

Resilience of Chronic Kidney Failure Patients Undergoing Hemodialysis Using The Callista Roy Theory Approach

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ABSTRACT

Introduction: Chronic Kidney Disease (CKD) is a progressive illness with long-term impact, where patients are required to undergo regular hemodialysis therapy. This condition affects not only the physical aspect but also causes significant psychological distress, such as fear of death, depression, prolonged stress, emotional exhaustion, and a sense of social isolation. Resilience becomes a crucial factor to help patients endure and recover from these adverse conditions.

Objectives: This study aims to explore more deeply the resilience experiences of chronic kidney failure patients undergoing hemodialysis at RSUD RAA Soewondo Pati, Indonesia.

Methods: This study used a mixed-methods approach with a sequential exploratory design. The initial phase involved quantitatively measuring resilience levels to identify 141 respondents with very high resilience. Of this population, 17 respondents met the criteria and were subsequently interviewed qualitatively to understand the meaning of resilience in their lives.

Results: Most patients exhibited a moderate level of resilience. The qualitative findings revealed five major themes: (1) fear of death, (2) the impact of hemodialysis on daily life, (3) the role of family support systems, (4) spiritual and social coping mechanisms, and (5) life meaning and hope as sources of motivation.

Conclusion: Resilience in CKD patients is significantly influenced by family support and spiritual coping abilities. Nursing interventions involving psychological and social support are essential to improving the overall quality of life of these patients.

Keywords: resilience, chronic kidney disease, hemodialysis, social support, psychological

INTRODUCTION

The World Health Organization (WHO, 2024) shows that CKD is the ninth leading cause of death globally in 2000, 2019, 2020, and 2021. In the United States, it is estimated that more than one in seven adults, or around 35.5 million people (14% of the population), suffer from CKD. The 2018 Basic Health Research (Riskesdas) conducted by the Health Research and Development Agency showed that the prevalence of chronic kidney failure (CKD) in Indonesia was 0.38%, or 3.8 per 1,000 population. Ministry of Health of the Republic of Indonesia (Kemenkes, 2023).

According to data from the Central Java Health Office (Dinkes Jateng, 2023), GGK ranked 9th with 4,266 (0.3%) confirmed cases in 2021, 6,136 (0.2%) in 2022, and increased to 6,987 (0.2%) in 2023 (Dinkes Jateng, 2023). Although the Pati District Health Office (2024) has not yet released district-level chronic kidney failure (CKF) prevalence statistics in Pati province, data from RSUD RAA Soewondo Pati shows that there were 1,945 CKF patients in 2024. The Hemodialysis Unit reported that 169 patients underwent routine hemodialysis for three consecutive months (November, December, and January), with 163 patients receiving hemodialysis in January 2025.

Chronic kidney disease (CKD) is a medical condition characterized by a steady and permanent decline in kidney function over three months or more. The kidneys play a crucial role in eliminating fluids and waste from the blood and maintaining the body's electrolyte balance. In the final stages of CKD, kidney function declines significantly, rendering them unable to eliminate toxins from the blood, as indicated by a Glomerular Filtration Rate (GFR) of less than 60 ml/minute/1.73 m²

The high number of cases of chronic kidney failure, low recovery rates, and potential side effects of therapy indicate that patients with this disease often face psychological challenges. Therefore, it is important to address the stress that arises during treatment so that patients can respond appropriately to their condition. Triesnwati (2023) states that resilience is negatively related to stress. Individuals with high resilience tend to exhibit effective coping mechanisms, thereby mitigating the impact of stress. Previous research has identified a significant relationship between coping mechanisms and resilience in CKD patients

The results of statistical analysis indicate that the more effective the coping mechanisms are, the higher the patient's resilience. The results showed a p-value of 0.017 ($<\alpha$ 0.05), indicating a significant correlation between coping mechanisms and resilience in CKD patients undergoing hemodialysis at Toto Kabila Regional General Hospital (Djaini et al., 2023). Another study examining the relationship between resilience and quality of life in chronic kidney disease (CKD) patients showed a significant correlation ($p = 0.004$) between the two variables. This study, conducted at Dr. Soebandi Regional General Hospital, Jember, concluded that resilience has a positive impact on patient quality of life (Prastiyo Susanto et al., 2024).

