



Multidimensional Experiences of Young Adults with Chronic Kidney Disease Undergoing Hemodialysis: A Narrative Literature Review (2018 - 2025)

Deni Candra Ramadhan, S.Kep., Ners^{1*}, Suyanto, S.Kep., Ners., M.Kep., Sp.Kep.MB², Sri Wahyuni, S.Kep., Ners., M.Kep., Sp.Kep.Mat²

¹ Master of Nursing, Faculty of Nursing, Universitas Islam Sultan Agung, Semarang, Indonesia.

*Corresponding Author. Email: denicandraramadhan123@gmail.com

² Master of Nursing, Faculty of Nursing, Universitas Islam Sultan Agung, Semarang, Indonesia.

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ABSTRACT

Background: Chronic kidney disease (CKD) increasingly affects young adults. While hemodialysis is lifesaving, it imposes physical, psychological, social, economic, and spiritual burdens. Young adults face distinctive challenges related to identity formation, education, employment, and social relationships, which are often disrupted by treatment demands and illness uncertainty. **Purpose:** This review explores the multidimensional experiences of young adults with CKD on hemodialysis to inform holistic and age-sensitive nursing care. **Methods:** A narrative review was conducted using PubMed, Scopus, CINAHL, ScienceDirect, Google Scholar, and Garuda between 2018 and 2025. Fifteen studies meeting the inclusion criteria were thematically synthesized. **Results:** Six themes emerged: (1) *Physical impact*, such as fatigue, sleep disturbance, and intradialysis complications; (2) *Psychological distress*, including depression, anxiety, and body image concerns; (3) *Economic burden*, such as loss of income and family dependency; (4) *Spirituality*, including religious practices fostering hope and resilience; (5) *Social support*, such as family, peers, and community networks enhancing adherence; and (6) *Coping strategies*, including problem-focused coping, support groups, and spiritual practices. **Conclusion:** Some inconsistencies were noted regarding exercise and community-based programs, which appeared variably linked to coping and social support themes. Young adults on hemodialysis experience interconnected physical, psychological, and social challenges that influence quality of life and adherence. **Implications for Nursing:** Nurses should provide holistic, youth-centered interventions that integrate physical rehabilitation, counseling, financial guidance, and family and community engagement to promote adaptive coping and overall well-being.

Keywords: Chronic kidney disease, Young age, Hemodialysis, Hemodialysis experience.

What does this paper add?

1. It provides a comprehensive overview of the multidimensional experiences of young patients with chronic kidney disease (CKD) undergoing hemodialysis, including physical, psychological, social, economic, spiritual, social support, and coping mechanisms.
2. It emphasizes that young patients face unique challenges that differ from those faced by older patients, thus requiring more specific and integrated care interventions.
3. It identifies research limitations related to

- psychological support, physical rehabilitation, and structured spiritual interventions for young age groups.
4. It provides a conceptual basis for the development of a holistic nursing program that includes family, community support, spiritual care, and adaptive coping training.
 5. It offers a new perspective that a holistic approach that integrates physical, psychological, social, economic, and spiritual dimensions has the potential to improve quality of life and therapeutic adherence in young hemodialysis patients.

Introduction

Chronic Kidney Disease (CKD) is a progressive and irreversible disorder of kidney function lasting more than three months, characterized by a reduction in glomerular filtration rate (Kalantar-Zadeh et al., 2021), CKD affects more than 850 million people and ranks as the third leading cause of non-communicable death after cardiovascular disease and cancer (Global Burden of Disease, 2020; World Health Organization, 2023). In Indonesia, the prevalence of CKD was reported at 0.38% (Kementerian Kesehatan RI, 2018), with recent data showing that approximately 60% of patients require lifelong hemodialysis (Kementerian Kesehatan, 2023). Hemodialysis, while being essential for sustaining life, imposes multidimensional burdens including chronic fatigue, sleep disturbances, depression, social isolation, financial strain, and reduced quality of life (Borg et al., 2023; Elendu et al., 2023).

In contrast to older patients, young adults face unique challenges related to productivity, identity, and social roles. Educational and occupational responsibilities are often disrupted by the demanding hemodialysis schedule, while financial dependency increases the burden on families. Moreover, stigma associated with being perceived as 'unproductive' or a 'burden' further exacerbates psychological distress and negatively impacts quality of life (Indriani et al., 2022; Kerklaan et al., 2020).

Although previous studies have examined the experiences of patients undergoing hemodialysis, most of them have focused on general or older populations. Young adults, however, face distinct challenges, such as disruptions in education, career development, social participation, and identity formation, which are rarely emphasized in existing research (Indriani et al., 2022; Kerklaan et al., 2020; Utami & Lestari, 2020). These

challenges highlight the need for studies that specifically explore the multidimensional experiences of young adults diagnosed with CKD.

Aims

This review aims to describe and synthesize the experiences of young adult patients with CKD undergoing hemodialysis, highlighting multidimensional challenges that inform nursing care.

