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Spirituality, Social Support, and Quality of Life: A Study of Indonesian Christian Patients with End-Stage Renal Undergoing Haemodialysis Treatment

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Abstract
Spirituality and social support are recognized as important determinants of quality of life (QoL) among patients with chronic illness. In Indonesia, where religious values are deeply embedded in daily life, understanding these factors is essential for developing culturally appropriate care for Christian patients with end-stage renal disease (ESRD). This study aimed to examine the relationship between spirituality, social support, and QoL among Indonesian Christian ESRD patients undergoing hemodialysis at Prof. Dr. W.Z. Johannes Hospital, Kupang, East Nusa Tenggara. A cross-sectional design was employed involving 176 participants. Social support, spirituality, and QoL were measured using the Multidimensional Scale of Perceived Social Support (MSPSS), the Daily Spiritual Experiences Scale (DSES), and the WHOQOL-BREF, respectively. Data were analyzed using multiple linear regression to obtain adjusted β coefficients and 95% confidence intervals (CI). The results showed that spirituality was significantly associated with QoL (β = 0.29; 95% CI: 0.22–0.36). Social support also demonstrated a significant positive relationship with QoL after adjustment for confounding variables (β = 0.42; 95% CI: 0.34–0.50). In conclusion, higher levels of spirituality and social support are associated with better QoL among Christian ESRD patients undergoing hemodialysis. These findings highlight the importance of integrating spiritual care and strengthening social support systems in the management of ESRD patients.

Keywords: End-Stage Renal Disease, Haemodialysis, Social Support, Spirituality, Quality of Life.

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1. INTRODUCTION

End-stage renal disease (ESRD) is the later stage of chronic kidney disease, when the kidneys are unable to function normally and the patient requires renal replacement therapy, such as hemodialysis, in order to survive (Benjamin & Lappin, 2021; Foundation, 2020). Approximately 90% of all ESRD patients receive hemodialysis, but still high mortality and rehospitalization rates (Lee & Son, 2021). In Indonesia, the number of ESRD cases has risen markedly, increasing from 15,300 in 2012 to 23,800 in 2017 (Tim Indonesian Renal Registry, 2017). Chronic diseases in the city of Kupang often cause fear for sufferers because they are faced with uncertainty and ignorance about the future and the possibility of facing death. In these conditions, patients generally go through several stages, namely rejection, withdrawal, anger, bargaining, depression, until finally reaching acceptance and the emergence of hope. Each individual can get through this stage better if he receives continuous and intensive pastoral assistance from the church. Through emotional support, counseling, and prayer, counselors help reduce loneliness, anxiety, and strengthen the patient's psychological and spiritual condition, so that the services provided cover the physical, mental, and spiritual aspects as a whole (Manafe & Pelamonia, 2020). In fact, the ESRD was also connected with a progressive disease such as cardiovascular events and frailty that requires long-term treatment and is inherently debilitating. Hence, it decreases the QoL and carries an approximate mortality risk of 30% (Himmelfarb et al., 2020; Samoudi et al., 2021).

Individual with ESRD undergoing hemodialysis have been revealed to have poorer QoL compared to healthy individuals (Jung & Kim, 2019), undergoing peritoneal dialysis (Dembowska et al., 2022), and renal transplantation. Hemodialysis treatment aims to improve patients' QoL but also prolong survival (Joshi et al., 2017). Nevertheless, health practitioners only still focus only modify hemodialysis prescriptions like time or dialysate composition to reduce the morbidity of kidney failure (Antari & Widyanthari, 2020; Arase et al., 2020; Assimon et al., 2022). WHO emphasizes the importance of prioritizing care that encompasses not only the management of diseases but also psychological, physical, social, and spiritual well-being. This thorough plan has been shown to improve the welfare of both their families and patients. However, in practice, nurses often feel incapable of communicating about patients' spiritual needs, lack confidence in dealing with spiritual aspects, and have difficulty building deep relationships with patients. This condition causes emotional and spiritual care aspects to often be neglected, while care is more focused on the physical aspect. Addressing patients' spiritual needs is, in fact, an effective strategy for supporting the healing process. The implementation of spiritual care often faces various obstacles, including patient conditions, nurse workload, peer support, limited facilities, and lack of system support. In addition, differences in religion or beliefs between nurses and patients are also challenging, considering that spirituality is often seen as a very personal and sensitive aspect for patients (Sarwoko et al., 2025).