CKD patients with high levels of resilience tend to adapt better to their health conditions, experience improved quality of life, and find new meaning in their lives. They also develop effective coping mechanisms, making them more motivated to adhere to treatment plans and maintain their health. Furthermore, resilience plays a role in reducing the risk of psychological problems, such as depression and anxiety, which are common among patients. Conversely, CKD patients with low levels of resilience have the potential to experience significant negative impacts. They can experience decreased quality of life, psychological problems, and non-adherence to therapy. Furthermore, they may have less effective coping mechanisms, experience social isolation, and worsen their overall health and well-being (Andi Rahmawan et al., n.d. 2024).

Psychological resilience is defined as an individual's ability to recover and thrive positively when facing life's challenges. According to the American Psychological Association, resilience involves the process and outcome of adapting to difficult life experiences, manifested through

mental, emotional, and behavioral flexibility (Gadha Rias Arsy, 2022). It is not only about overcoming adversity, but also about the ability to persevere and find meaning in challenging situations (Akbar et al., 2024). Patients with chronic kidney disease (CKD) often experience difficulties adapting to their disease. Therefore, adaptability and resilience are crucial factors for patients (Pane et al., 2020).

A preliminary study conducted on February 11, 2025, at the hemodialysis unit of RAA Soewondo Pati Regional Hospital, through interviews with three patients with chronic kidney disease who demonstrated resilience, identified family support as a common factor contributing to resilience. The following are excerpts from interviews with hemodialysis patients regarding factors that contribute to resilience:

(Patient 1) *"Family, bro, I'm actually giving up, I'm going to give up, I'm going to be busy, I'm going to be busy, but I'm not happy, thank God, my spirit is soko bojo, I'm going to be enthusiastic about doing activities, working on things but it's easy, bro, I can't go to the rice fields anymore to work."*

(Patient 2) *"Yes, if you ask me why I can be enthusiastic again, it's because of my family, especially my wife, especially when I think about my children still in school, I'm always enthusiastic."*

(Patient 3) *"I think my family is the reason I'm motivated again, sir. Not only are they enthusiastic, but they also motivate me to continue my dialysis routine. I used to think it was useless, but thank God, my wife keeps encouraging me."*

Based on this preliminary study, it can be concluded that resilience plays a crucial role for chronic kidney failure patients undergoing hemodialysis. Therefore, this study aims to explore more deeply the resilience experiences of chronic kidney failure patients undergoing hemodialysis at RSUD RAA Soewondo Pati.

MATERIALS AND METHODS

This study employed a mixed methods design with a sequential explanatory approach, combining quantitative and qualitative stages. This design was chosen to gain a comprehensive understanding of the resilience phenomenon in chronic kidney disease patients undergoing hemodialysis, by integrating numerical and narrative data in a complementary manner (Othman et al., 2021).

In the first phase, the research was conducted quantitatively with the aim of measuring and understanding the distribution of patient resilience levels. The instrument used was a standardized resilience scale questionnaire. The results of this measurement were grouped into five categories: very high, high, moderate, low, and very low resilience. From this data, it was found that the majority of patients fell into the moderate resilience category, with only a small proportion having very high resilience. This phase provides an initial overview of the quantitative distribution of patient resilience levels.

The second phase was conducted using a qualitative approach to further explore the subjective experiences of patients, particularly those who fell into the very high resilience category based on previous quantitative results. Patients were selected using purposeful sampling techniques, taking into account the resilience scoring results. Data collection was conducted through in-depth interviews using semi-structured guidelines. These interviews aimed to explore emotional responses when first diagnosed with chronic kidney failure, the impact of hemodialysis on daily life, the role of social support from family and community, solutions used to overcome challenges, and the meaning and hope in life that patients develop during long-term hemodialysis therapy.

This research has passed the ethics test with the number 16/EC/KEPITEKES-CU/V/2025. The implementation of this research uses the Interpretative Phenomenology Analysis (IPA) data analysis technique in the analysis process.

