

Original Article

Caregiver burden and coping strategies among family caregivers of patients with chronic kidney disease undergoing hemodialysis: A descriptive study

Shinta Nur Haliza^{1*}, Hendy Lesmana¹, Ayuk Cucuk Iskandar¹

¹Nursing Study Program, Faculty of Health Sciences, Universitas Borneo Tarakan, Tarakan, Indonesia

Abstract

*Corresponding Author:

Shinta Nur Haliza
Nursing Study Program, Faculty of Health Sciences, Universitas Borneo Tarakan, Tarakan, Indonesia
Email:
shintanurhalizah4@gmail.com

Keyword:

Caregiver burden; Chronic kidney disease; Coping strategies; Family caregiver; Hemodialysis

© The Author(s) 2026

DOI:

<https://doi.org/10.52235/lp.v7i2.749>

Article Info:

Received : March 13, 2026
Revised : April 26, 2026
Accepted : May 18, 2026

Lentera Perawat

e-ISSN : 2830-1846
p-ISSN : 2722-2837



This is an Open Access article distributed under the terms of the [Creative Commons Attribution-NonCommercial 4.0 International License](https://creativecommons.org/licenses/by-nc/4.0/).

Background: Chronic kidney disease is a progressive condition requiring long-term hemodialysis therapy and affects not only patients but also family caregivers involved in daily care. Continuous caregiving demands may lead to physical, emotional, social, financial, and care-related burdens, requiring adaptive coping strategies to sustain caregiving roles.

Objective: This study aimed to identify caregiver burden and coping strategies among family caregivers of patients with chronic kidney disease undergoing hemodialysis.

Methods: This descriptive quantitative study was conducted at Regional Hospital in Tarakan from December 2025 to February 2026. A total of 133 family caregivers of patients with chronic kidney disease undergoing hemodialysis were recruited using a total sampling technique based on predetermined inclusion and exclusion criteria. The Zarit Burden Interview was used to assess caregiver burden, while the Brief COPE was used to measure coping strategies. Data were analyzed using univariate analysis with Jamovi and presented as frequency distributions, percentages, medians, minimum values, and maximum values.

Results: Most respondents were adults, female, housewives, had a monthly family income of IDR 1,000,000–3,000,000, and were the patients' children. The majority of caregivers experienced mild burden, accounting for 84 respondents (63.2%). The most dominant coping strategy was emotion-focused coping, with a median score of 24, a minimum score of 13, and a maximum score of 34. The most frequently used coping subscales were positive reframing, acceptance, and religion, each with a median score of 8.

Conclusion: Most family caregivers of patients with chronic kidney disease undergoing hemodialysis experienced mild caregiver burden and tended to use emotion-focused coping as their primary strategy. Regular caregiver burden screening, education on adaptive coping strategies, and psychosocial support should be strengthened within hemodialysis care services.

Background

Chronic kidney disease (CKD) is a condition characterized by a gradual, progressive, and irreversible decline in kidney function. This disorder disrupts metabolic processes and the regulation of fluid and electrolyte balance in the body. CKD generally persists for more than three months as a consequence of various kidney diseases and tends to worsen over time, with kidney function rarely returning to normal (Makmur et al., 2022). This disease is more commonly experienced by older adults, women, certain racial groups, and individuals with diabetes mellitus and hypertension. Various prevention and management efforts continue to be implemented because CKD has serious consequences for many individuals (Surani et al., 2021).

CKD has become a major global health problem, with its prevalence increasing rapidly (Aneja &

Fatrinda, 2026). According to the World Health Organization (2020), the global prevalence of CKD is approximately 10% of the population. Of this number, an estimated 1.5 million people undergo hemodialysis, and this figure increases by approximately 8% annually. In Indonesia, the number of chronic kidney failure cases continues to increase each year. The 2023 Indonesian Health Survey reported that the prevalence of chronic kidney failure reached 638,178 individuals, equivalent to approximately 0.18% of the total population. Meanwhile, in North Kalimantan, the prevalence of CKD was reported at 0.14% (Ministry of Health, 2023). Based on data from the Hemodialysis Unit of Regional Hospital in Tarakan, 200 patients with CKD underwent hemodialysis in North Kalimantan from February to September 2025.