Poor QoL is a common attention or basic aspect of health in hemodialysis patients and portends higher risks for mortality, morbidity and rehospitalization (Kraus et al., 2016). Evaluating ESRD patients' QoL is essential for figuring out how well dialysis programs work and for helping medical professionals like nurses and nephrologists create better treatment plans and interventions in the future (Joshi et al., 2017; Jung & Kim, 2019). Therefore, QoL should be considered an essential factor in extending life among individual with ESRD undergoing hemodialysis.

In addition to the established clinical goals of ESRD management, multidimensional issues such as enhancing social support and QoL have arisen as primary therapeutic goals among individuals undergoing hemodialysis treatment (Alshraifeen et al., 2020; Hoang et al., 2021). Several research investigations have shown how important social support is in

encouraging hemodialysis patients to boost their general QoL (Alexopoulou et al., 2016; Tommel et al., 2021). An earlier study conducted in Florida, USA, indicated that among ESRD patients undergoing hemodialysis, social support was significantly correlated with QoL. Additionally, the study recommended social support as a crucial strategy to improve ESRD patients' QoL (Varghese, 2018). Many recent research efforts have investigated social support & its connection to QoL in hemodialysis patients across various Asian countries, including Korea (Kim et al., 2018), Jordan (Alshraifeen et al., 2020), Taiwan (Pan et al., 2019), and Vietnam (Hoang et al., 2021). The culture of siri' na pacce became the moral foundation in the social behavior of the Barru people. The value of siri' fosters a sense of family responsibility to maintain dignity, including by caring for family members who are sick. Meanwhile, the value of pacce strengthens a sense of empathy and solidarity in social life. These two values make social support not only a form of emotional closeness, but also a moral and social obligation that is upheld in society (Musfirah et al., 2025). Despite an increase in research, there is still a dearth of studies on the connection between social support and QoL among hemodialysis patients in developing nations like Jordan and Vietnam. Therefore, the goal of this study was to determine the extent to which social support affects the QoL for hemodialysis-treated ESRD patients in Indonesia.

Spirituality promotes healthy behaviors and positive attitudes, discourages detrimental habits, and fosters the creation of a robust support network (Fradelos, 2021). There are an increasing number of research relating spirituality to health outcomes in international literature (Clark et al., 2018; Santos et al., 2017; Vitorino et al., 2017). Notably, spirituality and religiosity are often treated as synonyms in scholarly research (Hai et al., 2019; Rias et al., 2020). WHO acknowledges the importance of spirituality in patient treatment, describing it as a belief system centered on intangible elements that offer purpose & meaning in life, enhance inner resilience, & encourage positive behaviors, independent of structured religious practices (Sousa et al., 2021). According to a comprehensive review, spirituality and QoL are strongly correlated (Burlacu et al., 2019). Additionally, a prior study carried out in the Philippines revealed that Filipino Christians undergoing hemodialysis had a high QoL score (Cruz et al., 2018). According to a Greek study, spirituality may improve ESRD patients' QoL (Fradelos et ., 2021a). Indonesia stands out as palliative patients usually exhibit stronger positive spirituality regarding health issues compared to healthy individuals or those with chronic illnesses (Rochmawati et al., 2018). In general, elevated levels of spirituality are often linked to improved QoL; yet, this connection still needs additional clarification, especially in the context of Indonesia.

Even though ESRD is becoming more common in Indonesia, there is still a dearth of trustworthy and current data regarding how chronic renal disease affects patients' QoL. The authors are not aware of any studies conducted in Indonesia that examined the connection between ESRD patients' spirituality, social support, and QoL. This discrepancy gave rise to the theory that improved QoL scores in this group are linked to greater levels of spirituality and social support. The purpose of this study is to examine the relationship between spirituality and social support and QoL among Indonesian Christian ESRD patients receiving hemodialysis at Prof. Dr. W.Z. Johannes Hospital in Kupang, East Nusa Tenggara.

2. RESEARCH METHOD

A cross-sectional method was employed to accomplish the study objective. Participants included individuals with ESRD receiving treatment at the hemodialysis unit of Prof. Dr. W. Z. Johannes Hospital in Kupang, NTT, Indonesia, recruited through convenience sampling. Criteria for inclusion included: (a) Individuals with a verified diagnosis of ESRD receiving haemodialysis; (b) Patients participating in the hemodialysis unit for a minimum of six months; (c) Patients self-identifying as Christians; and (d) Aged 18 years or older. We excluded patients who could not provide consent and those with psychiatric disorders or severe illnesses like

congestive heart failure, stroke, and cancer. Significantly, Professor Dr. W.Z. Johannes Kupang Public Hospital ranks among the largest public hospitals and serves as a referral center for hemodialysis treatment. The annual report reveals that the percentage of patients diagnosed with ESRD visits rose from 80.40% (2018) to 94.87% (2019) (Wahyuni, 2022).

