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Beyond the dialysis machine: Coping strategies in the acceptance journey of chronic kidney disease patients

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ABSTRACT

Newly diagnosed patients with chronic kidney disease (CKD) often face significant challenges in adapting to lifelong hemodialysis therapy. Coping mechanisms play an important role in helping patients accept their illness; however, limited research has explored the lived experiences of Indonesian patients undergoing hemodialysis. This study aimed to explore the coping strategies used by CKD patients receiving hemodialysis as they worked toward accepting their condition. A qualitative approach was employed, involving in-depth, semi-structured interviews with a purposive sample of hemodialysis patients at Dr. Zainoel Abidin General Hospital in Aceh, Indonesia. Data were collected between September and December 2024. Eight participants were interviewed, and the data were analyzed thematically to identify patterns related to coping strategies and the acceptance process. The findings revealed that most patients experienced a dynamic grieving process, including shock, denial, and rejection, before reaching acceptance of their condition. Coping strategies, social support, and spiritual values played a significant role in this psychological process. However, even after accepting their condition, patients continued to experience emotional burdens, including feelings of despair and frustration, emotional fatigue and emotional instability, social withdrawal, and a loss of purpose in life. Therefore, a holistic health care approach is essential to address not only patients' medical needs but also their spiritual and psychosocial well-being.

1. Introduction

Chronic Kidney Disease (CKD) affects 10-15% of adults globally and represents a substantial and growing global burden (Hill et al., 2016). CKD is a progressive disease characterized by changes in the structure and function of the kidneys, marked by an estimated glomerular filtration rate (eGFR) <60 mL/min/1.73 m^2 or markers of persistent kidney damage for over three months. It progresses through five stages, culminating in kidney failure, where kidney replacement therapy becomes necessary (Deng et al., 2025). Newly diagnosed CKD patients frequently encounter significant difficulties in coping with their condition, especially with the realization that they must undergo lifelong hemodialysis therapy (Zahra et al., 2023). The shift from being a healthy individual to one dependent on a machine for survival is not only physically demanding but also emotionally distressing. Previous research has shown that patients undergoing hemodialysis experience a shortened life expectancy, often ranging from two to five years after diagnosis. This medical reality leads to psychological symptoms, limited social engagement, and disruption of daily activities, all of which diminish both the patient's motivation to accept the illness and their overall quality of life. Evidence suggests that more than half of end-stage renal disease (ESRD) patients struggle to accept their illness as an integral part of their identity (Pompey et al., 2019).

Illness acceptance is a crucial psychological milestone for individuals living with chronic diseases. It refers to a patient's ability to emotionally and cognitively cope with the condition, enabling them to maintain functionality and adapt to changes

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in lifestyle and self-concept (Powathil and KR, 2023). Higher levels of illness acceptance have been associated with improved psychological resilience, increased adherence to treatment protocols, and enhanced quality of life. Conversely, low acceptance can lead to maladaptive behaviors such as denial, withdrawal, and noncompliance with medical recommendations, which further compromise clinical outcomes (Seery and Buchanan, 2022).

Among hemodialysis patients, the degree of illness acceptance varies and is shaped by multiple factors, including coping strategies, spiritual orientation, access to social support, and personal knowledge about the illness (Saedi et al., 2024). Some patients traverse emotional stages of shock, denial, and fear before reaching eventual acceptance, while others remain emotionally stagnant, trapped in earlier phases throughout their treatment journey. Failure to achieve acceptance may hinder adaptation and reduce the efficacy of ongoing therapy.

Existing literature has emphasized the pivotal role of social support systems, spiritual beliefs, and coping strategies in shaping how patients comprehend and manage a chronic illness diagnosis. Among these, coping mechanisms—both cognitive and behavioral strategies employed to navigate internal and external stressors—play a mediating role in the acceptance process. However, most studies tend to classify coping strategies as a static group at a single point in time (Sułkowski et al., 2024). This study, on the other hand, investigated coping strategies as a dynamic process throughout the acceptance journey.