Method

This article was a narrative literature review designed to identify, evaluate, and synthesize recent research findings on the experiences of young adults with chronic kidney disease (CKD) undergoing hemodialysis. A narrative approach was chosen, because it enables integration of both qualitative and quantitative evidences to provide a comprehensive understanding of the phenomenon.

The literature search was conducted systematically in PubMed, Scopus, CINAHL, ScienceDirect, Google Scholar, and the Garuda Portal, using the software *Publish or Perish* to manage references. Keywords applied in various combinations included: "*chronic kidney disease*," "*young adults*," "*hemodialysis*," "*psychosocial experiences*," "*coping*," and "*quality of life*".

Inclusion criteria were: (1) peer-reviewed articles published between 2018 and 2025; (2) studies indexed in major scholarly databases (Scopus, PubMed, CINAHL, ScienceDirect, Google Scholar, and Garuda); (3) studies focusing on young adults, defined as individuals aged 18-45 years; and (4) full-text availability in English or Indonesian.

The search process initially identified 452 articles. After removing duplicates, 318 records remained. Title and abstract screening excluded irrelevant studies, leaving 74 articles. Of these, 28 full-text papers were reviewed in detail, and finally 16 studies met the inclusion criteria and were analyzed.

Data analysis was conducted using thematic synthesis, consisting of three stages: (1) line-by-line coding of extracted findings; (2) grouping codes into categories; and (3) generating overarching themes. Two reviewers independently coded the data, with disagreements resolved through discussion. A synthesis matrix was then constructed to map each study's findings according to the derived themes.

Table 1. PRISMA flow of study selection process

Stage of Selection	Number of Studies
Records identified (all databases)	452
After removing duplicates	318
After title/abstract screening	74
Full-text assessment for eligibility	28
Studies included in the final review	16

Results

A narrative synthesis of 16 studies yielded six overarching themes representing the multidimensional experiences of young adults with chronic kidney disease (CKD) undergoing hemodialysis. These include: (1) physical impact, (2) psychological impact, (3) social dimension, (4) economic burden, (5) spirituality, and (6) coping mechanisms.

1. Physical Impact

Young adults frequently reported chronic fatigue, sleep disturbances, intradialysis complications, and reduced stamina, which impaired daily functioning and productivity (Borg et al., 2023; Indriani et al., 2022; Mailani et al., 2022). These symptoms often triggered secondary psychological distress, including frustration and loss of motivation (Zhang et al., 2025).

2. Psychological Impact

Emotional challenges, such as anxiety, depression, and body image concerns, were common, driven by lifestyle disruptions and visible vascular access. These issues negatively influenced confidence, therapy adherence, and long-term outlook (Salsabila et al., 2024).

3. Social Dimension

Regular hemodialysis schedules limited opportunities for education, work, and social participation. Stigma that patients were “unproductive” or a “burden” further intensified isolation (Utami &

Lestari, 2020). Nevertheless, family, peer, and community supports were found to buffer these impacts and enhance social integration (Appiah et al., 2022).

4. Economic Burden

Despite partial insurance coverage, patients faced additional expenses for transportation, medications, and supplements, while fatigue and treatment schedules reduced work capacity (Borg et al., 2023). These financial strains often increased dependency on families and created household stress (Salsabila et al., 2024).

5. Spirituality

Religious and spiritual practices provided acceptance, resilience, and hope, functioning as a positive coping strategy. Spiritual support from healthcare providers and religious leaders was associated with improved adherence and psychological well-being (Salsabila et al., 2024; Utami & Lestari, 2020).

6. Coping Mechanisms

Young adults employed adaptive strategies, such as problem-focused coping, social support, and religious practices, which improved resilience and quality of life (Appiah et al., 2022; Mailani et al., 2022). Based on the study results, positive coping mechanisms influence patient compliance in undergoing hemodialysis therapy (Melastuti et al., 2022). However, maladaptive responses, including denial or withdrawal, were linked to poorer outcomes (Burgos-Calderón et al., 2021).

Table 2. Summary of included studies and emerging themes

Author(s)/Year	Country/Population	Main Findings	Themes
(Indriani et al., 2022)	Indonesia/young adults	Fatigue, stigma, reduced work productivity	Physical, Social
(Limbong et al., 2020)	Indonesia/young adults	Anxiety, depression, family support	Psychological, Social
(Salsabila et al., 2024)	Indonesia/young adults	Religious coping improved quality of life	Spirituality, Coping
(Borg et al., 2023)	Global/adults with CKD	Chronic fatigue, reduced productivity, economic impact	Physical, Economic
(Zhang et al., 2025)	China/ young & middle-aged	Sleep disturbances, body image issues	Physical, Psychological

