feeling financially dependent on their partner and desiring to be in better physical health so that they can fulfill their marital responsibilities (15,17).

Given the subjective nature of quality of life evaluation and the challenges inherent in addressing it for hemodialysis patients, the task is daunting. However, identifying the subjects' needs for planning to cope with the disease is more likely to succeed when quality of life is

assessed as a positive factor. As a result, nurses in this direct-care setting have an added responsibility to help their patients improve their quality of life by identifying and addressing the underlying causes of their symptoms, enhancing their functional capacity, and encouraging them to take responsibility for their own health care. Findings from this study add to the body of medical knowledge by illuminating potentially modifiable factors that reduce quality of life and are able to be identified by professionals from the multiprofessional team; they also help fill in gaps in our understanding of the relationship between quality of life and CKD complications, recurrences during and after hemodialysis; and drug therapy adherence in patients with CKD.

More mental health professionals, such as psychologists, nurses, and doctors, should work together to provide the best care possible. To enhance the quality of life of hemodialysis patients, it is important to implement intervention programs that address both the physiological and psychological needs of these individuals. Our research also highlights the importance of incorporating social workers and clinical psychologists into renal care. Patients' emotional needs would be addressed, and their coping abilities would be strengthened, and they would receive assistance with understanding and using their insurance coverage, as well as with adjusting to their treatment regimen and dietary changes. There is now a more amicable working relationship between our department and the clinical psychology section thanks to all of the time spent working together. Therefore, psychologists are now an integral part of the renal care team, providing consistent care for our patients' mental health. Providers of care for hemodialysis patients in Indonesia can use this study's findings to better support their patients' mental health. Future qualitative research on this topic could involve interviews and focus groups with healthcare professionals and their patients.

Conclusion

This study did not find any correlation between [18] sociodemographic and clinical characteristics with quality of life. These patients should undergo psychological evaluations during the early stages of their condition in order to facilitate prompt and appropriate interventions and to improve their quality of life by minimizing disease burden on their bodies. Future research should examine the numerous psychiatric co-morbidities that can occur in HD patients, as well as the biopsychosocial impact of these symptoms and their relationship to disease progression.

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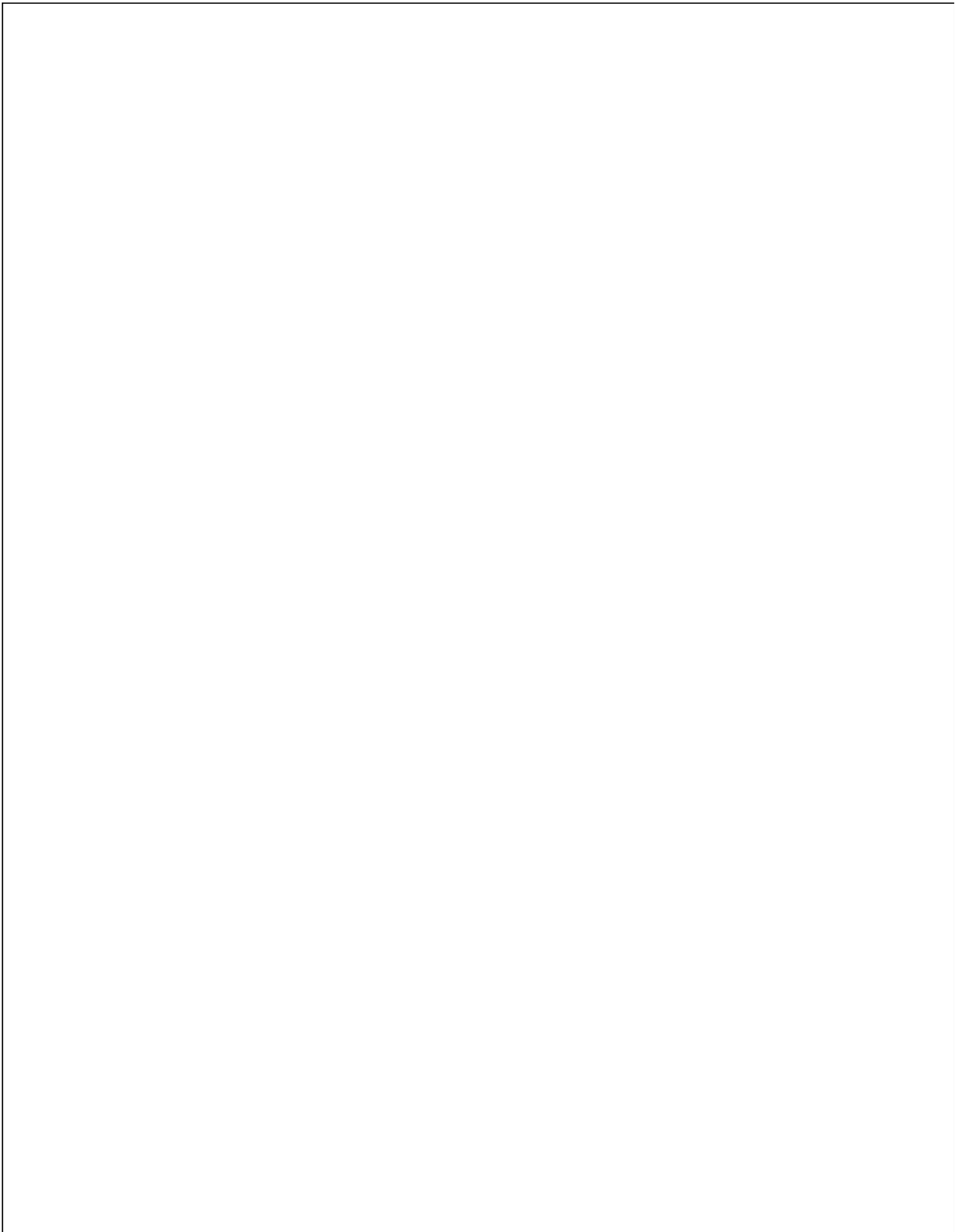
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