



Effectiveness of Logotherapy in Enhancing Quality of Life Among Chronic Kidney Disease Patients Undergoing Hemodialysis: A Systematic Review

Mugihartadi ^{1*}, Faridah Binti Mohd Said ², Nisha Nambiar ²

Abstract

Background: Chronic Kidney Disease (CKD) significantly diminishes the quality of life of affected individuals, often leading to a poor prognosis. Various studies have explored strategies to prevent the decline in quality of life among CKD patients. However, there is limited literature specifically examining the role of Logo Cognitive Behavioral Therapy (LCBT) in improving the health outcomes of hemodialysis patients. **Objective:** This study aims to investigate the effectiveness of Logo Cognitive Behavioral Therapy (LCBT) in enhancing the health-related quality of life (HRQoL) of patients undergoing hemodialysis. **Methods:** A comprehensive literature review was conducted to identify relevant studies utilizing LCBT among hemodialysis patients. Online databases including PubMed, ScienceDirect, EBSCO, Springer, Google, and Google Scholar were searched using specific keywords. Studies were selected based on predefined inclusion and exclusion criteria, and the PRISMA flow diagram was employed to guide the selection process. **Results:** A total of ten articles met the inclusion criteria and were analyzed. The findings suggest that LCBT is effective in improving HRQoL among hemodialysis

patients. The results highlight that LCBT could serve as an adjunct to clinical care, providing comprehensive support and enhancing the psychological well-being of this patient population. **Conclusion:** LCBT appears to be a valuable supportive therapy for optimizing the standard treatment of hemodialysis patients. However, further research is necessary to evaluate its effectiveness across diverse cultural settings and to determine its long-term benefits in different populations globally.

Keywords: Logotherapy, Chronic Kidney Disease (CKD), Hemodialysis, Quality of Life (QoL), Cognitive Behavioral Therapy (CBT)

Introduction

Chronic Kidney Disease (CKD) is an abnormality in both structure and/or function of the kidney (e.g., glomerular filtration rate [GFR] <60 mL/min/1.73 m² or albuminuria ≥30 mg per 24 hours) for more than three months (Stevens, Levin, & kidney disease, 2013). The etiologies of CKD were diabetic nephropathy (DN; 27.1%), nephropathy hypertension (HTN; 28.5%), and chronic glomerulonephritis (CGN; 36.8%) (Sui *et al.*, 2020; Altamura *et al.*, 2023). Age is not the sole risk factor for chronic kidney failure; other contributing factors include obesity, hypertension, and diabetes mellitus (Rosdiana, Cahyati, & Hartono, 2018). CKD impacts 8% to 16% of the population worldwide (Chen, Knicely, & Grams, 2019; Kovesdy, 2022). Additionally, the global predicted prevalence of CKD is 13.4% (11.7-15.1%), with 4.902-7.083 million patients needing renal replacement approaches (Lv & Zhang, 2019). Studies demonstrated that patients with CKD who have restrictions and

Significance | Logotherapy might improve quality of life in CKD patients, emphasizing psychological support as an integral component of holistic care.

*Correspondence. Mugihartadi, Sekolah Tinggi Ilmu Kesehatan Pemkab Purworejo, Jawa tengah, 54224, Indonesia.
Email: gik_kippi@yahoo.com,

Editor Md Shamsuddin Sultan Khan, And accepted by the Editorial Board Aug 07, 2024 (received for review Jun 23, 2024)

Author Affiliation.

¹ Sekolah Tinggi Ilmu Kesehatan Pemkab Purworejo, Jawa tengah, 54224, Indonesia.

² Faculty of Nursing, Lincoln University College, Malaysia, Lincoln University, Wisma Lincoln.SS6/12, Off Jalan Perbandaran, 47301 petaling Jaya, Selangor D. E., Malaysia.

Please cite this article.

