

The effectiveness of spiritual education on the uncertainty of illness in hemodialysis patients

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Abstract:

Chronic kidney disease is a progressive condition that requires long-term treatment with hemodialysis. Routine and invasive hemodialysis not only has an impact on the physical aspects of the patient, but also causes psychological, social, and spiritual uncertainty of illness. Uncertainty of illness related to health conditions requires adaptation to changes during the hemodialysis process, including negative psychosocial impacts. Spiritual education consisted of belief and the power of prayer, *dzikir* (remembrance of Allah) therapy, and enhancing healing motivation. This study aimed to examine the effectiveness of spiritual education in reducing the uncertainty of illness among hemodialysis patients. A quasi-experimental design with a pretest-posttest control group design was employed. The sample comprised 68 respondents divided equally into an intervention and a control group, with 34 respondents/group. The instrument used to measure uncertainty of illness was the Mishel Uncertainty of Illness Scale (MUIS-C, comprising 22 items in a five-point Likert scale. Data analyzed using an independent t-test and a Mann-Whitney U-test. The study results showed a significant difference in the score uncertainty of illness by using spiritual education in hemodialysis patients between the intervention and control groups, with mean ranks of 45.76 and 23.24 ($p < 0.001$), respectively. Interventional spiritual education through an Islamic-based approach showed a significant effect in reducing the uncertainty of illness in hemodialysis patients. These findings suggest that spiritual education may be implemented in nursing interventions to reduce the uncertainty of illness among patients undergoing hemodialysis and may serve as a valuable component in the holistic care of chronic illness.

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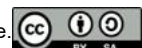
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INTRODUCTION

Chronic kidney failure necessitates hemodialysis for survival, thrusting patients into a complex reality defined by profound uncertainty and the imperative for continuous adjustment (Li & Luo, J2023). This uncertainty, stemming from the unpredictable nature of the illness progression, treatment efficacy, and potential complications, becomes a central psychological burden (Nair et al., 2020). Patients grapple with not knowing the trajectory of their health, the stability of their vascular access, or the severity of side effects from each session. This pervasive sense of the unknown fundamentally disrupts their sense of control and predictability, creating a constant state of vigilance and anxiety that permeates daily life, making planning for the future a significant challenge (Clarke et al., 2022).

The adjustment required extends beyond merely managing physical symptoms; it encompasses a radical recalibration across interconnected dimensions of human existence. Physically, patients must adapt to the demanding routine of thrice-weekly, lengthy dialysis sessions,

often accompanied by debilitating fatigue, muscle cramps, hypotension, and pain (Lockwood et al., 2022). Psychologically, the diagnosis and treatment process trigger anxiety, depression, and altered body image (Alkhaqani, 2022). Socially, the rigid schedule and physical limitations severely restrict participation in work, family obligations, social gatherings, and cultural celebrations like holidays, leading to isolation and strained relationships (Iovino et al., 2022). Spiritually, confronting chronic illness and mortality forces deep existential questioning, challenging core beliefs and prompting a search for meaning and purpose amidst suffering. This highlights a critical dimension of holistic care often overlooked (Cheng et al., 2025).

Hemodialysis, while life-sustaining, imposes significant physical burdens that directly fuel the experience of uncertainty and hinder adaptation. It cannot fully replicate the intricate functions of healthy kidneys, leading to persistent issues like fluid overload between sessions, electrolyte imbalances, and anemia (Maurya, 2025). Strict dietary and fluid restrictions become a constant, burdensome reality, requiring meticulous planning and often causing social discomfort during meals. These physical constraints severely curtail daily activities and independence, exhausting even simple tasks and rendering participation in previously enjoyed hobbies, travel, or spontaneous social events nearly impossible. The relentless physical toll is a constant, tangible reminder of the illness and its limitations, reinforcing the patient's vulnerability (Zhou et al., 2025).

The psychosocial repercussions of hemodialysis are profound and deeply intertwined with the physical challenges, significantly amplifying the sense of uncertainty and complicating adaptation (Zheng et al., 2025). The inflexible treatment schedule dominates the patient's life, dictating their weekly rhythm and often forcing withdrawal from employment or education, leading to financial strain and loss of identity. Social isolation becomes common as friends and family may struggle to understand the constraints, and the patient's energy levels limit social interaction (Diao et al., 2025). The caregiving burden, emotional distress, and the constant presence of the illness within the household frequently strain family dynamics. This erosion of social support networks and roles further diminishes quality of life and resilience, making the psychological navigation of uncertainty even more difficult (Supriati et al., 2024).