In addition, numerous qualitative studies in the United Kingdom have identified emotional burden and psychosocial experiences reported by dialysis patients (Finnegan-John and Thomas, 2013; Sein et al., 2020). However, there is limited understanding of the lived experiences of CKD patients in Asian countries, particularly Indonesia, which has a distinct culture including religious influences.

Considering this gap, the present study aims to explore the emotional and existential challenges, coping mechanisms, and how patients' relationships with long-term hemodialysis develop as they move towards illness acceptance. The findings aim to contribute to the growing body of literature on patient-centered care and inform the development of interventions that promote psychological resilience and enhance the quality of life for individuals undergoing lifelong dialysis therapy.

2. Methods

This study employed a qualitative research design with a descriptive phenomenological approach. In this framework, the researchers explored the lived experiences, emotional responses, and coping strategies of patients upon receiving a diagnosis of kidney failure and being required to undergo hemodialysis therapy for life. This approach sought to understand the meaning patients assigned to their experience and the psychological processes they went through as they faced the reality of a chronic, life-altering illness.

The study took place at Dr. Zainoel Abidin General Hospital, the leading referral hospital in Aceh Province. Participants were patients diagnosed with chronic kidney failure and were currently undergoing outpatient hemodialysis therapy. Sampling was conducted using both purposive and snowball techniques. Patients were selected according to the following inclusion criteria: being Muslim, over 18 years of age, undergoing dialysis therapy twice a week, and able to communicate effectively.

Data collection was carried out between September and December 2024. Researchers approached eligible participants in person, explained the research objectives, and obtained informed consent from them. Participants who agreed were invited to identify others who met the study criteria, in accordance with the snowball sampling method.

The researchers employed in-depth, semi-structured interviews to explore patients' emotional states, coping strategies, and levels of acceptance following their diagnosis and the initiation of dialysis. Interviews were conducted in Indonesian and Acehnese, depending on the participant's comfort, and each interview lasted between 45 and 60 minutes. To ensure data reliability and reduce transcription errors, each participant was interviewed twice. Interview schedules were adapted to the participants' availability, and all sessions were conducted in the hemodialysis unit of Dr. Zainoel Abidin General Hospital. Audio was recorded using a mobile phone with prior consent. An informed consent form was provided before each interview session, allowing participants to participate as informants in the study voluntarily.

The interview guide explored several key domains, including (a) socio-demographic background, (b) initial emotional reactions to the diagnosis, (c) coping mechanisms used to adapt to the condition, (d) sources of social support, and (e) the participants' level of illness acceptance and experiences during the hemodialysis process. The formulation of these questions was based on two theoretical models: the Roy Adaptation Model and the Transactional Model of Stress and Coping. These frameworks helped guide the inquiry into psychological processes, including primary appraisal, secondary appraisal, cognitive reframing, and behavioral adaptation (Roy et al., 2009).

This study used *thematic analysis*, as developed by Braun and Clarke (2006), to systematically identify, analyze, and report patterns within the qualitative dataset. The analysis consists of six structured steps. First, the interview recordings were transcribed verbatim. Then, initial coding was conducted to organize the data into relevant units of meaning. These codes were subsequently grouped into broader themes based on emerging patterns and conceptual relationships. Next, the themes were reviewed and refined for coherence and clarity, and each theme was clearly defined and labelled. Finally,

the themes were organized into a structured narrative, supported by illustrative quotations from participants. Data saturation was reached when no new themes emerged across participants, and the data was considered sufficiently rich to answer the research objectives. Saturation was confirmed through repeated cycles of coding and thematic consolidation.

The coding analysis process was primarily conducted by three researchers, including ZZ, M, and MM. First, Researcher ZZ independently conducted interviews, transcribed the recordings verbatim, and coded all the interview data (100%). Simultaneously, Researcher M and MM each coded a 25% random sample of the same transcript data. Finally, all the researchers met to re-examine, refine, and classify thematic categories. All finalization was completed through discussion until a 100% consensus on themes and subthemes was reached among researchers. After interviews with eight participants, no new topics emerged, and the data reached saturation. Four main thematic categories were confirmed, including initial acceptance of diagnosis, a spectrum of emotional responses, social support systems, and coping mechanisms. These categories directly addressed the research questions and provided a comprehensive understanding of patients' psychological and behavioral adaptations.