Mugihartadi, Faridah Binti Mohd Said et al. (2024). Effectiveness of Logotherapy in Enhancing Quality of Life Among Chronic Kidney Disease Patients Undergoing Hemodialysis: A Systematic Review, *Journal of Angiotherapy*, 8(8), 1-7, 9846

2207-8843/© 2024 ANGIOTHERAPY, a publication of Eman Research, USA.
This is an open access article under the CC BY-NC-ND license.
(<http://creativecommons.org/licenses/by-nc-nd/4.0/>).
(<https://publishing.emanresearch.org>).

constraints impaired normal quality of life (QoL) (Kefale *et al.*, 2019; Pretto *et al.*, 2020; Sharma *et al.*, 2023). The ability to carry out everyday tasks in a way that is appropriate for one's age or primary position in the community can be characterized as quality of life (Amalia, Said, & Nambiar, 2024). A study emphasized that QoL is a risk factor for mortality among patients with CKD (Mahato, Pal, & Ghosh, 2020; Sitjar-Suñer *et al.*, 2022). QoL becomes an important component of hemodialysis patients as it is generally considered a valid indicator of intervention outcomes along with unmet needs.

Studies focusing on the QoL of patients with ESRD have been conducted in the literature. For instance, brief hope intervention (BHI), as a helpful intervention, increases hope among patients with stage 5 of CKD (Chan *et al.*, 2022). Improving self-acceptance is an important aspect of QoL in patients with CKD (Poppe *et al.*, 2013; Mehrizi *et al.*, 2022). A meta-analysis study highlighted that the improvement of therapy provided significant effects on dialysis frequency, the use of renin-angiotensin-aldosterone medication, and LDL level (Silver *et al.*, 2021; Ahwin *et al.*, 2024). Another study documented that psychotherapy is an essential component in CKD care to improve QoL (Phang *et al.*, 2022). Empowering healthcare professionals is a fundamental aspect of improving QoL in patients with hemodialysis (Fletcher *et al.*, 2022). Exercise programs provide beneficial clinical outcomes and optimize QoL in patients with CKD (Ibrahim *et al.*, 2022).

Recently, one of the biggest challenges for nurses has been implementing a supportive nursing approach to increase patients' QoL. Unfortunately, a review study integrating LCBT in patients with hemodialysis is limited. In addition, most of the studies above used therapy such as BHI and self-acceptance for a better quality of life. Another study only improves the quality of each intervention without explaining the details. Viktor Frankl theoretically developed logotherapy as a component of meaning-oriented existential therapy. The therapy focused on the belief that human nature is motivated by a desire to find meaning in life (Rahgozar & Giménez-Llort, 2020). As mentioned by studies, CKD impacts the quality of life, leading to a decrease in the understanding of the meaning of life. Therefore, the study aims to investigate the effectiveness of LCBT in hemodialysis patients. It is hoped that the findings of the study may contribute to nursing practice in delivering care for a group of patients.

Methodology

Study Design

This study followed the PRISMA standards for reporting systematic reviews and meta-analyses. The search involved online databases such as PubMed, ScienceDirect, EBSCO, Springer, Google, and Google Scholar. The search criteria were abstracts available in German, English, and Bahasa language, discussing CKD and

logotherapy, review studies, original studies, and articles published from 2000 to 2022. Keywords were 'logotherapy for kidney disease, Logo Cognitive Behavior Therapy for kidney injury, logotherapy for acute kidney disease, logotherapy for chronic kidney disease, nursing care of logotherapy for kidney disease.

Results

Search Result

A PRISMA The flow diagram showed that the first stage of yielded a total of 960 articles (Figure 1). The data selected from the studies were assessed according to article details (title, journal, year of publication) as well as research details. The search was accomplished by considering the criteria for minimizing duplication. The process followed four phases, as follows: First, potential titles and abstracts were assessed using a computerized search. All studies focusing on CKD and logotherapy were gained (n = 960). In the first phase, several articles were disregarded due to irrelevance to the topic and not discussing the logotherapy in detail, as well as editorial and book chapters (n = 561). Second, the remaining papers (n = 399) were also screened and then excluded after taking into account the titles and abstracts (n = 200). Third, screening the full text by considering criteria (n = 200), then articles were excluded because of failed to meet the inclusion criteria (n = 191). Fourth, nine articles discussing CKD and logotherapy were included, compared, and then analyzed (Table 1).

