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The Correlation between Depression and Self-Efficacy in Haemodialysis Patients: An Indonesian Sample

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ABSTRACT

Background: Depression is a psychological problem that often occurs in haemodialysis patients and has a negative impact on their physical health. Nurses play an important role in preventing depression and increasing self-efficacy; however, little is known about their role in Indonesian cases. **Objective:** To determine the correlation between depression and self-efficacy in haemodialysis patients. **Methods:** Cross-sectional study. The Beck Depression Inventory (BDI-II) and General Self-Efficacy Scale (GSS) questionnaires were administered in this study. The Kendall Tau test was used to determine the correlation between depression and self-efficacy. **Results:** Two hundred and thirty-four respondents who received haemodialysis at hospitals in the Yogyakarta area, Indonesia, participated in this study. A total of 67.5% of chronic kidney disease patients following haemodialysis therapy had a minimal level of depression, and 68.8% of patients had a high self-efficacy level. A significant correlation between depression and self-efficacy in haemodialysis patients (p=0.001) was found. **Conclusions:** Lower levels of depression in haemodialysis patients have a positive effect on self-efficacy. Reducing high levels of depression through nursing intervention programs. For haemodialysis patients, it is recommended during nursing care to increase self-efficacy levels in this vulnerable population. Qualitative studies exploring factors of depression, such as culture and beliefs, are recommended for future research.

Keywords: Culture and Beliefs; Depression; Hemodialysis; Self-Efficacy

INTRODUCTION

Chronic kidney disease (CKD) is a major public health problem worldwide (Kovesdy, 2022; Li *et al*., 2023), including in Indonesia (Hustrini, Susalit & Rotmans, 2022). Studies have reported that CKD is one of the leading causes of mortality worldwide (Bello *et al*., 2022; Castro, 2019; Kovesdy, 2022; Tungsanga *et al*., 2024). CKD is associated with high morbidity and excess healthcare costs (Adejumo *et al*., 2020; Bello *et al*., 2022). CKD is managed via haemodialysis therapy (Castro, 2019; Elendu *et al*., 2023). Haemodialysis is the most common (89%) form of kidney replacement therapy in the world (Bello *et al*., 2022). Studies have reported that CKD and haemodialysis therapy are associated with a high prevalence of depression (Bahall, Legall, & Lalla, 2023; Marthoenis *et al*., 2021; Teles *et al*., 2018).

Depression is one of the most common psychiatric disorders (approximately 84.9%), and it is underrecognized in haemodialysis patients (Alshelleh *et al*., 2022; Chang & Kim, 2024; Chi *et al*., 2022; Khan *et al*., 2019). Depression is a mental disturbance that includes decreased desire for food, feelings of guilt, sadness, tiredness, loss of interest, interrupted sleep, and low concentration (Sakiqi *et al*., 2022). Depressive symptoms following haemodialysis are caused by comorbid diseases, hospital admissions, chronic pain, uremic toxins, unemployment, and a lack of family support (Gerogianni, Kouzoupis & Grapsa, 2018; Li *et al*., 2023). Self-care, self-efficacy and depression are significant predictors of physical and mental

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quality of life, including for haemodialysis patients (Chang & Kim, 2024; Nguyen *et al*., 2022; Wantonoro, Kuo & Shyu, 2020).

Patients on haemodialysis face various problems; therefore, they need to control and manage their adherence to self-care. Self-efficacy has been identified as a psychological factor that improves adherence and treatment outcomes among haemodialysis patients (Almutary & Tayyib, 2021; Qalawa, Eltahry & Aly, 2022; Safi *et al*., 2024). One study reported that there was a significant relationship between sociodemographic characteristics and chronic disease self-efficacy among haemodialysis patients in terms of sex, age, marital status, work, and level of education (Almutary & Tayyib, 2021; Chen *et al*., 2022; Qalawa, Eltahry, & Aly, 2022). Indonesia is different from European countries in terms of the wide geographical dispersion of Indonesia's islands, the low concentration of healthcare services in urban areas, and the various cultures and beliefs related to the depression level and self-efficacy status of haemodialysis patients. Few studies in Indonesia have examined the correlation between depression and self-efficacy in haemodialysis patients. Therefore, the aim of this study was to investigate the depression and self-efficacy of haemodialysis patients in an Indonesian sample.

METHODOLOGY

Study Design

This study is a quantitative study with a cross-sectional design.