To enhance the trustworthiness of the study, triangulation was applied across two dimensions: source and methodological. Source triangulation was achieved by conducting interviews with two primary sources: dialysis patients and a religious leader. Through dialysis patients, researchers gained firsthand perspectives on their personal spiritual coping and acceptance processes during their illness experiences. The religious leader is notably interviewed to provide context and validate findings of spiritual coping from a religious perspective. Both sources were cross-compared to ensure that this study's understanding of spiritual coping practices is comprehensive and supported by both individual and contextual perspectives. This method helps minimize single-source bias and enhances the reliability and credibility of the findings.

Methodological triangulation was conducted through confirmatory interviews with five of the eight interviewees. This method is beneficial for verifying and reinforcing initial findings. In the second interview, the researcher asked the participants to verify whether the study's interpretation was consistent and accurately reflected their experiences that had been previously conveyed. This process yields higher internal validation, based on the consistency between the researcher's interpretation and the participants' perspectives. This study does not implement temporal triangulation. However, this study carefully timed interviews to align with the participants' physical comfort and emotional stability, particularly important given the taxing nature of dialysis therapy.

3. Results

3.1. Sociodemographic data

A total of eight participants were included in this study, selected according to predetermined inclusion and exclusion criteria. Participants' ages ranged from 30 to 64 years, with a predominance of female respondents (5 out of 8), and varied educational backgrounds from high school to master's degree. Most participants were married, with only two identified as single. Their occupations varied, including housewives, entrepreneurs, a teacher, an unemployed person, and a retiree.

The duration of hemodialysis treatment varied considerably, from 2 months to 4 years. Comorbidities were reported among most participants, including diabetes mellitus, hypertension, heart disease, osteoarthritis, and kidney stones, while two participants reported no comorbid conditions. Further socio-demographic details of each participant are presented in Table 1.

3.2. Emerging themes

Based on the data analysis conducted with eight participants through interview transcripts and field notes, four major themes emerged: initial acceptance, social support, coping mechanisms, and a spectrum of emotional responses, as presented in Table 2.

3.2.1. Initial acceptance

Initial acceptance of the chronic kidney disease (CKD) diagnosis and its treatment revealed a range of responses from the patients. Most experienced a non-linear process of emotional adjustment, often moving through stages of shock, denial, and rejection before eventually reaching partial or complete acceptance. Only one participant reported immediate acceptance of the diagnosis and agreed to start dialysis without hesitation.

Table 1: Socio-demographic characteristics of CKD patients undergoing hemodialysis

No.	Age (years)	Gender	Marital status	Occupation	Educational background	HD duration	Comorbidities
1	38	Female	Married	Housewife	Bachelor's degree	10 months	None
2	36	Male	Single	Unemployed	Bachelor's degree	13 months	HIV
3	51	Female	Married	Housewife	High school	2 years 8 months	Heart disease
4	30	Male	Single	Entrepreneur	Bachelor's degree	4 years	None
5	38	Female	Married	Entrepreneur	Associate degree	1 year 1 month	Hypertension
6	54	Female	Married	Teacher	Master's degree	2 months	Osteoarthritis
7	51	Female	Married	Housewife	High school	1 year 2 months	Diabetes mellitus and hypertension
8	64	Male	Married	Retired	Bachelor's degree	3 months	Kidney stones

Shock: The first and most common response was shock. Most patients associated dialysis therapy with death, as reflected in the following quotations: “I told the doctor that I wasn’t ready yet. I haven’t met a dialysis patient. I only know that undergoing dialysis means being close to death. Just like those undergoing chemotherapy, as if their time is almost up.” (Patient 1). Another participant stated, “I feel scared of dying soon. Of course, everyone dies eventually. That’s what we’re afraid of.” (Patient 2). This reaction reflects the patients' lack of preparedness to accept the reality of a permanent and life-changing chronic condition. It also shows how limited knowledge or public misinformation about dialysis therapy can lead to negative misconceptions.