Renal replacement therapy is required for patients with CKD to sustain life. The three main

types of renal replacement therapy are hemodialysis, continuous ambulatory peritoneal dialysis, and kidney transplantation. Hemodialysis is the most commonly used method among patients with CKD. In the community, this procedure is commonly referred to as “blood washing” or dialysis (Nusantara et al., 2021). Hemodialysis is a renal replacement therapy method that removes excess fluid and metabolic waste products from the body when kidney function has declined or progressively deteriorated, making the kidneys unable to function optimally (Nusantara et al., 2021). Patients with CKD generally undergo hemodialysis two to three times per week, with each session lasting approximately 4–5 hours, equivalent to 10–15 hours per week. In Indonesia, hemodialysis is generally performed twice weekly for 4–5 hours per session, depending on individual needs and the prescribed dialysis dose (PERNEFRI, 2011).

Hemodialysis is often associated with various side effects; however, patients are still required to adhere to this therapy to maintain survival. When an individual is diagnosed with a chronic disease such as CKD, life changes occur not only in the patient but also in those who are emotionally and physically involved in the caregiving process (Chu et al., 2023). As hemodialysis continues, patients require substantial assistance and family support because their dependence on family members tends to increase over time (Abebe et al., 2022). Family caregivers of patients undergoing hemodialysis play an important role in assisting patients with daily activities, as these patients often experience physical limitations that may affect their ability to perform activities of daily living (Abebe et al., 2022; Sari et al., 2026). Such support includes enhancing family and social involvement, encouraging psychological support, and facilitating adaptation to changing roles (Abebe et al., 2022; Al Harbi et al., 2025). Providing care for patients with chronic illness can cause stress among family members; therefore, understanding caregiver burden is essential. Caregiver burden includes financial, social, psychological, and physical strain (Menati et al., 2020). This condition may ultimately affect caregivers’ well-being and quality of life and may also influence patients’ health outcomes (Sihaloho et al., 2024).

The caregiver role is not a simple responsibility because it can affect an individual’s emotional,

social, physical, and financial condition (Hasanah et al., 2024). Therefore, appropriate coping strategies are needed to enable caregivers to sustain their role and manage caregiving demands. Coping behaviors demonstrated by caregivers reflect resilience in dealing with problems. The use of adaptive coping has positive effects because it helps caregivers manage caregiving burden, prevent burnout, and reduce the risk of health problems (Prabasari et al., 2025). Conversely, maladaptive coping may have negative consequences, as poorer coping strategies are associated with a lower ability of family members to deal with problems (Renylda et al., 2022).

Previous studies have focused on the relationship between burden level and psychological well-being among caregivers of hemodialysis patients (Prima et al., 2023), the association between caregiving duration, educational level, and caregiver burden (Surani et al., 2021), and coping strategies among patients with chronic kidney failure in hospital settings (Hermana et al., 2020). Therefore, this study aimed to describe the burden and coping strategies of family caregivers of patients with CKD undergoing hemodialysis. This research focus has not previously been examined at the Regional General Hospital in Tarakan, which is currently the only hospital providing hemodialysis services in the area.

Methods

Study Design

This study employed a quantitative descriptive design. The study was conducted at Regional Hospital in Tarakan from December 2025 to February 2026.

Sampling

The study population consisted of all family caregivers who provided care for patients with chronic kidney disease undergoing hemodialysis at Regional Hospital in Tarakan with a total population of 200 caregivers. The study sample included family caregivers who met the inclusion criteria and were selected using a total sampling technique; therefore, all eligible members of the population were recruited as study respondents.

The inclusion criteria were primary family caregivers who had the greatest responsibility for the patient's daily care, caregivers of patients who had undergone hemodialysis for at least three months, caregivers aged ≥ 18 years, caregivers who were able to read and write in Indonesian, and caregivers who were willing to participate by signing the informed consent form.

The exclusion criteria included caregivers of patients who had no family members directly involved in their care, caregivers with severe physical or psychological disorders that could affect their ability to complete the questionnaire, caregivers who were absent or unreachable during the data collection period, and caregivers of patients who transferred their hemodialysis treatment to another hospital outside Tarakan City.

A total of 67 patients were excluded from the study. These included 24 family members of patients who had undergone hemodialysis for less than three months, seven accompanying family members aged < 18 years, six respondents who declined to participate, one patient who died, seven patients who were never accompanied by family members during hemodialysis and did not provide consent for a home visit to collect data from family caregivers, one patient who had no family members, and 21 patients who refused to provide family contact numbers for interviews or questionnaire completion. Consequently, the final number of respondents included in the analysis was 133.