Ultimately, the hemodialysis journey necessitates a holistic adaptation that must consciously address the spiritual dimension alongside the physical, psychological, and social upheavals. Facing the chronicity and life-threatening nature of kidney failure often prompts profound existential questions about suffering, purpose, and connection to something greater. Patients may experience spiritual distress, feeling abandoned, while others may find solace and strength in faith, meditation, or community support (Garza et al., 2021). Recognizing and integrating these spiritual needs into the care plan is crucial, as unmet spiritual distress can significantly impede overall coping and adaptation. Therefore, effective management of the uncertainty inherent in hemodialysis demands a comprehensive, patient-centered approach that validates and supports adaptation across **all** these interconnected facets of the individual's being (Rafiee-Vardanjani et al., 2025).

Spirituality is an important aspect that helps achieve balance in caring for health and prosperity, as well as fighting the challenges of the disease. Individuals with good spiritual conditions are generally more able to overcome disease more effectively and enjoy a higher quality of life (Borges et al., 2021). Spiritual education is a form of a person's motivation to maintain in the surrounding environment. Spirituality has a significant influence on health and behavior in patient care. Islamic spiritual therapy is an alternative to healing psychological disorders that refer to the guidelines contained in the Qur'an and the Sunnah. This therapy assumes that faith and close relationships with God are the main strengths in self-recovery from disease and improving quality of life (Sarmila & Ridfah, 2022; Syafi & Sari, 2022).

In this study, spiritual education consisted of three sessions: 1) belief and the power of prayer, 2) *dzikir* (remembrance of Allah) therapy, and 3) the enhancement of healing motivation. Prayer is considered a crucial intervention in spiritual care for those experiencing suffering. Spirituality is a solitary and intrinsic phenomenon that includes human needs and confirmation of existing beliefs. Prayer can cause a feeling of relief from tension because when praying, the mind is focused on specific goals, freeing oneself from negative thoughts and daily worries. Religion solves the dilemma of death, generally related to God beliefs and religious practices that meet a person's needs to have hope for the future (Filho et al., 2023).

Dzikir is an activity that reminds God to draw closer to him and fill the heart and mind with holy words. This practice is not only done verbally, but also in the heart, and becomes a part of the spiritual life of a Muslim (Abdurachman et al., 2025). Spiritual education increases patient healing, pain as a motivation for healing and endeavor, prayer, and resignation are obligations to respond to the problems. Every Muslim must try hard, work hard, and not be easily discouraged (Husna et al., 2021). This study aimed to examine the effectiveness of spiritual education in reducing the uncertainty of illness among hemodialysis patients.

METHOD

Design, Population, and Sample

A quasi-experiment with a pretest and posttest control-group design was conducted in the study. The total sample was 68 patients divided into two groups: intervention and control groups, with each group having 34 respondents respectively. All respondents provided written informed consent in this study. The sample inclusion criteria included: 1) willingness to participate in this study, 2) patients with full consciousness, 3) patients undergoing hemodialysis routinely twice a week for at least 6 months, and 4) patients with a general condition and hemodynamic status controlled.

Intervention

In this study, spiritual education consisted of three sessions: 1) belief and the power of prayer, 2) *dzikir* (remembrance of Allah) therapy, and 3) the enhancement of healing motivation.

Instrument

Data was collected using the MUIS-C questionnaire, adapted from modifications, consisting of 22 items and a points Likert scale, starting from "strongly agree, agree, disagree, and strongly disagree". A previous study on MUIS-C has shown high reliability, ranging from 0.71 to 0.91 (Sharkey, 2018).

Data Analysis

Statistical analysis using an independent samples t-test and Mann-Whitney U-test.

Ethical Consideration

This study has been approved by the Ethical Committee of Dr. Zainoel Abidin Provincial Hospital, Banda Aceh, with the number: 002/Ethics-RSUDZA/2025.