Table 2: Emerging themes

Theme	Subtheme	Total
Initial acceptance	Shock	2
	Denial	2
	Rejection	3
	Acceptance	1
Social support	Family support	6
	Community and social networks support	2
Coping mechanisms	Spiritual approaches	6
	Non-spiritual approaches	2
A spectrum of emotional response	Feelings of despair and frustration	1
	Emotional fatigue	3
	Emotional lability	3
	Loss of purpose in life	1
	Social withdrawal	1
	Emotional acceptance	1

Denial: Some patients questioned the accuracy of the diagnosis because they did not experience significant symptoms, as shown in the following quotation: “They suggested dialysis, but I didn't believe it. Because (when) I was asked about the symptoms, I had none. Finally, I didn't want to do dialysis that day. ... I didn't even take the medicine that was given. ... I thought it was wrong (diagnosed), because I didn't get the symptoms.” (Patient 1). Such denial may occur because patients believed that the diagnosis did not match their physical condition. This attitude resulted in delayed hemodialysis treatment and failure to take the prescribed medication.

Rejection: Some participants openly rejected treatment because of mistrust in the diagnosis, fear of medical procedures, or a desire to avoid dependence on a dialysis machine. Reasons included disbelief in the doctor's diagnosis (Patients 1 and 5), concerns about medical equipment in Indonesian hospitals (Patient 7), fear of venous catheter insertion, and worry about lifelong dependence on dialysis. As one participant stated, “At first I didn't (accept).” (Patient 2). Another said, “At first, I refused dialysis. ... Wasn't there another way?” (Patient 4). Patient 7 explained, “Because at that time, urology surgery had to be done, but I had to do dialysis first. Well, I refused. I didn't want dialysis.” Patient 8 also stated, “I didn't want it, let me die like this slowly. If I have shortness of breath, then take me to the hospital, or I'll just buy oxygen.” These narratives reveal important gaps between medical understanding and patients' perceptions, creating challenges for clinical practice.

Acceptance: Only one patient immediately accepted the diagnosis and agreed to undergo hemodialysis. The patient explained that the decision was based on trust in the medical assessment: “It's okay. I told my child to sign (the dialysis consent form) immediately. Just sign it. When it comes to illness, that’s the doctor’s area of expertise, let them be the ones who should think about it.” (Patient 6).

3.2.2. Social support

Support from family and the wider community played an important role in the patients’ psychological adjustment to CKD. Participants consistently described receiving emotional, instrumental, and moral support, which served as important sources of encouragement and stability.

Family support: The most consistent and important support came from immediate family members, such as spouses and children. Patient 3 stated, “My husband and children are very attentive. My husband always accompanies me when he’s not working. My children often say, 'Come on, Mom, don't overexert yourself, we'll do the dishes.' Eventually, everything gets done properly.” Patient 1 explained, “My mother stayed with me for four months. As for my husband, he was willing to make sacrifices. Before I got sick, my husband was the most spoiled, because he lived with my grandmother.” Patient 4 also shared, “My mother, brothers, father too. My entire family (provides support).” Similarly, Patient 7 said, “Yes, Alhamdulillah, I get support from my husband, children, and those closest to me.” Patient 8 added, “My wife and children are very supportive, especially my son, who calls me every night. I am grateful, all my relatives encourage my treatment. No one says, 'no need for dialysis anymore.'” Patient 3 explained that her husband and children helped with daily activities, including household chores and caregiving. These actions represent practical support. Likewise, Patients 1 and 4 described the presence of family as a source of sacrifice and unconditional love. In this context, the family became the main support system, providing a sense of security and emotional stability.