Instruments

The study instruments consisted of two questionnaires: the Zarit Burden Interview (ZBI) and the Indonesian version of the Brief COPE. The 22-item ZBI was used to measure caregiver burden. This instrument consists of 22 items rated on a five-point Likert scale ranging from 0, "never," to 4, "nearly always," with a total score ranging from 0 to 88. The total ZBI score was interpreted based on the original ZBI classification: mild burden, 0–20; moderate burden, 21–40; severe burden, 41–60; and very severe burden, 61–88.

The Indonesian version of the ZBI has been tested for validity and reliability by Larantukan and Yudiarso using Rasch model analysis with the Winsteps program. The results showed that all items had infit and outfit Mean Square values between 0.5 and 1.5, and the raw variance explained by measures was 50.8%, indicating that the instrument was valid for measuring burden among family caregivers. Reliability testing showed a person reliability value of 0.91, item reliability of 0.99, and Cronbach's Alpha/KR-20 of 0.93, indicating very high reliability.

The second instrument was the Brief COPE, which was used to measure caregivers' coping strategies. This questionnaire consists of 28 items divided into 14 subscales and grouped into three main categories: problem-focused coping, including active coping, planning, positive reframing, and instrumental support; emotion-focused coping, including emotional support, venting, humor, acceptance, religion, and self-blame; and avoidant or dysfunctional coping, including self-distraction, denial, substance use, and behavioral disengagement.

Each item was rated using a four-point Likert scale: 1, "never"; 2, "sometimes"; 3, "often"; and 4, "always." Each subscale score ranges from 2 to 8, with higher scores indicating more frequent use of the coping strategy. The Brief COPE instrument used in this study has been validated by Sicilia et al. (2024), with corrected item-total correlation values > 0.3 for all items. Reliability testing showed a Cronbach's Alpha value of 0.83 for the overall scale, and each subscale had an alpha value > 0.5 ; therefore, the Brief COPE was considered valid and reliable for measuring coping strategies among family caregivers of patients with chronic illness.

Data Collection

The researchers approached respondents directly and explained the study objectives and benefits. After the explanation was provided, the researchers gave the informed consent form to prospective respondents to read and sign as confirmation of their agreement to participate in the study.

The researchers then distributed the questionnaires to respondents. Respondents who were able to read and write completed the questionnaires independently, whereas respondents who experienced difficulty were assisted by the researchers, who read the questions aloud and recorded the respondents' answers on the questionnaire form.

Completed questionnaires were returned to the researchers and rechecked to ensure data completeness and consistency. All collected questionnaires were then processed and analyzed according to the research data management procedures.

Data Analysis

Data were analyzed using univariate analysis with Jamovi to describe the distribution of the study variables. Before descriptive analysis was conducted, the normality of coping strategy data was assessed using the Shapiro–Wilk test. The normality test showed that the data for the three coping strategy categories were not normally distributed: problem-focused coping, $p = 0.003$; emotion-focused coping, $p = 0.038$; and avoidant coping, $p < 0.001$. Since all p -values were < 0.05 , descriptive results for coping strategies were presented as median, minimum, and maximum values.

Ethical Considerations

This study received ethical approval from the Health Research Ethics Committee of Regional Hospital in Tarakan under approval number 95/KEPK-RSUD dr.H.JUSUF SK/XI/2025. All respondents who participated in this study received an explanation regarding the study objectives and procedures and signed the informed consent form before completing the questionnaire.

Results

The characteristics of respondents, caregiver burden, and coping strategies among family caregivers of patients with chronic kidney disease undergoing hemodialysis are presented in Table 1. Respondent characteristics include age, occupation, and relationship with the patient, which provide an overview of the sociodemographic profile of family caregivers

involved in patient care. Caregiver burden was categorized based on the Zarit Burden Interview score, while coping strategies were described using the median, minimum, and maximum scores because the data were not normally distributed. This table provides a descriptive summary of the caregiver profile, level of burden, and coping patterns used by family caregivers in supporting patients undergoing hemodialysis.