The study was carried out between July and August 2024 and included 176 participants. With the aid of G*Power software 3.1.5, the necessary sample size was determined with a minimum of 160 participants, assuming an effect size of 0.15 (Chang & Choi, 2022), a significance threshold of 0.05 (α), and a statistical power of 0.80. The overall study involved changed to 176 participants in order to allow for a potential 10% attrition rate.

Participant characteristics were collected via a checklist that included gender, age, education level (ISCED <3 & ISCED ≥3), employment status, monthly earnings (< & ≥ regional minimum wage), body mass index (BMI; ≥25, 18.5–<25, and <18.5), duration of dialysis sessions (hours; ≥3 and <3), and duration of dialysis (months; ≤48 and >48).

Each of the 26 items that make up the WHOQOL-BREF is evaluated from 1 to 5. The items are distributed across four categories: environment, social interactions, physical well-being, and mental well-being. Three items with negative wording were reverse-coded prior to analysis. Higher overall scores indicate better QoL. The mean value of each domain's component items was multiplied by four to determine the domain scores (Ilić et al., 2019). Cronbach's alpha ratings of 0.79 regarding physical health aspect, 0.70 for psychological, 0.72 for environmental, and 0.70 for social connection domains confirmed the good reliability of the Bahasa version of the WHOQOL-BREF (Purba et al., 2018). The environmental, physical, psychological, and social connection domains in this study have Cronbach's alpha levels of 0.81, 0.82, 0.88, and 0.89, respectively.

A six-point Likert scale, with 1 representing "never or seldom" and 6 representing "every time," is used to evaluate the 16 items that make up the DSES (Daily Spiritual Experiences Scale). This scale assesses daily spiritual or transcendent experiences of individuals (Shankov et al., 2026). In Indonesia, this 16-item measurement tool showed robust reliability, achieving an alpha value of 0.80. Elevated scores reflect a higher occurrence of spiritual experiences and an increased level of spirituality (Rias et al., 2020). In our study, the reliability coefficient of DSES was 0.89.

Social support perception was determined by using the MSPSS (Multidimensional Scale of Perceived Social Support), a 12-item instrument, an instrument developed to evaluate experienced assistance originating from three distinct sources: social circle, kin, and intimate partners. Stronger self-reported social support is indicated by higher scores on the seven-point ordinal scale used to measure each item (Murshid et al., 2023). The Indonesian version adaptation of the MSPSS yielded Cronbach's alpha values of 0.82, 0.81, and 0.72 for the friends, family, and significant others subscales, respectively (Laksmita et al., 2020). The scale's overall Cronbach's alpha in this study was 0.93.

Frequencies (n) and percentages (%) were utilized to outline the background characteristics and associated factors' distribution among groups. Depending on the situation, continuous data were assessed using either an independent t-test or one-way ANOVA in conjunction with Pearson or Spearman rank correlation. A VIF (variance inflation factor) cutoff of more than ten was used to assess multicollinearity (Murshid et al., 2023; Rias et al., 2020). Given that the highest VIF in our study was 2.29, our data exhibited a minimal effect on multicollinearity. Controlling for possible potential confounders such as gender, age, BMI, education, monthly income, duration of dialysis, and session length were controlled using multiple linear regression to obtain coefficients and 95% CIs for QoL. The Institutional Review Board of Committee 185 (IRB: 185/EA/KEPK/2022), granted ethical clearance in accordance

with the Declaration of Helsinki's tenets. After being told about the study, each participant gave written informed consent.

3. RESULTS AND DISCUSSION

Table 1. Relationship between Demographic Features and QoL.

Variable-variable	n (%)	QoL (WHOQOL-BREF)	
		Mean (SD)	p-value
Age a	176 (100)	53.13 (9.57)	0.853
Gender b			<0.001
Male	98 (55.7)	55.63 (13.48)	
Female	78 (44.3)	45.78 (11.66)	
Schooling b			0.002
ISCED <3	20 (11.4)	42.40 (11.99)	
ISCED ≥3	156 (88.6)	52.40 (13.39)	
Body mass-index			0.522
≥25	29 (16.5)	49.72 (15.05)	
<18.5	20 (11.4)	48.95 (14.83)	
18.5-24.9	127 (72.2)	51.98 (13.08)	
Monthly Household Income (IDR)[b]			<0.001
< Regional Minimum Wage	91 (51.7)	43.99 (9.00)	
≥Regional Minimum Wage	85 (48.3)	59.06 (13.38)	
Occupation b			<0.001
Unemployed	78 (44.3)	43.94 (9.77)	
Employed	98 (55.7)	57.10 (13.41)	
Dialysis vintage (months)			<0.001
<48	79 (44.9)	46.18 (11.61)	
≥48	97 (55.1)	55.41 (13.72)	
Dialysis session duration (hours)			<0.001
<3	132 (75.0)	45.03 (9.38)	
≥3	44 (25.0)	69.98 (2.45)	