Community and social networks support: Additional support came from friends and social communities, including neighbors, colleagues, and members of religious communities. This support mainly took the form of emotional encouragement through visits, prayers, and words of support. When describing the support they received, most patients said they felt valued and emotionally touched. Patient 2 stated, “Mom keeps encouraging me. Pray for me in every prayer. From my sister, my whole family supports me. I get support from friends too.” Patient 5 said, “(Support comes) from my husband, from neighbors.” Patient 6 described broader community support: “Yes, everyone supports me,

(from) my children, my husband. There are so many (visitors), (I'm) glad, because all the teachers from junior high school YY had come, junior high school XX, currently I am teaching at junior high school XX, my husband is working at the ZZ office, his colleagues at the ZZ all visited, until the room was full. … Colleagues from junior high school visit frequently; they come now and then, even neighbors and members of religious communities. Even during my surgery, all the neighbors came."

3.2.3. Coping mechanisms

This study identified two main coping strategies among patients: spiritual approaches and non-spiritual approaches. These strategies appeared to differ according to age and marital status. Specifically, older married patients relied more on spiritual approaches, whereas younger single patients mainly used non-spiritual coping strategies.

Spiritual approaches: Patients who used spiritual coping to manage their chronic condition practiced religious activities such as prayer, dhikr, and reading the Qur'an. These practices helped them achieve peace and patience. Patient 3 stated, "I just stay close to Allah. … Through prayer and dhikr at night. Yeah, that's it. Accept it… Allah is merciful, maybe someday there will be happiness." Patient 8 explained, "(I) read Al-Qur'an, sometimes when I'm just sitting around, I tend to overthink unnecessary things. (If that happened,) I will take Wudhu or Tasbih. ... But I feel a lot of things during my hemodialysis therapy. (I feel like) want to be close to God. Especially when it comes to shalawat, I love it." For these patients, spiritual practices were not only religious obligations but also emotional coping strategies that helped them manage anxiety and uncertainty related to dialysis therapy and the prognosis of their illness. Patient 3 suggested that spiritual practices served as therapeutic tools for achieving inner peace and improving spiritual well-being. Other patients, such as Patients 1 and 2, reported using prayer, sunnah prayers, and istighfar to calm their minds and feel closer to God. Patient 7 added that practicing dhikr with each breath helped maintain emotional balance and inner peace. These findings suggest that spiritual practices provide patients with a sense of control over their thoughts and emotions, especially while coping with the stress associated with hemodialysis therapy. Patients described several reasons for using these coping strategies. First, spiritual practices created a sense of inner peace by shifting attention away from pain and anxiety toward spiritually meaningful activities. Second, they encouraged patience and acceptance, strengthening patients' ability to cope with a chronic condition. Through these practices, patients came to understand their suffering as part of a higher purpose, viewing it as a test of faith and a destiny to be accepted with patience and resilience. These findings suggest that spiritual practices are not only religious rituals but also important tools for strengthening spirituality and maintaining hope.

Non-spiritual approaches: In contrast to the older patients' spiritual approaches, younger and single patients tended to use more casual, socially oriented, and distraction-based coping strategies. Patient 2 stated, "To stay motivated, I laugh and joke with my mom." Patient 4 explained, "(When stressed) I sleep or play games, usually mobile games." Patient 2 explained that talking and joking with his mother helped restore his motivation. This finding highlights the importance of social interaction in improving mood and emotional resilience. Meanwhile, Patient 4 preferred sleeping or playing games when feeling stressed. After spending time with family, playing games, or sleeping, patients generally felt better and were less overwhelmed by stress. These strategies also helped them reset their thoughts, enabling them to cope with their daily challenges more effectively.

A spectrum of emotional response: Patients with chronic kidney disease undergoing hemodialysis experienced a complex range of emotions, reflecting the psychological impact of kidney disease and the long-term process of dialysis therapy. Five closely related emotional patterns emerged from the data.