Table 1 showed Most family caregivers were adults aged 18–59 years, accounting for 120 respondents (90.2%), while 13 respondents (9.8%) were older adults aged 60 years or above. Based on occupation, the largest proportion of caregivers were housewives, comprising 54 respondents (40.6%), followed by self-employed respondents, with 27 respondents (20.3%), and unemployed respondents, with 24 respondents (18.0%). Regarding the relationship with the patient, most caregivers were the patient's children, accounting for 62 respondents (46.6%), followed by spouses, with 52 respondents (39.1%). The caregiver burden category showed that 43 respondents (32.3%) experienced moderate burden, while one respondent (0.8%) experienced very severe burden. The median score for problem-focused coping was 24, with scores ranging from 8 to 32. Meanwhile, the median score for avoidant coping was 12, with scores ranging from 8 to 22.

Table 2 showed family caregivers most frequently used positive reframing, acceptance, and religious coping, each with a median score of 8. Active coping and planning were also commonly used, with median scores of 6. In contrast, behavioral disengagement, substance use, denial, and humor had the lowest median scores, indicating that avoidant or maladaptive coping strategies were less frequently used. Overall, caregivers tended to rely more on adaptive and meaning-oriented coping strategies.

Discussion

The findings showed that most family caregivers were adults, indicating that the majority were in the productive age group and were physically

and cognitively capable of performing caregiving roles optimally. This finding is consistent with Oktaiyadi et al. (2023), who reported that most caregivers were in productive adulthood, a stage associated with better emotional maturity and family responsibility. Most respondents were female, indicating that caregiving roles within the family remain predominantly carried out by women.

This finding is in line with Fadhila et al. (2025), who stated that family caregivers are mostly women because, socially and culturally, women are more often associated with caregiving and caring for sick family members. Most respondents were housewives, suggesting that caregivers who were not formally employed had more flexible time to accompany patients during routine hemodialysis therapy.

Table 1. Characteristics of Respondents, Caregiver Burden, and Coping Strategies

Variable	Frequency	Percentage
Age		
Adult (>18–59 years)	120	90.2%
Elderly (≥60 years)	13	9.8%
Occupation		
Civil servant	5	3.8%
Self-employed	27	20.3%
Honorary employee	5	3.8%
Housewife	54	40.6%
Unemployed	24	18.0%
Others	18	13.5%
Relationship with the patient		
Spouse	52	39.1%
Child	62	46.6%
Parent	8	6.0%
Sibling	7	5.3%
Grandchild	3	2.3%
Daughter-/son-in-law	1	0.8%
Burden category		
Moderate	43	32.3%
Very severe	1	0.8%
	Median	Min-Max
Problem-focused coping	24	8-32
Avoidant coping	12	8-22

Table 2. Distribution of Coping Strategy Subscales among Family Caregivers

Coping Strategy Subscale	Median	Min	Max
Positive reframing	8	2	8
Acceptance	8	2	8
Religion	8	2	8
Active coping	6	2	8
Planning	6	2	8
Self-distraction	5	2	8
Instrumental support	4	2	8
Emotional support	4	2	8
Venting	3	2	8
Self-blame	3	2	8
Behavioral disengagement	2	2	6
Substance use	2	2	4
Denial	2	2	8
Humor	2	2	8

This finding is consistent with Bunyamin et al. (2023), who found that most caregivers were housewives. In addition, most respondents had a family income of IDR 1,000,000–3,000,000 per month, indicating that the majority of caregivers came from lower-middle economic backgrounds. This economic condition may influence caregivers' experiences because hemodialysis patients require long-term care and regular transportation costs to health facilities, as reported by Yusuf et al. (2025). The most common relationship with the patient was being the patient's child, indicating that children played a dominant role as the main family caregivers. This finding is consistent with Santoso and Na'imah (2023), who stated that children often become the primary caregivers for patients with chronic diseases because of

moral and social responsibility in caring for their parents. Furthermore, most patients had undergone hemodialysis for 3–5 months, indicating that most caregivers were in the early phase of caregiving, which is a period of adaptation to role changes, the patient's condition, and routine therapy schedules, as explained by Kadaryati and Suwarni (2025).

Most family caregivers of patients with CKD undergoing hemodialysis experienced a mild level of burden. This finding indicates that although caregivers had major responsibilities in caring for patients, most were still able to manage the pressure they experienced (Nirmalasari & Sari, 2025). This result is consistent with Faridah et al. (2020), who found that caregivers of hemodialysis patients were in the no-burden or mild-burden category. That study explained that although hemodialysis is a complex therapy requiring family support, caregivers are still able to adjust to the patient's condition. The ability to adapt and support from other family members may prevent the perceived burden from becoming severe.