RESULT

Table 1, the average age of the intervention and control groups with mean and standard deviation are 53.38 ± 11.43 and 47.71 ± 14.96 , respectively. The gender distribution in the intervention group is dominated by females, which is 61.8%. Conversely, the control group, the composition of males and females is balanced, totaling 50%. Most of the respondents in the study were married. The final education level was 41.2% in secondary education, and higher education in the control was 55.9%. Most of the respondents in both groups were not working (retired), totaling 35.3% respectively, and had a monthly income of more than 55% in both groups.

Furthermore, the intervention group showed that the most respondents had a history of hypertension, with a total of 55.9% and 61.8%, respectively. Then, the duration of hemodialysis in the years of the intervention and control groups, with the mean and standard deviation, were 1.68 ± 0.76 and 1.62 ± 0.73 , respectively. All the respondents in this study were registered in health insurance (BPJS), both in the intervention and control groups.

Table 1. Sociodemographic Data in the Intervention and Control Groups

Sociodemographic	Intervention group (n = 34)		Control group (n = 34)	
	f	%	f	%
Age (years) (M ±SD)	53.38±11.43		47.71±14.96	
Gender				
Male	13	38.2	17	50
Female	21	91.2	17	50
Marital status				
Single	-	-	5	14.7
Married	31	91.2	28	82.4
Widower /widow	3	8.8	1	2.9
Highest level of education				
Primary education	8	23.5	7	20.6
Secondary education	14	41.2	8	23.5
Higher education	12	35.3	19	55.9
Occupation				
No work	12	35.3	12	35.3
Civil servant/military/police	8	23.5	11	32.4
Entrepreneur	3	8.8	2	5.9
Farmer/fisherman/laborer	4	11.8	1	2.9
Housewife	7	20.6	8	23.5
Monthly income				
No income	19	55.9	20	58.8
≤ Rp 3.200.000	11	32.4	13	38.2
> Rp 3.200.000	4	11.8	1	2.9
Comorbidities				
Diabetes Mellitus	14	41.2	12	35.3
Hypertension	19	55.9	21	61.8
Heart failure	1	2.9	-	-
Asthma	-	-	1	2.9
Duration hemodialysis (M±SD)	1.68±0.768		1.62±0.739	
> 6 months -1 year	17	50.0	18	52.9
2-3 years	11	32.4	11	32.4
>4 year	6	17.6	5	14.7
Health insurance				
<i>Badan Penyelenggara Jaminan Sosial</i> (BPJS)	34	100	34	100

Table 2 presents the pretest mean and standard deviation for the intervention and the control groups, which were 65.74 ± 8.48 and 66.32 ± 8.24 , respectively, while the posttest showed means and standard deviations of 55.94 ± 6.96 and 67.88 ± 10.07 , respectively. There are striking differences in posttest values; the control group has a higher score for uncertainty of illness than the intervention group.

Table 2. The Difference Mean Score Pretest and Posttest in the Intervention and Control Groups

Variable	Measurement	Intervention group (n=34)	Control group (n=34)
		(Mean±SD)	(Mean±SD)
Spiritual education	Pretest	65.74 ± 8.48	66.32 ± 8.24
	Posttest	55.94 ± 6.96	67.88 ± 10.07

Table 3 showed no significant difference between the intervention and the control groups on spiritual education in pretest with $p=0.773$, and the $F = 0.077$, which means that the variability between the intervention and the control groups is minimal.

Table 3. The Comparison of Pretest for Uncertainty of Illness in Intervention and Control Groups

Variable	Group	F	t	p	CI 95%	
					Lower	Upper
Spiritual education	Intervention	0.077	-0.290	0.773	-4.649	3.462
	Control		-0.290		-4.649	3.462

Table 4 shows the posttest results for the intervention and control groups, with mean ranks of 23.24 and 45.76, respectively, and a p-value of <0.001 , indicating a significant difference between the two groups after obtaining spiritual education on the uncertainty of illness.

Table 4. The Difference Mean Rank of Posttest on Uncertainty of Illness in Intervention and Control Groups

Variabel	Group	N	Mean Rank	Z	p-value
Spiritual education	Intervention	34	23.24	-4.703	<0.001
	Control	34	45.76		

DISCUSSION

Spirituality reflects looking for the meaning and purpose of life and relationships with yourself, others, nature, and entities that are related to the sacred. As a multidimensional and complex concept, spirituality plays an important role in the way patients overcome serious diseases and undergo transitions in the course of disease, where they often experience spiritual pressure during the diagnosis, during the disease processes, and when (Chidarikire et al., 2025; Zumstein-Shaha et al., 2020).