Description: *[a]Pearson correlation, [b]Independent t-test, [c]One way ANOVA SD = Standard Deviation; ISCED ≥3= International Standard Classification of Education ≥ High Schools Graduation. Regional Minimum Wage is 1.950.000 Rupiah or 131.19 USD*

The subject's demographic features are summarized in Table 1. No notable variations in overall QoL scores were observed based on age or body mass index. Nonetheless, notable disparities were observed regarding gender, education, income, occupation, dialysis duration, and length of dialysis sessions. Participants with ≥48 months of dialysis vintage numbered more (n = 97) compared to those with <48 months of dialysis vintage (n = 79). In addition, <3 hours dialysis session duration had a higher score of QoL compare the ≥3 hours.

Table 2. Scores and Correlations of QoL with Key Variable-variable.

Variable-variable	Mean (SD)	1	2	3
QoL	51.27 (13.59)	1		
Spirituality	53.82 (17.28)	0.865**	1	
Social support	50.61 (15.72)	0.886**	0.770**	1

Description: *QoL= Quality of Life, SD= Standard Deviation. ** p<0.01*

The score and correlation of QoL for Indonesian Christian ESRD patients receiving hemodialysis have been presented in Table 2 at Professor Dr. W.Z. Johannes Kupang Hospital. We noted strong associations between spirituality and QoL (r= .865, p <0.01), as well as social support (r= 0.886, p<0.01).

Table 3. 95% CIs and Adjusted β Coefficients for the Effects of Social Support and Spirituality on QoL in ESRD Patients Undergoing Hemodialysis.

Variables	Unadjusted β Coefficients (95% CI)	p value	Adjusted β Coefficients (95% CI)	p value
Spirituality	0.68 [0.62, 0.74]	<0.001	0.29 [0.22, 0.36]	<0.001
Social support	0.77 [0.71, 0.83]	<0.001	0.42 [0.34, 0.50]	<0.001

Description: *Adjusted β coefficients and 95% CI were estimated using multiple linear regression after adjusting for gender, age, level of education, monthly income, occupation, BMI, dialysis vintage, and dialysis session duration*

Adjusted β degrees and 95% Confidence Range for social support variables and spirituality for QoL in Christian ESRD patient in Indonesia undergoing hemodialysis are shown in Table 3. patients with high degrees of spirituality explains the significance association with QoL (β = 0.29; 95% CI [0.22–0.36]), It can be said that the higher the spirituality will have a significant positive effect on patients' QoL. In addition, a significant association was found in social support (β= 0.42; 95% CI [0.34–0.50]) in Christian ESRD patients undergoing hemodialysis, after monitoring for causes such as sex, academic qualifications, monthly wages, occupation, age at dialysis initiation, and duration of dialysis sessions.

Drawing from the current knowledge, this research is a preliminary investigation that explores the connection between spirituality, social support, and QoL among ESRD patients receiving hemodialysis and the Christian faith in Indonesia, particularly in Kupang. Similar to earlier analyses, the findings of this research indicated that ESRD patients who obtained strong social support from friends and family generally experienced an improved QoL. The social support from those surrounding the patient—like friends, family, and the community—is instrumental in improving their psychological health. The effectiveness of hemodialysis treatment is largely attributed to family support, which is crucial as it offers emotional backing, information, and boosts the patient's self-esteem. Furthermore, support from friends and relatives is equally important because they can provide empathy and care. In addition, community support, such as visits and health education, can help patients feel more valued and motivated to adhere to their treatment plans. Psychological well-being and improved QoL for patients are influenced as those who perceive strong social support generally feel appreciated and cherished (Hafizah et al., 2025). However, a patient's self-perception and drive to maintain their health can be adversely affected by a lack of social support, both of which have an impact on their QoL. Therefore, improving the health and well-being of patients is essential (Alshraifeen et al., 2020; Bayoumy et al., 2017). In fact, individuals with ESRD who can do their daily activities as well as a higher score of QoL better find it simpler to find and utilize the available social support and consequently feel more supported (Alshraifeen et al., 2020). For other patients receiving hemodialysis treatment, social support is vital to improve their QoL (Hoang et al., 2021). Previous research in Indonesia indicated that high family support was significantly related with hemodialysis patients' adherence to fluid restrictionAccording to these findings, individuals with limited social backing will experience a lower QoL. Consequently, enhancing social support, particularly from family members, may boost the QoL of individuals receiving hemodialysis (Yudani et al., 2022).