This finding is also supported by Mira et al. (2025), who showed that most caregivers of patients with chronic diseases experienced mild to moderate burden. The study explained that caregivers face both physical and emotional pressure, but many are still able to manage the situation well. Family support and acceptance of the patient's condition are important factors that help caregivers perform their role. Although caring for hemodialysis patients requires considerable time, energy, and attention, not all caregivers experience severe burden. Factors such as family support, adaptability, and acceptance of the disease condition play an important role in keeping caregiver burden at a mild level.

Although most family caregivers reported mild burden, some caregivers still experienced moderate and severe burden. This may occur because several factors can increase caregiving pressure among families caring for older adults or patients with chronic diseases. Tahuhá et al. (2025) found that employment status, income, family relationship, and duration of caregiving were associated with caregiver burden.

Caregivers with unstable employment or low income tend to face greater financial pressure, which can increase perceived caregiving burden (Yun & Ji, 2025). In addition, less close family relationships or limited support from other family members may increase the sense of responsibility placed on one caregiver, making them feel more burdened. The duration of caregiving also plays an important role because the longer the caregiving period, the greater the accumulation of physical and emotional demands, which may increase the risk of caregiver burden.

Increased caregiving burden affects not only caregivers but also the quality of care provided to patients (Matulesy, 2025; Wabula, 2025). A high level of burden may reduce caregiving quality because the physical, emotional, and psychological pressure experienced by caregivers can lead to stress, fatigue, and burnout. This condition may reduce caregivers' attention, patience, and ability to care for patients, especially when patients become increasingly dependent in daily activities. If this condition continues for a long period without adequate support, caregivers may experience fatigue and mental health problems, making them less responsive in providing care and ultimately affecting the patient's recovery process and quality of life (Darussalam & Putri, 2025).

Routine and long-term hemodialysis care may increase the burden experienced by family caregivers. The pressure felt by caregivers not only affects their physical and emotional condition but may also reduce the quality of care provided to patients (Prima et al., 2023). Therefore, although most caregivers were in the mild-burden category, this condition still requires attention from healthcare professionals. Caregivers play an important role in supporting hemodialysis therapy; therefore, their well-being needs to be monitored regularly. Providing education, emotional support, and routine assessment of caregiver burden may help prevent the burden from becoming more severe. By maintaining caregivers' well-being, the quality of patient care can be preserved, and hemodialysis therapy can be carried out optimally.

The coping strategy most frequently used by family caregivers of patients with CKD undergoing hemodialysis was emotion-focused coping. This finding indicates that caregivers did not only deal with problems directly but also attempted to regulate their emotions while providing care. Caring for patients with CKD undergoing hemodialysis is a long-term process and is often accompanied by changes in the patient's health condition, which may cause emotional pressure such as anxiety, fatigue, and uncertainty about the patient's future. Emotion-focused coping refers to coping strategies focused on regulating negative emotions caused by stressors, particularly when the situation is difficult to change. Carver (1997) explained that this strategy aims to reduce emotional distress rather than directly change the situation. This finding is consistent with Khairunnisa et al. (2026), who reported that 25 respondents used emotion-focused coping to relieve sadness, fear, and stress while caring for patients. The high use of this strategy can be understood as a form of caregivers' psychological adaptation in facing long-term chronic illness.

This study also showed that the high use of emotion-focused coping among caregivers was reflected in the dominant subdimensions, namely religion and acceptance. The religion subdimension indicates that caregivers used spiritual approaches as a source of strength and inner peace in facing caregiving pressure. This strategy often appears when caregivers face uncertainty and emotional burden while routinely accompanying patients undergoing hemodialysis. Carver (1997) explained that religion is an individual effort to face and relieve problems by using faith as a source of emotional support because religion plays an important role in providing peace and hope. This finding is consistent with Khairunnisa et al. (2026), who found that the religion subdimension had the highest mean score among informal caregivers. That study showed that this strategy was used as a form of meaning-making in difficult situations. Maryam et al. (2022) also explained that religion-based coping is used by caregivers to manage emotional burden, financial pressure, and challenges in decision-making during the caregiving process. Prayer and religious

activities help caregivers accept reality and reduce feelings of hopelessness. In addition to religion, acceptance, as a form of accepting conditions that cannot be changed, also plays an important role in helping caregivers achieve emotional stability. Acceptance enables caregivers to recognize that patients must undergo hemodialysis continuously, allowing them to perform caregiving roles more calmly and realistically (Mangilep et al., 2024).