Feelings of despair and frustration: Some patients expressed feelings of hopelessness and frustration. They felt emotionally and physically exhausted and found it difficult to accept the severity of their illness. Patients described regret, anger, and sadness, particularly when experiencing severe symptoms such as shortness of breath. This reflects an internal conflict in accepting a chronic condition that cannot be cured. Patient 4 stated, "(I felt) regret. Anger, sadness. Of course, sad. Sometimes when I'm short of breath, I think 'oh, why is this happening to me'."

Emotional fatigue: Feelings of burnout and emotional exhaustion were consistently reported during the interviews. Patients described becoming tired of the lifelong routine of hemodialysis and feeling burdened by leaving their families at home while attending treatment. Some also felt that their lives had become less productive because most of their time was devoted to treatment, which one participant described as a loss of valuable time. Patient 2 said, "This endless cycle of dialysis. It's exhausting." Likewise, Patient 7 stated, "No, my soul feels like it wants to break free from all of this. We are not the experts, but there must be other solutions that we can take. We can't give up like this. Our time is wasted coming here weekly. Eventually, our lives become unproductive."

Emotional lability: Several patients reported becoming emotionally unstable after starting dialysis. They described becoming more easily offended, angry, and emotionally sensitive, as reported by Patients 3 and 5. Patient 3 stated, "(I've got) easily offended or crying, but never state it. If my husband scolds me, I just cry, keep it to myself." These emotional changes were also noticed by family members.

Patient 8 explained, "Since I've got dialysis therapy, I have been more sensitive to the point that my child told me not to get angry." These emotional changes may be triggered by physical exhaustion,

ongoing psychological stress, or biological changes associated with the dialysis process.

Loss of purpose in life: Along with emotional fatigue, some patients also described losing their sense of purpose. They felt they no longer had hope or dreams because they would depend on dialysis for the rest of their lives. They described this experience as losing direction in life, accompanied by hopelessness and the belief that there was no future. One participant stated, "(I felt) down I guess. No more hope, no more purpose because I have to do dialysis for life."

Social withdrawal: Some patients also showed a tendency to withdraw from social interactions, both physically and emotionally. They described avoiding social media, limiting contact with friends, and feeling ashamed of physical changes such as a thin body and dark skin caused by long-term therapy. This withdrawal may represent a passive coping strategy that reflects social isolation and feelings of inferiority. One participant explained, "I isolate myself. I don't even keep my cell phone with me, I don't check people's status, and I don't text my friends. After that, I began to observe who remained by my side. The ones who used to be close, but are now gone."

Emotional acceptance: Although most participants described negative emotions, one patient demonstrated a positive emotional response characterized by acceptance of the illness. The participant stated, "I accept everything, Insha Allah, as we said earlier, if God wills, maybe today the doctor will come in and say 'Mom, no need for dialysis anymore', no one knows. Even if they tell us to continue dialysis, then that's it, the doctor knows." This response reflects the patient's willingness to accept the illness as part of destiny and God's will. This attitude is shown through sincerity, trust in medical decisions, and hope that the condition may improve over time. Such acceptance represents a constructive form of adaptation and may help patients achieve emotional peace while living with a chronic condition.

4. Discussion

This study involved eight participants who shared their personal experiences and coping mechanisms in facing the diagnosis of chronic kidney disease (CKD) and the lifelong hemodialysis therapy required. Collectively, their narratives revealed both shared emotional responses and individualized adaptations, providing insight into the nuanced process of illness acceptance.

4.1. Initial acceptance

Participants' responses demonstrated that acceptance of the CKD diagnosis and the necessity of hemodialysis therapy did not occur immediately. Most described a sequence of reactions—shock, denial, and rejection—before any level of acceptance emerged. These findings confirm the often gradual and non-linear nature of the adjustment process, influenced by patients' perceptions, understanding of the disease, and psychological preparedness.