RESULTS

Resilience

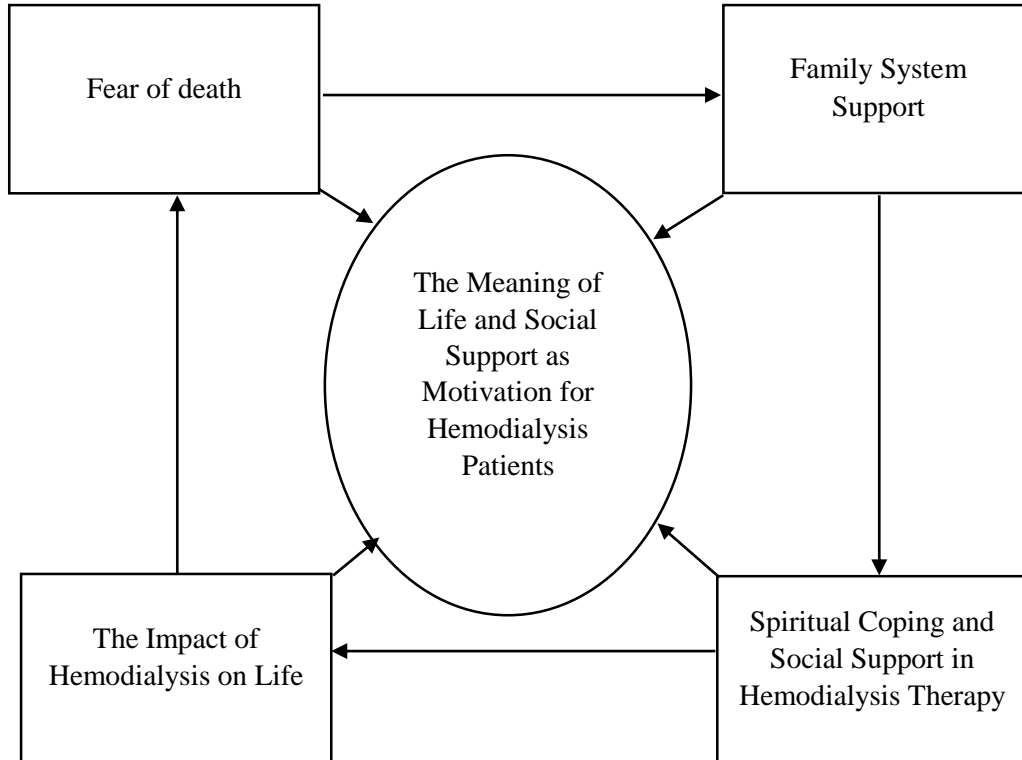
Table 1. Level of Resilience

Resilience Level	Distribution	Frequency
Very High	15	11%
High	27	19%
Medium	84	60%
Low	14	10%
Very low	1	1%
Total	141	100%

Based on the distribution of resilience levels, it is known that the majority of respondents are in the moderate resilience category (60%), followed by high (19%), very high (11%), low (10%), and very low (1%). Of the total respondents, 15 people who are classified as very high resilience category were selected as samples in the qualitative stage of this study, with the aim of delving deeper into their experiences, meaning of life, and adaptive strategies used in dealing with long-term hemodialysis therapy.

Based on the results of qualitative data analysis in this study, 5 participants were found to have 5 themes, namely: 1. Fear of death, 2. The impact of hemodialysis on daily life, 3. Family system support is the main thing, 4. Spiritual coping and social support in hemodialysis therapy, 5. The meaning of life and social support as motivation for hemodialysis patients.

The results of this study revealed five main interrelated themes that form a comprehensive picture of patients' experiences undergoing hemodialysis therapy. The first theme to emerge was fear of death, which was the participants' initial response to receiving a diagnosis of chronic kidney failure. This fear reflects profound existential anxiety and serves as the starting point for the psychological adaptation process to a life-threatening illness. In facing these challenges, family support emerged as a key pillar, providing encouragement and strength. Husbands, children, relatives, and friends were invaluable sources of emotional support, helping participants remain steadfast throughout the difficult and repetitive treatment.



DISCUSSION

Adaptation of Hemodialysis Patients Based on Callista Roy's Adaptation Theory

When faced with a chronic illness such as kidney failure that requires hemodialysis therapy, the adaptation process is a crucial aspect that determines the patient's ongoing quality of life. The Adaptation Theory developed by Callista Roy provides a highly relevant conceptual framework for understanding how hemodialysis patients respond holistically to their conditions. According to Roy (2009), humans are viewed as biopsychosocial systems that continuously interact with their environment and strive to achieve balance through adaptation to various stimuli. Roy identified four primary modes of adaptation: physiological, self-concept, role function, and interdependence. In the context of this study, these four modes emerged clearly in the participants' experiences.