In addition to emotion-focused coping, problem-focused coping was also relatively high, reflecting caregivers' active efforts to manage caregiving demands through actions such as seeking information, planning care, and using social support. In the context of patients with CKD undergoing hemodialysis, caregivers play an important role in accompanying patients and ensuring therapy adherence. Lazarus and Folkman (1984) explained that problem-focused coping is used when individuals believe that a stressor can still be controlled through direct effort. This finding is consistent with Sitanggang and Lani (2025), who showed that most respondents used problem-focused coping to reduce pressure by seeking solutions. Furthermore, the positive reframing subscale reflects caregivers' ability to view the situation more positively. This finding is consistent with Long et al. (2021), who stated that positive reframing is often used by caregivers of patients with chronic diseases because it can reduce emotional distress and improve adaptive capacity.

Overall, the findings showed that family caregivers of patients with CKD undergoing hemodialysis more frequently used emotion-focused coping, as reflected in the use of religion and acceptance to help maintain calmness and accept the long-term nature of the disease. Problem-focused coping was also used to deal directly with caregiving demands, such as seeking information and developing care plans. Positive reframing helped caregivers view difficult situations from a more positive perspective, thereby reducing perceived pressure. These findings indicate that caregivers not only attempted to manage emotions but also took active steps to maintain their caregiving role over the long term.

Conclusion and Recommendation

Based on the study findings, most family caregivers of patients with CKD undergoing hemodialysis experienced a mild level of burden. This indicates that although caregivers had major responsibilities in providing routine care, they were still able to manage pressure and adapt to caregiving demands. This mild level of burden may be related to several factors, such as family support, acceptance of the patient's condition, and caregivers' ability to adapt to long-term care.

This study also showed that the most frequently used coping strategy was emotion-focused coping, followed by problem-focused coping, with the dominant subdimensions being religion, acceptance, and positive reframing. These strategies helped caregivers regulate emotions, accept the patient's condition, and interpret caregiving as a form of responsibility, enabling them to perform their caregiving role effectively over the long term.

Nurses are expected to provide more targeted interventions for family caregivers. These efforts may include regular screening of caregiver burden, education on adaptive coping strategies, and psychosocial support for caregivers. Strengthening family counseling services in hemodialysis units is also necessary to help caregivers manage emotional pressure and improve long-term adaptation.

Acknowledgment

The authors would like to express their sincere gratitude to all respondents who willingly took the time to participate in this study. The authors also extend their appreciation to Regional Hospital in Tarakan for granting permission and providing support throughout the research process.

Funding Source

None.

Declaration of conflict of interest

The authors declare no competing interests.

Declaration on the Use of AI

In writing this article, the author used artificial intelligence (AI) to help improve the language and sentence structure. The entire content of the article was reviewed by the author, who

takes full responsibility for the accuracy and originality of this research.