The shock experienced upon learning about lifelong dialysis reflects the cognitive dissonance that may result in significant decision-making. The reality of permanent dependency on hemodialysis imposes a multifaceted burden that many patients are unprepared to face (Hreńczuk et al., 2024; Pompey et al., 2019). The perception of dialysis as a "path to death" was fueled by a lack of understanding, public misconceptions, and negative anecdotal experiences. Patients often referenced individuals in their social circles who had deteriorated or died while undergoing dialysis, reinforcing these conflicting thoughts. Personal experience appeared to have a powerful impact on how patients processed their diagnosis and evaluated the proposed therapy.

The emergence of denial and rejection—not uncommon at an early stage—corresponds with Kübler-Ross's theory of grief, where denial acts as a defense mechanism against emotional overwhelm. In this study, patients rejected medical advice or delayed dialysis due to disbelief in the diagnosis or scepticism toward local medical equipment. Many interpreted the absence of severe symptoms as incompatible with such a serious illness. These findings highlight the disconnect that can exist between clinical evaluations and patients' subjective experience, which may delay acceptance and adherence.

Notably, only one participant reported immediate acceptance, which was primarily triggered by a severe decline in physical health. This aligns with literature noting that patients experiencing intense physical symptoms are more inclined to comply with treatment recommendations as a means to reduce suffering and improve functioning (Pompey et al., 2019).

Overall, these findings suggest that the acceptance state of a CKD diagnosis and hemodialysis therapy does not occur instantly, but rather is a process influenced by numerous factors, including physical condition, disease perception, past experiences, and personal values and beliefs. Therefore, a comprehensive approach is required from healthcare providers to enhance patient understanding, reduce potential anxiety, and integrate psychosocial and cultural aspects in facilitating the acceptance process.

4.2. Social support

The results of this study confirm that social support, both from immediate family and from friends and social communities, plays a vital role in helping CKD patients face the physical and psychological challenges that accompany their chronic condition.

The most dominant support comes from the closest family, especially parents, spouses, and children. This support includes providing

transportation and accompanying during therapy, helping with daily activities, and offering encouragement and motivation. The family has a significant influence on improving the quality of life of patients undergoing long-term therapy, such as hemodialysis. This finding is consistent with a study by Noviana and Zahra (2022), which demonstrated that families often play a direct role in patient self-management, including adherence to therapy, symptom control, and adaptation to lifestyle changes. Sari et al. (2024) also stated that families provide numerous forms of support to patients undergoing hemodialysis, including informational, emotional, assessment, and instrumental support. Consistent support from the family offers substantial benefits for CKD patients undergoing hemodialysis, including strengthened motivation for therapy adherence, a greater sense of security, and improved quality of life.

Social support from friends and communities, such as neighbors, coworkers, and spiritual communities, also has a positive impact on patients' mental health. The presence and attentiveness of this social environment help strengthen patients' sense of self-worth and perceived meaning in life (Shohet et al., 2023). In addition, such support also contributes to the reduction of anxiety and depressive symptoms commonly experienced by patients with chronic kidney disease.

4.3. Coping mechanisms

The analysis of coping strategies indicated an evident polarization based on sociodemographic profile, specifically the combination of age and marital status. Most of the older and married patients relied heavily on spiritual coping, engaging in practices such as prayer, dhikr, and Qur'anic recitation. These activities not only helped patients tolerate physical discomfort and uncertainty but also imbued their experience with a sense of meaning and trust in divine will.

Spiritual coping fosters a belief in purposeful suffering and divine wisdom, facilitating a sense of emotional surrender and inner peace. This aligns with previous literature indicating that faith-based practices can enhance resilience, promote psychological well-being, and reduce depressive symptoms in the chronic illness population (Cabaço et al., 2018; Dunn and Robinson-Lane, 2020).