The uncertainty of illness is a complex phenomenon that majorly influences individual psychological well-being. Uncertainty of illness, especially in those who suffer from chronic kidney disease (CKD), with a focus on how ambiguity from unpredictable symptoms, inconsistent information, and unclear meaning, anxiety, depression, and decreased quality of life (Sharkey, 2018).

Spiritual education about the uncertainty of illness is increasingly recognized in patient care, especially for patients who undergo long-term therapy such as hemodialysis. Patients with chronic diseases face a significant psychological challenge, including uncertainty of illness, such as anxiety, fear, and loss of hope. Spiritual education is a non-pharmacological intervention that aims to provide psychosocial support, often neglected in conventional treatment.

Patients can develop a more positive perspective on the healing process with spiritual support. Positive perception can help reduce the level of anxiety and fear that patients experience. Spiritual education consists of three sessions: 1) spiritual education, beliefs, and strength of prayer, 2) spiritual education, dzikir therapy, and 3) spiritual education, increasing the healing motivations of patients by 30 minutes for every session.

Spiritual education for the intervention group focuses on strengthening the beliefs and strength of prayer to overcome uncreativity in illness. Spiritual beliefs can provide a sense of hope and calm, which is very important for hemodialysis patients who often face physical and emotional challenges. Through this education, patients are taught to take advantage of prayer as a means to communicate with God and receive psychological and spiritual support.

Based on the results, marital status and the last education are associated with the study results. Most respondents in the intervention and control groups showed that 91.2% and 82.4% are married. This marital status can play an important role in social support, where married patients have better access to emotional and spiritual support from their partners, which can help reduce the psychological distance and improve the emotional stability of respondents.

Social support is critical in psychological well-being; it can affect self-perception and emotional stability. There are three primary sources of social support for individuals: friends, family, and important people. Social support helps individuals maintain behavioral stability, create feelings of comfort, and develop positive attitudes. There is support from others, and individuals can more easily accept and respect themselves. In general, social support can be divided into types of support, such as emotional, informal, instrumental, friendship, and appreciation, as well as structural support that includes social networks or support resources (Anda & Surbakti, 2025; Komarudin, 2022; Phetrui, 2025).

The last education level of respondents is also an interesting factor to explain. The majority of respondents in both groups have completed higher education. Higher education is often associated with a better understanding of health and treatment conditions, which can affect how individuals deal with uncertainty about illness. Education promotes a healthy lifestyle and positive choices, maintains relationships, and improves the welfare of individuals, families, and society. Conversely, greater related diseases are associated with the knowledge of the diseases and poor emotional well-being and can create negative relationships with self (Raghupathi & Raghupathi, 2020; Schielea, SE, & Emerya, 2020).

Uncertainty theory in illness by Mishel can determine the meaning of events that are wanted or in the future that cannot be predicted. Spiritual education can function as an intervention that helps patients overcome the uncertainty of illness. Respondents can develop a more positive perspective on their conditions by providing spiritual understanding and support, reducing anxiety, and improving their quality of life (Rykkje et al., 2022).

A previous study, which was strengthened by the findings before intervention health education, found that around 70% of patients experienced moderate to severe anxiety. After the intervention 80% of the patients showed mild anxiety. The study reported that the patient's ability to deal with psychological pressure increased after understanding hemodialysis procedures and adaptation strategies. Age, education, and work factors also influence the level of anxiety. Most respondents aged 45-60 years have a high school diploma and do not have a permanent job, contributing to the high psychosocial burden. The experience through health education, knowledge, and confidence in the treatment process and life with chronic diseases is related to patient psychosocial well-being (Manalu, 2021).

Spiritual education intervention in this study focused on strengthening aspects of belief in God and the meaning of the disease process experienced, including prayer as a form of spiritual coping. In this study, hemodialysis patients who face problems related to response, complications, and quality of life, and spiritual strengthening have proven to be a relevant approach. By improving stronger religious belief and acceptance of conditions, patients can develop a calmer and more optimistic attitude, ultimately contributing to the decline in illness uncertainty.

This study's findings align with the uncertainty of illness theory from Mishel's adaptation process, through information, support, and meaning. Spiritual education in this study has proven a new meaning to the experience of illness through a transcendental approach, which helps the patient view the disease as physical and a meaningful spiritual test. Prayer can directly improve and significantly increase spiritual well-being (Hai et al., 2021).