Sample

Two hundred and thirty-four respondents who received hemodialysis at hospitals in the Yogyakarta area, Indonesia, were included in this study. The inclusion criteria for this study were as follows: a) chronic kidney disease patients undergoing hemodialysis; b) aged >18 years; c) able to communicate, read and write; and d) willing to participate as research respondents. Patients who had severe hearing problems or severe pain were excluded.

Instruments

The Beck Depression Inventory-II (BDI II) questionnaire consists of 21 items using a Likert scale, with each question scored 0 (no symptoms), 1 (mild symptoms), 2 (moderate symptoms), or 3 (severe symptoms). The total score ranges from 0 to 63, with higher scores indicating more severe depression. The analyzed scores fall into four categories: minimal depression (score 0-13), mild depression (score 14-19), moderate depression (score 20-28), and severe depression (score 29-63). The Indonesian BDI-II is a valid measure of depression in the general Indonesian population (Ginting *et al*., 2013).

The General Self-Efficacy Scale (GSES) is designed to measure an individual's self-efficacy in a broad context and consists of 10 items that refer to three aspects: magnitude, generality, and strength. This questionnaire uses a Likert scale with five response options: *"strongly disagree," "disagree," "neutral," "agree,"* and *"strongly agree."* The analyzed scores fall into three categories: low self-efficacy (scores of 10-23), moderate self-efficacy (scores of 24-37), and high self-efficacy (scores of 38-50). Validity: General Self-Efficacy Scale (GSES) Indonesian version (Putra, Rahayu & Umar, 2019).

Statistical Analysis

The analysis was executed via Statistical Product and Service Solution (SPSS) version 22 with the Kendall Tau correlation test to identify correlations between depression and self-efficacy in hemodialysis patients.

Ethical Consideration

This study received approval from the Research Ethics Committee of RS PKU Muhammadiyah Yogyakarta, Indonesia with reference number 00093/KT.7.4/III/2024 on 18th March 2024. The study also got approval from Research Ethics Committee, Universitas Aisyiyah Yogyakarta, Indonesia with reference number 3533/KEP-UNISA/III/2024 on 15th March 2024.

RESULTS

Characteristics of the Respondents

This study involved 234 haemodialysis patients, the majority of whom were aged 56–65 years (34.6%); 59% were male, 40.2% had a high school education, 71.4% were unemployed, 89.3% were married, 87.2% were primarily using Indonesian government health insurance, and 69.2% had undergone haemodialysis for more than one year. The minimum depression level was 67.5%, the mild depression level was 19.2%, the moderate depression level was 9.4%, and the severe depression level was 3.8%. The low self-efficacy category was 3.4%, the moderate self-efficacy category was 27.8%, and the high self-efficacy category was 68.8%. The results are summarised in Table 1.

Table 1: Characteristics of the Respondents (n=234)

Characteristics	Frequency	%
Age		
18-25 years	4	1.7
26-35 years	16	6.8
36-45 years	35	15.0
46-55 years	62	26.5
56-65 years	81	34.6
>65 years	36	15.4
Gender		
Male	138	59.0
Female	96	41.0
Education Level		
No Schooling	11	4.7
Elementary School	48	20.5
Junior High School	37	15.8
Senior High School	94	40.2
College/University	44	18.8
Employment Status		
Employed	67	28.6
Unemployed	167	71.4
Marital Status		
Married	209	89.3
Single	17	7.3
Other (Divorced)	8	3.4
Type of Health Insurance		
National Health Insurance (BPJS)	6	2.6
Indonesian Social Security Agency	204	87.2
Healthy Indonesia Card	14	6.0
Indonesia Health Insurance (Askes)	6	2.6
Private insurance	4	1.7
Duration of Hemodialysis		
<1 years	72	30.8
>1 years	162	69.2
Depression Status Level		
Minimal	158	67.5
Mild	45	19.2
Moderate	22	9.4
Severe	9	3.8
Self-Efficacy Status Level		
Low	8	3.4
Medium	65	27.8
High	161	68.8

Depression and Self-Efficacy of Hemodialysis Patients

The Kendall Tau statistical analysis revealed a significant negative correlation between depression and self-efficacy in hemodialysis patients (p=0.001, r=-0.519). This result implies that lower levels of depression are associated with a significantly higher level of self-efficacy in this vulnerable population (Table 2).