References

- Abebe, A., Arba, A., Paulos, K., Abera, W., Sidamo, T., Shiferaw, S., Abraham, Z., Baza, D., Nega, B., & Woldeyohannes, S. (2022). The Lived Experience of Primary Family Caregivers of Patients on Hemodialysis Treatment in Southern Ethiopia: A Phenomenological Study. *International Journal of Nephrology and Renovascular Disease*, Volume 15, 41–52. <https://doi.org/10.2147/IJNRD.S353191>
- Al Harbi, F., Bin Khalid, L., Hinai, & Qadhi, A. A. (2025). Exploring the supportive care needs for people with chronic kidney failure undergoing hemodialysis: A qualitative study. *Lentera Perawat*, 6(4), 776–784. <https://doi.org/10.52235/lp.v6i4.596>
- Aneja, R. D., & Fatrida, D. (2026). Application of pursed-lip breathing to reduce fatigue in hemodialysis patients: A nursing case study. *Lentera Perawat*, 7(1), 27–36. <https://doi.org/10.52235/lp.v7i1.630>
- Bunyamin, E. M. N. I. (2023). Hubungan Peran Family Caregiver Dengan Tingkat Kemandirian Activity Daily Living Pasien Paska Stroke. *PREPOTIF: Jurnal Kesehatan Masyarakat*, 7(1), 926-934.
- Chu, S. Y., Ibrahim, N., Amit, N., Gafar, A. H. A., Ismail, R., Lee, K. W., & Siau, C. S. (2023). Interventions to Reduce Caregiver Burden Among Caregivers of Chronic Kidney Disease (CKD) Patients: A Scoping Review. *Sage Open*, 13(2), 21582440231178703. <https://doi.org/10.1177/21582440231178703>
- Darussalam, M. & Adeana Putri. (2025). The Impact of Family Caregiver Burden on Stroke Patient Care Behavior. *Healthy Behavior Journal*, 3(1), 21–32. <https://doi.org/10.30989/hbj.v3i1.1640>
- Faridah, V. N., Nursalam, N., Lestari, P., Suratmi, S., Juanita, F., & Aris, A. (2020). Determinants of the Caregiver Burden of CKD Patients Undergoing Hemodialysis. 24(7).
- Hasanah, U., Fitri, N. L., & Dewi, A. R. (2024). Upaya Pencegahan TBC Anak Melalui Pendidikan Kesehatan Kepada Caregiver. *Jurnal Pengabdian Masyarakat Jajama (JPMJ)*, 3(2), 63. <https://doi.org/10.47218/jpmj.v3i2.374>
- Hermana, S. Y., Rafiyah, I., & Emaliyawati, E. (2020). Strategi Koping Keluarga Pasien Gagal Ginjal Kronis Di Rsud Dr.Slamet Garut. (1).
- Khairunnisa, C. A., Lukman, M., & Atmaja, I. A. D. (2026). Strategi Koping dan Faktor yang Memengaruhinya pada Caregiver Informal yang Merawat Anak dengan Kanker. *MAHESA: Malahayati Health Student Journal*, 6(1), 251–266. <https://doi.org/10.33024/mahesa.v6i1.20159>