Dzikir, as a spiritual activity, can create a sense of peace and comfort in the soul, especially when someone faces pressure, feels weak, loses support, or is in different situations. Remembering God (Allah) through dzikir fosters a sense of soothing, reassuring, and tense security. Intervention dzikir therapy is proven effective as a relaxation technique to reduce anxiety. The purpose of dzikir is to purify the soul, cleanse the heart, and build awareness. Integrating spiritual intelligence in the education system is crucial to foster broad-minded individuals and face meaningful life challenges (Hafil & Ningrum, 2023; Sholekha, 2022).

Furthermore, the results of the study showed that gender and comorbid disease are emphasized. Most of the respondents in both groups in this study are female, with more spiritual practices and emotional support than males. The results revealed that females, especially Muslim females, tend to use spirituality as a practice method for self-healing and obtaining inner peace. In society, there is a collectivistic value; females are important as a means of self-empowerment and restoration of the meaning of life. Uncertainty theory in illness, put forward by Mishel, can be

understood through various factors influencing how individuals view respondents' health conditions. Dzikir therapy is a practical approach to reducing psychological conditions by providing spiritual and emotional support. By integrating spiritual need into the treatment process, patients are expected to develop a more adaptive coping strategy, which is very important for those with a history of comorbidities (Zainal Badri & Zulkarnain, 2024). Further studies have also reported that spirituality and religion play an important role in helping them overcome the diseases they suffer. In addition, women show more effectiveness in providing social support to fellow women and men. The tendency of women to find and receive social support when environmental pressure is also higher than men indicates that women may derive more benefits from social support (Bedrov & Gable, 2023; Rassoulia, 2021).

Other studies on the effectiveness of the positivity of affirmation and stabilization techniques through dzikir therapy in hemodialysis patients also show that six of the seven participants experienced a decrease in anxiety. Overall, relaxation techniques using dzikir are proven to significantly reduce anxiety in chronic kidney failure patients undergoing hemodialysis therapy, with significant differences between the levels of anxiety before and after intervention. (Manalu, 2021).

Spiritual education given to the intervention group aims to increase healing motivation by understanding the importance of spiritual aspects in the healing process. Spiritual education not only focuses on physical health but also emphasizes the importance of mental and emotional health, which is very important in the uncertainty of illness. Spiritually educated individuals are more able to manage anxiety, mistakes, and communication that arise due to chronic diseases such as hemodialysis. Thus, the study's results confirmed that spiritual education provides emotional calm and helps patients form more positive perceptions of disease. This intervention strengthens the understanding that disease management is not only medical, but also psychological and spiritual needs, as explained in Mishel's theory about the uncertainty of illness, which cannot objectively understand the meaning of a disease situation or predict the expected outcome.

Patients with a more mature age generally have a stronger emotional maturity and spiritual foundation, so religious and transcendental educational materials tend to be more accessible, lived, and internalized. Allows patients to understand the situation encountered more positively and with complete sincerity. In this spiritual study, education has provided space for patients to strengthen their beliefs, rely on prayer as a form of spiritual coping, and foster an understanding that every health test contains wisdom and can bring spiritual closeness. Thus, the motivation to recover is not only from the desire to recover physically, but also the need for inner peace and a deeper meaning of life.

CONCLUSION

Uncertainty of illness is related to psychosocial negative impacts, including symptoms of anxiety, a greater feeling of worry, and a negative mindset about the unwanted future, including fear, bad hopes for disease and suffering—one approach to finding out the uncertainty of illness through spiritual education. Interventions through spiritual education consist of three sessions, namely 1) spiritual education; beliefs and strength of prayer, 2) spiritual education; dzikir therapy, and 3) spiritual education; increases the motivation of patient healing. The intervention group that received spiritual education showed a significant decline in uncertainty about illness compared to the control group. This education helps patients find the meaning of life, strengthen expectations, improve psychological and psychosocial well-being, and build social support. Thus, spiritual education becomes important in nursing interventions and improves the quality of life of hemodialysis patients. Spiritual education has proven to be effective in reducing the level of uncertainty of illness in hemodialysis patients.

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CONFLICT OF INTEREST

All authors declared no conflicts of interest in this study.

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