First, in the physiological mode, participants described various bodily responses to hemodialysis therapy, such as chronic fatigue, decreased energy, and disruption of daily activities. These symptoms represent the body's adaptation to an invasive and repetitive medical process. As noted by Bossola et al. (2021), fatigue is one of the most significant physiological impacts experienced by hemodialysis patients and can directly impact their quality of life. Second, the self-concept mode is reflected in how participants interpret themselves and their lives after receiving a diagnosis of chronic kidney disease. Some participants exhibited psychological symptoms such as anxiety, anger, and feelings of worthlessness. However, others were able to rebuild a positive self-concept through a spiritual approach and self-acceptance. This process aligns with Taylor's (1983) Cognitive Adaptation to Illness theory, which states that individuals will strive to find meaning in their illness, establish control over their lives, and maintain self-esteem (Gardha Rias Arsy, 2025).

Third, their role functions underwent significant changes. Some participants stated they were no longer able to fulfill their previous roles as head of the household, breadwinner, or homemaker. However, family support helped them find new roles within the household or as a source of inspiration for other family members. These role changes represent a dynamic adaptation to the chronic conditions they face. Fourth, a strong interdependence model emerged in this study. Participants indicated that support from spouses, children, extended family, friends, and fellow hemodialysis patients was a major source of strength during therapy. This support not only served as emotional support but also strengthened motivation and a sense of belonging, which are crucial for building resilience. This aligns with Cohen & Wills' (1985) theory of Social Support and Health, which states that social support can provide a buffering effect against stress and improve psychological well-being.

Roy also groups stimuli that influence the adaptation process into three types, namely focal stimulus (the main stimulus that has the most influence, in this case the diagnosis of chronic kidney failure), contextual stimulus (supporting or inhibiting factors such as family and economic support), and residual stimulus (past experiences or beliefs whose impact is not yet clear but still have an influence, such as religious beliefs or previous traumatic experiences). In practice, participants who successfully demonstrate positive adaptation to these four modes tend to have high levels of resilience. They are able to manage physiological changes, accept and develop new self-concepts, adjust to social roles, and strengthen interpersonal relationships with their environment. This adaptation is not merely passive but active and ongoing, as patients strive to continue living their lives with meaning and hope.

Thus, Callista Roy's theory can serve as an important framework for understanding how hemodialysis patients develop complex and multidimensional adaptation strategies to face the challenges of chronic disease. This theory is also relevant for application in nursing practice, ensuring that interventions provided to patients focus not only on medical aspects but also on the patient's psychological, social, and spiritual aspects as a whole.

CONCLUSIONS

Based on the results of research on the experience of resilience in chronic kidney failure patients undergoing hemodialysis therapy, it can be concluded that: Patients' initial emotional responses to a diagnosis of chronic kidney failure vary, but most experience a range of emotions, including sadness, fear, anger, and denial. Over time, these responses evolve into acceptance after undergoing a process of psychological adaptation. This process is in line with the five stages of grief according to Elisabeth Kübler-Ross, namely denial, anger, bargaining, depression, and acceptance, which describe the emotional journey of an individual in facing a loss or major change, such as a diagnosis of a chronic disease.

Hemodialysis significantly impacts patients' physical condition, including fatigue, sleep disturbances, changes in appetite, and limitations on daily activities. This presents a challenge for patients in maintaining their quality of life. Social support from family, friends, and the community plays a crucial role in building patient resilience. Emotional, moral, and practical support can increase patient motivation to consistently and optimistically pursue therapy. Solutions used by patients to deal with problems during hemodialysis include the application of coping strategies, such as positive thinking, deepening spirituality, seeking information about the disease, and actively participating in the patient community. The meaning and hope in life that develop in patients after long-term hemodialysis reflect an effort to reconstruct the meaning of life. Patients begin to establish realistic expectations, such as wanting to remain productive, be useful to their families, and live healthier lives despite their limitations.

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Availability of data and materials

This study involved 169 respondents undergoing hemodialysis treatment, who completed a resilience questionnaire. The questionnaire covered several items, including health, finances, spirituality, and education. Twenty-five respondents were found to be truly resilient on each item. Of the 25 respondents scheduled for in-depth interviews using a structured interview guide, 15 reached saturation point.

Authors' contributions

The research team, consisting of the head researcher (Gardha Rias Arsy), played a role in preparing the research materials and questionnaires, processing the research data, and writing the final report and article. The research team members (Wahyu Rizqil Mustofa and Ambarwati) played a role in collecting the research data.

Conflict of Interest

This study does not use commercial products

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