- Makmur, S. A., Madania, M., & Rasdianah, N. (2022). Gambaran Interaksi Obat Pada Pasien Gagal Ginjal Kronik Dalam Proses Hemodialisis. *Indonesian Journal of Pharmaceutical Education*, 2(3), 218–229. <https://doi.org/10.37311/ijpe.v2i2.13333>
- Mangilep, A. U. A., Noer Bahry Noor, Rini Anggraeni, & Adelia L F Sinaga. (2024). Stress Coping Strategies Among Nurses at Hasanuddin University Hospital Indonesia. *Media Publikasi Promosi Kesehatan Indonesia (MPPKI)*, 7(6), 1671–1677. <https://doi.org/10.56338/mppki.v7i6.5439>
- Maryam, D., Wu, L.-M., Su, Y.-C., Hsu, M.-T., & Harianto, S. (2022). The journey of embracing life: Mothers' perspectives of living with their children with retinoblastoma. *Journal of Pediatric Nursing*, 66, e46–e53. <https://doi.org/10.1016/j.pedn.2022.06.004>
- Matulesy, T. (2025). The vital role of nurses in alleviating anxiety in hemodialysis patients. *Indonesian Journal of Health Services*, 2(2), 85-87. <https://doi.org/10.63202/ijhs.v2i2.105>
- Menati, L., Torabi, Y., Andayeshgar, B., & Khatony, A. (2020). The Relationship Between Care Burden and Coping Strategies in Caregivers of Hemodialysis Patients in Kermanshah, Iran. *Psychology Research and Behavior Management*, Volume 13, 133–140. <https://doi.org/10.2147/PRBM.S233103>
- Mira, Lisa Emilda, & Rosnidar, R. (2025). Pengaruh Pemberian Edukasi Terhadap Beban Caregiver Keluarga Pasien Lansia: The Effect of Providing Education On The Burden of Family Caregivers on Elderly Patients. *Journal of Medical Science*, 6(2), 161–170. <https://doi.org/10.55572/jms.v6i2.226>
- Nirmalasari, N & Sari, I.W.W. (2025). Caregiver Burden on Caregiver with Chronic Disease. *Journal Of Nursing Practice*, 8(2), 437–447. <https://doi.org/10.30994/jnp.v8i2.509>
- Nusantara, D. T. H., Irawiraman, H., & Devianto, N. (2021). Perbandingan Kualitas Hidup Antara Pasien Penyakit Ginjal Kronik yang Menjalani Terapi CAPD dengan Hemodialisis di RSUD Abdul Wahab Sjahranie Samarinda: Comparison of Quality of Life Between Chronic Kidney Disease Patients Undergoing CAPD Therapy with Hemodialysis at Abdul Wahab Sjahranie Hospital Samarinda. *Jurnal Sains Dan Kesehatan*, 3(3), 365–369. <https://doi.org/10.25026/jsk.v3i3.299>
- Prabasari, N. A., Juwita, L., & Marcello, S. A. (2025). Mekanisme Koping Family Caregiver Merawat Lansia Yang Mengalami Proses Penuaan. *Malahayati Nursing Journal*, 7(7), 2978–2988. <https://doi.org/10.33024/mnj.v7i7.18755>
- Prima, A., Andas, A. M., Wada, F. H., Puspitasari, I., Shoaliha, M., & Ilyas, A. S. (2023). Beban Dan Psychological Well Being Pada Keluarga Pasien Yang Menjalani Hemodialisis. *Jurnal Ilmiah Keperawatan IMELDA*, 9(1), 1–9. <https://doi.org/10.52943/jikeperawatan.v9i1.1196>
- Renylda, R., Mj, A., & Marinda, N. (2022). Strategi Koping Keluarga Dalam Merawat Pasien Skizofrenia Di Rumah Sakit Jiwa Provinsi Jambi. *Jurnal Pustaka Keperawatan (Pusat Akses Kajian Keperawatan)*, 1(1), 1–7. <https://doi.org/10.55382/jurnalpustakakeperawatan.v1i1.164>
- Santoso, T., & Na'imah, S. (2023). Gambaran beban caregiver dan kualitas hidup pada family caregiver dalam merawat pasien stroke (Overview of caregiver burden and quality of life family caregivers in caring for stroke patients). *Jurnal Keperawatan Tropis Papua*, 6(1). <https://doi.org/10.47539/jktp.v6i1>
- Sari, I. K., Soelistyoningsih, D., Rifa'i, A., & Qodir, A. (2026). Association between family support and activities of daily living among patients undergoing hemodialysis: A cross-sectional study. 7(2).
- Sihaloho, S. M. J. P., Suprapti, F., & Patrisia, I. (2024). Tantangan, Kebutuhan dan Strategi Coping pada Caregiver dalam Merawat Pasien Kanker: Kajian Literatur Sistematis. *MAHESA : Malahayati Health Student Journal*, 4(9), 3788–3810. <https://doi.org/10.33024/mahesa.v4i9.14979>
- Sitanggang, Y. A., & Lani, T. (2025). Hubungan Strategi Koping Keluarga Dengan Kemampuan Merawat Pasien Gangguan Jiwadi Wilayah Kerja Uptd Puskesmas Astambul. *Jurnal Ilmu Kesehatan Insan Sehat*, 13(1), 32–43. <https://doi.org/10.54004/jikis.V13i1.303>
- Surani, V., Elizadiani Suza, D., & Tarigan, M. (2021). The impact of family intervention programs on the caregiver burden of hemodialysis patients. *Kontak*, 23(2), 138–145. <https://doi.org/10.32725/kont.2021.017>
- Tahuhá, N., Djamaluddin, N., Yusuf, N. A. R., & Hunowu, S. Y. (2025). Faktor-Faktor yang Berhubungan dengan Beban Keluarga dalam Merawat Lansia yang Menderita Penyakit Hipertensi di Wilayah Kerja Puskesmas Kabila.
- Wabula, L. R. (2025). Urgency of equitable access to and quality of hemodialysis services at the community level. *Indonesian Journal of Health Services*, 2(4), 175-176. <https://doi.org/10.63202/ijhs.v2i4.123>
- Xuan Long, N., Bao Ngoc, N., Thi Phung, T., Thi Dieu Linh, D., Nhat Anh, T., Viet Hung, N., Thi Thang, N., Thi Mai Lan, N., Thu Trang, V., Hiep Thuong, N., Van Hieu, N., Van Minh, H., (2021). Coping strategies and social support among caregivers of patients with cancer: A cross-sectional study in Vietnam. *AIMS Public Health*, 8(1), 1–14. <https://doi.org/10.3934/publichealth.2021001>

Yun, H., & Ji, S. (2025). Social support and associated factors among caregivers of elderly China: A cross-sectional study. *Journal of Community Nursing and Primary Care*, 2(1), 24-30. <https://doi.org/10.63202/jcnpc.v2i1.103>