Social support for patients helps prevent issues arising from their present poor QoL (Joshi et al., 2017; Jung & Kim, 2019). Strong social support improves a patient's capacity to face and overcome obstacles. The Commission bolsters this on the Family's (1998) assertion that family support can serve as the primary prevention strategy for the entire Family in addressing daily

issues. This is crucial in a culture experiencing a stressful climate (Xia et al., 2022). Consequently, without social support, it will be hard for patients to get better, their illnesses will get worse, and it will be declined their QoL (Alexopoulou et al., 2016; Joshi et al., 2017; Jung & Kim, 2019).

A notable finding in the present research is that elevated spirituality scores are associated with high QoL scores. These outcomes align with those of an earlier study conducted in Iran, which indicated that patients with ESRD who experienced better QoL often exhibited high levels of spirituality (Fradelos, 2021). In general, spirituality can be a treatment mechanism, especially for patients who have chronic illnesses (Burlacu et al., 2019; Fradelos, 2021). Notably, a number of scholars have examined the connection connecting spirituality and QoL within hemodialysis patients, particularly in Western nations like Brazil, Greece, and Spain. It was found that spirituality was linked to QoL of adult Christian hemodialysis patients in a moderately significant correlation (Fradelos et al., 2021; Pilger et al., 2017). This moderate relationship could be explained by the fundamental QoL characteristic, A diverse concept that encompasses the domains of physical, environmental, psychological, and social relationships. It is also a dynamic concept, so there is little connection that may be caused by the consequences of other factors (Fradelos et al., 2021; Pilger et al., 2017). Furthermore, Indonesia is characterized by a culturally diverse population with a wide range of spiritual practices. This typical situation reflects a comprehensive care perspective that integrates the bio-psycho-social-spirituals dimension (Liem, 2020). Accordingly, healthcare professionals in Indonesia may consider revising existing policies to enhance the delivery of comprehensive mental health services. A meta-analysis has suggested that elevated levels of C-reactive protein are indicative of a strong inflammatory response and are significantly linked to lower levels of spirituality (Shattuck & Muehlenbein, 2020). Notably, individuals who had chronic kidney problems had lower QoL due to higher C-reactive protein levels (Lee et al., 2020). This fundamental mechanism could provide additional understanding of how these connections affect both QoL and spirituality in ESRD patients receiving hemodialysis

This study contains several constraints that indicate the main route for future examinations. The use of sampling and recruitment from a single dialysis center can minimize the extent to which findings can be equalized. Subsequent research is therefore encouraged to include bigger sample sizes and more diverse, representative participants from multiple dialysis centers across different geographic regions to enhance external validity. In addition, it is unable to show causal links between spirituality, social support, and QoL due to the cross-sectional design. To ascertain if increases in spirituality and social support result in long-term, sustained gains in QoL, longitudinal research is required. Furthermore, qualitative research is recommended to explore how patients interpret spirituality, what forms of social support they perceive as most meaningful, and how these factors support Pasein in overcoming long-term problems during haemodialysis. Finally, intervention studies should examine whether structured spiritual care programs or family-based interventions for social support can effectively improve QoL in patients with ESDR receiving hemodialysis.

4. CONCLUSION

This study shows that among adult hemodialysis patients with end-stage renal illness, spirituality, social support, and QoL are significantly correlated. After controlling for potential confounding variables (sex, level of education, income, occupation, duration hemodialysis, & length of dialysis sessions), social support showed a stronger influence on QoL ($\beta = 0.42$; 95% CI [0.34–0.50]) than spirituality ($\beta = 0.29$; 95% CI [0.22–0.36]). A consistently high level of spirituality and social support leads to a good QoL. These findings underscore the crucial role of psychosocial and spiritual dimensions alongside clinical management. Therefore, comprehensive care for hemodialysis patients should integrate spiritual care and social support

strategies, with healthcare professionals actively recognizing and addressing these needs as essential components of patient management to optimize overall well-being.

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