These findings are consistent with previous studies, which have shown that spirituality improves treatment compliance and outlook by fostering a sense of agency through reliance on a higher power. For example, Hartiti et al. (2022) found that spiritually rooted interventions—including breathing exercises, prayer therapy, and dhikr—elevated patients' morale and acceptance of long-term hemodialysis. Likewise, Kusuma et al. (2020) demonstrated that dhikr therapy effectively reduced anxiety levels among patients with chronic kidney failure. By contrast, younger and single participants tended to use non-spiritual coping mechanisms, such as distraction through sleep, mobile games, and casual socialization. These methods served as temporary emotional relief strategies that allowed patients to psychologically "step away" from their illness. While such approaches may not address the existential dimension of disease, they are nonetheless adaptive in mitigating stress and preserving a sense of normalcy (Ramirez et al., 2012; Waugh et al., 2020).

The tendency of older and married patients to use reflective, spiritual practices while younger/single individuals gravitate toward distraction-based coping is consistent with Erikson's theory of psychosocial development. This theory suggests that late adulthood is characterized by an increased drive for introspection and legacy-building, whereas early adulthood often focuses on activity, connection, and identity exploration.

4.4. A spectrum of emotional response

Patients' emotional responses reported by participants reflect the cumulative psychological burden of chronic illness and the lifestyle disruptions caused by ongoing dialysis. Many patients described emotions of despair, regret, and hopelessness—particularly as their physical condition worsened or treatment routines became more taxing.

Emotional fatigue and burnout were recurring themes, often linked to the cyclical nature of treatment and perceived loss of productivity. As patients sacrificed time, mobility, and social roles to accommodate dialysis schedules, several reported feeling "trapped" in a medical routine with little perceived value or independence.

Participants also reported emotional lability, noting increased sensitivity, frustration, and irritability. These mood fluctuations were attributed both to psychological stress and potential biochemical changes associated with dialysis–a phenomenon supported by prior findings (Takahashi et al., 2020).

Over time, such chronic emotional strain led some patients to withdraw from social interactions, either out of shame related to physical changes (e.g., weight loss, darkening of the skin) or a sense of alienation. These narratives reflect a decrease in self-worth and highlight the risk of internalized stigma among dialysis patients.

Yet, even within these complex psychological landscapes, at least one participant demonstrated emotional resilience and complete acceptance. By surrendering to what she interpreted as divine will and trusting in the medical process, she was able to experience peace–suggesting that emotional acceptance is achievable when framed within a supportive, spiritually congruent context (Wierenga et al., 2017).

These findings underscore the need for healthcare professionals to implement emotion-focused interventions aimed at bolstering patients' emotional regulation, resilience, and sense of

meaning. Psychosocial and spiritual support tailored to individual coping profiles has the potential to improve clinical outcomes significantly in long-term dialysis care.

5. Conclusion

Overall, this study highlights the complexity of the psychological journey experienced by CKD patients in accepting their diagnosis and undergoing dialysis therapy. This process is strongly influenced by coping mechanisms, social support, spiritual values, and the personal meaning derived from living with the illness. These findings underscore the importance of a holistic approach in healthcare services, which not only addresses medical aspects but also considers the spiritual and psychosocial dimensions of the patient.

5.1. Strengths and limitations

The strength of this qualitative study lies in the use of in-depth interviews with Muslim patients, which uncovered culturally specific expressions and coping mechanisms unique to the Muslim population –insights that are often not captured in studies involving general populations. This approach provides a strong foundation for the development of a culturally and spiritually appropriate intervention in the future.

Meanwhile, the limitations of this study include the limited number of participants (only eight) and its conduct at a single site – Dr Zainoel Abidin Hospital in Banda Aceh. This may limit the generalizability of the findings related to patients' coping mechanisms and acceptance in the broader population or other regions.

List of abbreviations

CKD	Chronic kidney disease
eGFR	Estimated glomerular filtration rate
ESRD	End-stage renal disease
HD	Hemodialysis
HIV	Human immunodeficiency virus

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Compliance with ethical standards

Ethical considerations

This study was conducted in accordance with the principles outlined in the Declaration of Helsinki. Approval was granted by the Ethics Committee of the Zainoel Abidin General Hospital with number: 109/ETIK-RSUDZA/2024. Informed consent was obtained from all individual participants included in the study.

Conflict of interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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