(Mailani et al., 2022)	Malaysia/adult CKD patients	Symptom management, coping with fatigue and sleep problems	Physical, Coping
(Mailani et al., 2024)	Indonesia/adult CKD patients	Association of spiritual well-being with quality of life	Spirituality
(Appiah et al., 2022)	Ghana/adults	Community support and family support reduce isolation	Social, Coping
(Utami & Lestari, 2020)	Indonesia/adults	Psychosocial challenges and stigma in CKD patients	Social, Psychological, Spiritual
(Kerklaan et al., 2020)	Global/young adults	Impact on lifestyle, career, and participation	Psychological, Social
(Elendu et al., 2023)	Nigeria/adults	Guidelines and evidence on CKD management, highlighting physical and psychosocial burden	Physical, Social
(Basile et al., 2021)	Global/CKD patients	Hemodialysis innovations and patient impacts	Physical
(Al-Talib et al., 2024)	UK/young adults	Longitudinal follow-up on psychosocial health of young kidney failure patients	Psychological, Social
(Burgos-Calderón et al., 2021)	Latin America/CKD patients	Coping strategies and population kidney health approaches	Coping, Social
(Afiyanti & Rachmawati, 2022)	Indonesia/theoretical	Holistic nursing perspective emphasizing multidimensional care	Conceptual, Spiritual, Holistic
(Melastuti et al., 2022)	Indonesia/Middle-aged patients	Emotional and coping mechanism to patient's adherence of chronic kidney disease patients during haemodialysis	Emotional, Coping

Discussion

This review highlights that young adults undergoing hemodialysis face complex, inter-related challenges across physical, psychological, social, economic, and spiritual domains. Physically, fatigue, sleep disturbances, and intradialysis hypotension reduce functional capacity and productivity (Borg et al., 2023; Limbong et al., 2020). Psychologically, depression, anxiety, and body image concerns are common (Kerklaan et al., 2020; Limbong et al., 2020), and often linked to physical limitations and social stigma. Social barriers, such as restricted participation in education or employment, further exacerbate isolation (Indriani et al., 2022; Utami & Lestari, 2020), while economic strain amplifies emotional burden and dependence on family support. Taken together, these domains interact dynamically, shaping young adults' ability to cope and adapt to life with CKD.

Spirituality and coping emerged as key protective factors promoting resilience and meaning-making (Appiah et al., 2022; Mailani et al., 2022). However, the limited evidence base and inconsistent findings on exercise and community-based interventions suggest that approaches effective in older adults may not meet the needs of younger populations (Borg et al., 2023). This highlights the need for youth-specific physical and psychosocial interventions grounded in developmental and cultural contexts.

Implications for Nursing

For nursing practice, care should extend beyond technical hemodialysis management to address the multidimensional needs of young adults. Nurses play a central role in coordinating holistic care that integrates physical rehabilitation, stigma-sensitive counseling, family engagement, financial guidance, and spiritual support. Future research should develop and test age-sensitive interventions and evaluate long-term outcomes to inform evidence-based, patient-centered practice.

Collectively, these findings underscore that the experiences of young adults differ significantly from those of older patients, especially regarding identity, independence, and social participation. They provide a conceptual foundation for the development of youth-specific nursing care models integrating physical, psychological, social, economic, and spiritual dimensions.

Study Limitations

This review limited its inclusion to studies published in peer-reviewed journals indexed in reputable databases, such as Scopus, PubMed, CINAHL, ScienceDirect, Google Scholar, and Garuda. While this strategy ensured academic quality and credibility, it may have excluded relevant studies published in non-indexed or regional journals. As a result, the comprehensiveness and representativeness of the findings may be limited. In addition, only 16 studies were synthesized, and the

majority originated from Indonesia. This limited number and regional concentration may reduce the generalizability of findings to broader populations of young adults with CKD. Furthermore, variations in study design and methodology across the included studies may have constrained the ability to achieve deeper comparative synthesis.

Conclusion

This review highlights that young adults with chronic kidney disease undergoing hemodialysis face multidimensional and inter-related challenges across physical, psychological, social, economic, and spiritual domains. Unlike older patients, their experiences are strongly shaped by issues of productivity, identity, and social participation. Social support and coping mechanisms play central roles in adaptation, yet structured, youth-specific interventions remain scarce.

Holistic care approaches are needed, combining safe physical rehabilitation, psychological support focused on stigma and self-image, community and family engagement, financial protection, and integrated spiritual care. For nursing practice, this emphasizes the necessity of patient-centered, culturally sensitive interventions tailored to young adults. Future research should prioritize longitudinal and intervention studies to evaluate the effectiveness of such approaches in

improving long-term quality of life.

The complexity of young patients' experiences lies in their need to balance demanding hemodialysis regimens with developmental tasks, such as pursuing education, maintaining employment, sustaining social relationships, and affirming their personal identity. These overlapping responsibilities create multidimensional pressures that differ substantially from those faced by older patients. Recognizing this complexity is essential for developing holistic, youth-specific nursing strategies that address both medical and socio-developmental needs.

Conflict of Interests

There is no conflict of interests to declare by the authors.

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Author Contributions

Study Design: **DCR**. Data Collection: **DCR, SS**. Data Analysis: **DCR, SS**. Study Supervision: **SS, SW**. Manuscript Writing: **DCR**. Critical Revision for Important Intellectual Content: **SS, SW**.

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