Table 2: Correlations between Depression and Self-Efficacy in Hemodialysis Patients

Variable	*n*	Correlation Coefficient	*p*
Depression Self-Efficacy	234	-0.519	0.001

**Kendall Tau correlation test*

DISCUSSION

The results of the present study suggest that patients on hemodialysis with lower levels of depression have higher levels of self-efficacy. Studies have shown that 20% to 90% of hemodialysis patients experience depression, which has a negative impact on treatment (Elezi *et al*., 2023; Shanmukham *et al*., 2022). Most (59%) of the respondents in this study were male. A previous study reported that men with CKD have worse depression levels than women with CKD do (Kumar, Jain & Rikhari, 2023; Kalsoom, 2020); however, another study reported that women had higher anxiety scores than men did (Alshelleh *et al*., 2022). Anxiety and depression are common psychiatric disorders among patients undergoing hemodialysis (Gerogianni *et al.*, 2019). It can be concluded that a depressed status occurs in both genders.

In addition, marital status, unemployment status, one-year duration of hemodialysis, higher education level and being older were identified in this study. One study reported that social support, such as family support, leads to significantly less depression (Khaira *et al*., 2012; Kisomi *et al.*, 2024), and among CKD patients, those who are unmarried have a greater risk of depression than do those who are married (Qawaqzeh *et al*., 2023; Wang *et al.*, 2021). Another study reported that marriage and unemployment were associated with increased depressive symptoms in CKD patients (Kumar, Jain & Rikhari, 2023). Research has shown that education level is not related to depression scores (Saeed *et al*., 2012); however, individuals with higher education levels have higher physical functioning scores (Alshelleh *et al*., 2023). A previous study revealed significant differences in depression scores across patient age groups (Elezi *et al*., 2023). Depression status is related to frailty among patients on hemodialysis (Santos *et al*., 2022); in addition, older people who receive hemodialysis have a higher prevalence of depression (Alencar *et al*., 2020; Ibrahim *et al*., 2023). Thus, nurses should pay attention to such factors and depression status among patients on hemodialysis. A study highlights the importance of nursing factors contributing to depression among hemodialysis patients, as tailored nursing interventions can significantly improve patients' mental health outcomes (Zhang *et al*., 2021).

The correlation between depression and self-efficacy in patients who received haemodialysis was confirmed in the current study. A previous study reported that depression affects self-efficacy in haemodialysis patients (Safi *et al*., 2024). Self-efficacy refers to patients' confidence in their ability to adhere to their treatment and manage their disease (Kalantzi *et al.*, 2024). Self-efficacy among haemodialysis patients may help nurses and health care providers clearly understand patients' conditions. Haemodialysis therapy reduces patients' self-efficacy and has a negative impact on their ability to independently manage their environment and life events. In addition, patients' haemodialysis is associated with a high risk of psychological problems such as depression and low self-efficacy, and patients with depression are more likely to have low self-efficacy (Qalawa, Eltahry & Aly, 2022). Managing depression can potentially increase self-efficacy in haemodialysis patients (Lai *et al*., 2021). The implementation of mental health nursing interventions for haemodialysis patients has reduced the incidence of complications and depression and increased nursing satisfaction. Another study revealed that interventions, including training related to the dialysis system and diet, are needed to improve the self-efficacy of haemodialysis patients (Hafezieh *et al.*, 2020) and that nurses' experience is useful for caring for such patients (Camedda *et al.*, 2023). Nurses play an important role in reducing depression levels and improving self-efficacy in haemodialysis patients.

Limitations

This study did not compare minimal and mild depression with self-efficacy in haemodialysis patients. Also, due to the large Indonesian geographic area, this study was conducted only in Yogyakarta, Java, and may not apply to all of Indonesia. Regardless of these limitations, the study provides valuable insights into the relationship between depression and self-efficacy in haemodialysis patients, paving the way for future research and targeted nursing interventions.

CONCLUSION

A lower level of depression among haemodialysis patients has been shown to positively influence their self-efficacy, which is a crucial factor in managing their condition and adhering to treatment regimens. Given this relationship, implementing nursing intervention programs aimed at reducing depression is strongly recommended as part of comprehensive nursing care. These programs may include psychological counselling, cognitive-behavioural therapy, social support initiatives, and stress management strategies tailored to the unique needs of haemodialysis patients.

By addressing and mitigating high levels of depression, such interventions can enhance patients' confidence in their ability to manage their illness, adhere to dietary and medication regimens, and engage in self-care practices, ultimately improving their overall quality of life. Furthermore, prospective investigation should focus on qualitative studies to explore the underlying factors contributing to depression in this population. Cultural beliefs, societal norms, religious influences, and personal coping mechanisms may play significant roles in shaping patients' emotional well-being. Understanding these aspects could provide deeper insights into patient experiences, allowing for the development of more culturally sensitive and effective mental health interventions in haemodialysis care.

Conflict of Interest

The authors declare that they have no competing interests.

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