CKD causes decreased QoL by increasing the risk of mortality during the progression of its pathogenesis. However, several factors may contribute to improving a patient's QoL for example, the use of complementary or alternative medicine. Complementary therapy means the integration of a specific therapy alongside conventional medical treatment. It helps the patients feel better and cope with the recent treatment effect (Zakaria, Mohd Noor, & Abdullah, 2021; Liu *et al.*, 2024). Experts have expressed concern about the limitations of LCBT, also known as logotherapy, despite its widespread discussion in the literature. According to a study (Handayani, Hamid, & Mustikasari, 2017), the combination of logotherapy medical ministry and acceptance commitment therapy improves quality of life (QoL) in patients with chronic kidney disease (CKD) by decreasing depression. The therapy helps patients achieve personal meaning in life by focusing on the future and their ability to deal with hardship and suffering. Studies have shown that patients with CKD undergoing hemodialysis often experience stress from the disease, which can lead to a lack of understanding of life's meaning (Guerra *et al.*, 2021; Su *et al.*, 2021; Cardol *et al.*, 2023). Therefore, clinical nurses should have a unique opportunity to provide a service that facilitates patient wholeness. Additionally, they must possess a thorough understanding of complementary and alternative medicine (CAM), including its costs, patient knowledge, and the interactions of therapy within the patient's body. These

Table 1. Characteristics of the Included Studies on Logotherapy and Chronic Kidney Disease (CKD). This table summarizes the key characteristics of the nine studies included in the systematic review.

No	Author and year of publication	Participants	Method	Comparison therapy (If any)	Outcomes
1	Handayani, Hamid, Mustikasari, 2017	Patients with CKD	Logotherapy combined with commitment therapy	Usual care	Logotherapy combined with commitment therapy improved QoL (lower depression scores)
2	Moura <i>et al.</i> , 2020	Elderly with CKD	Qualitative study	None	Faith and spirituality were understood as fundamental to QoL
3	Ausrianti, Malini, & Sasmita, 2019	Patients with CKD	Logotherapy	Usual care	Logotherapy increases the QoL (understanding the meaning of life)
4	Tanyi & Werner, 2008	Women with CKD	Qualitative study	None	Spirituality is of great importance in living with ESRD while receiving hemodialysis and may improve the QoL
5	Wakhid, Astuti, Dewi, 2019	Patients with CKD	Logotherapy	Usual care	Logotherapy increases the QoL (understanding the meaning of life)
6	König, 2005	Patients with CKD	Logotherapy	None	Logotherapy increases the QoL (understanding the meaning of life)
7	Slametiningsih, 2012	Patients with CKD	Logotherapy	Usual care	Logotherapy increases the QoL (Lower anxiety score)
8	Aryani, Umar, & Kasim, 2020	Patients with CKD	Logotherapy	None	Logotherapy increases the QoL (understanding the meaning of life)
9	Risdianti, Budiman, 2016	Patients with CKD	Descriptive study	None	Logotherapy increases the QoL (understanding the meaning of life)

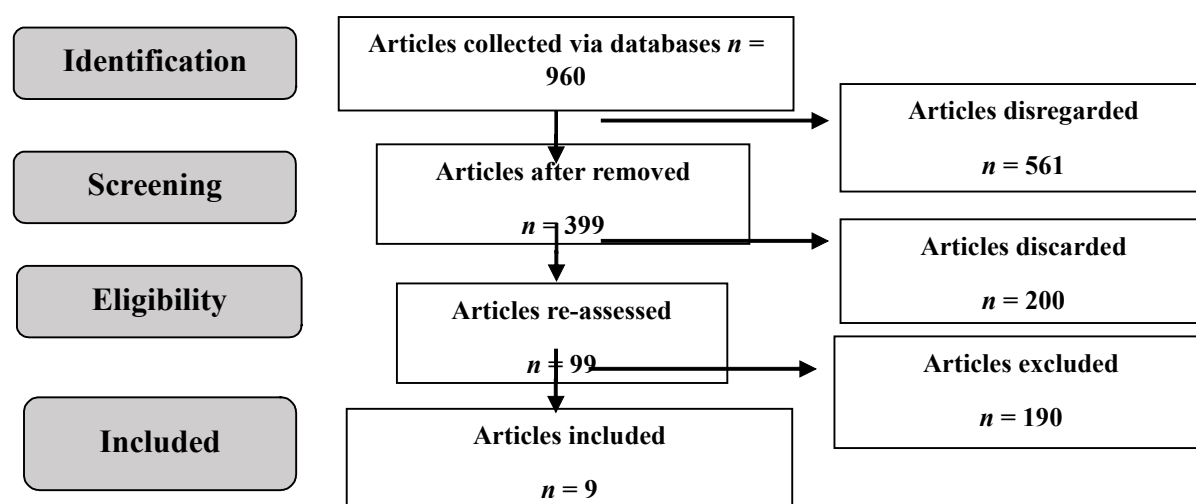


Figure 1. PRISMA Flow Diagram of Study Selection Process. This figure illustrates the four-phase PRISMA flow diagram used to identify, screen, and select studies for inclusion in the systematic review and meta-analysis.

aspects are important to promote holistic strategies for patients looking for a better QoL.

Themes

Table 1 delineates the attributes of the scholarly articles included in this literature review. The present study conducts a thematic analysis of the myths identified in the reviewed literature. The findings revealed that all of the myths could be classified into distinct overarching themes: author and year of publication, participants, method, comparison therapy (if any), and outcomes.

Discussion

Logotherapy is a form of psychotherapy developed by Viktor Frankl which is centered on the belief that human beings are motivated by something called the "will to meaning." Frankl posits that the pursuit of meaning in life, rather than the pursuit of pleasure or power, drives individuals, contrary to other psychological theories. A holistic approach to health can incorporate logotherapy in the context of kidney disease or any other chronic illness. It can help patients cope with the psychological and existential challenges posed by their condition. Patients who find meaning and purpose in suffering can improve their quality of life, become more resilient in the face of their illness, and may be better equipped to deal with the stress and challenges of their medical situation. However, it should be noted that logotherapy is not a treatment for the kidney disease itself, but rather a supportive therapy that can help patients deal with the psychological aspects of living with a chronic condition. The management and treatment of kidney disease would still focus on medical interventions such as medication, dialysis, lifestyle changes, or potentially a kidney transplant, depending on the severity of the disease.

CKD also impacts spiritual need as it is a part of individual QoL indicators (Nair et al., 2020; Klimasiński et al., 2022). The analysis of spiritual care enabled patients with CKD to understand faith and spirituality (Tanyi & Werner, 2008; Nurbadriyah, Nursalam, & Widyawati, 2023). According to Moura et al. (2020), faith serves as a precursor to understanding the meaning of life. Patients with CKD viewed spiritual well-being as a process combining physical and psychological health status. Patients accepting death achieve spiritual peace, and serenity and understand life. Vice versa, patients with a low spiritual level feel helpless, wish to die, and have suicidal intentions. Research reveals a connection between spiritual well-being and daily life functions, symptom distress, and physical condition changes (Pilger, Santos, Lentsck, Marques, & Kusumota, 2017; Targari et al., 2022). To achieve holistic caregiving for patients' spiritual, physiological, and psychological needs, clinical nurses are recommended to evaluate symptoms when providing care for patients to enhance their spiritual well-being (Li et al., 2021).

Furthermore, logotherapy will help to accelerate achieving better patients' QoL (Ausrianti, Malini, & Sasmita, 2019; Wakhid, Astuti, & Dewi, 2019). In this review, logotherapy may improve the patient's quality of life by integrating another therapy and/or using a single therapy (König, 2005; Slametiningsih, 2012; Aryani, Umar, & Kasim, 2020; Risdianti & Budiman, 2016). Combination therapies with pharmacological therapy should be given with caution due to organ perfusion falling to critical levels, leading to severe complications (Juncos & Caputo, 2015). Furthermore, better health promotion on the risks and benefits of CAM by health care providers (e.g., clinical nurses) to patients with CKD is crucial to prevent risk from either accumulating or causing interactions with standard medication (Rao et al., 2016; Teo et al., 2022). Healthcare professionals should play an active role in identifying CAM use, its side effects, complications, and the effectiveness of open communication regarding CAM usage (Ben Salah et al., 2023). Finally, clinical nurses have the responsibility of considering the patient's health status before implementing CAM, including logotherapy (Chuamanochan & Wongchan, 2022).

Incorporating logotherapy into the management of kidney disease can offer several benefits to patients and enhance nursing care in various ways, such as enhancing coping mechanisms, particularly for patients who often undergo routine medical procedures, dietary restrictions, and lifestyle adjustments (Shohet et al., 2023). Logotherapy can help patients find meaning in their struggles, which may strengthen their ability to cope with the constraints imposed by their condition. Also, the therapy provides benefits to psychological support and offers a framework for patients to explore their beliefs, values, and purpose in life, which can be empowering and alleviate feelings of despair and depression. Logotherapy may improve patient engagement by helping them find personal significance in their health journey, as they may be more motivated to actively participate in their treatment. This includes adhering to medication regimens, following dietary and fluid restrictions, and attending necessary medical appointments. In addition, the therapy enhances patient-nurse communication; incorporating elements of logotherapy into their care can foster deeper connections with their patients. By engaging in meaningful conversations about patient values and goals, nurses can provide more personalized care. While logotherapy can provide psychological and existential benefits, it's crucial to incorporate it into a comprehensive care plan that encompasses all essential medical treatments for kidney disease. Collaboration between healthcare professionals, including nurses, psychologists, and nephrologists, is essential for providing holistic care to patients with kidney disease.

Conclusion

Logotherapy, a meaning-centered psychotherapy, offers significant benefits for patients with Chronic Kidney Disease (CKD), particularly those undergoing hemodialysis. By focusing on the search for meaning in life, logotherapy helps patients cope with the psychological and existential challenges associated with CKD, which can profoundly impact their quality of life (QoL). Integrating logotherapy into CKD management enhances coping mechanisms, supports psychological resilience, and fosters patient engagement in treatment plans. However, the implementation of logotherapy must be considered as part of a comprehensive care strategy, alongside medical interventions such as medication, dialysis, and lifestyle changes. The role of clinical nurses in administering logotherapy and other complementary therapies is crucial, and they should be aware of cultural sensitivities and patient-specific needs. Further research is warranted to evaluate the effectiveness of logotherapy across diverse patient populations and to establish standardized protocols for its application in CKD care.

Author contributions

M FBM, and NN were responsible for conceptualization, fieldwork, data analysis, original draft writing, editing, funding acquisition, and manuscript review. M and NN focused on research design, methodology validation, data analysis, visualization, manuscript review, and editing. FBM contributed to conceptualization, investigation, data visualization, manuscript review, editing, and proofreading. Additionally, M handled methodology validation, investigation, manuscript review, funding acquisition, supervision, and editing. All authors have approved the manuscript after reviewing the final version.

Acknowledgment

The authors thank all the people who contributed to this study including faculty members of the Stikes Pemkab Purworejo Indonesia and Lincoln University College of Malaysia.

Competing financial interests

The authors have no conflict of interest.

References

Ahwin, P., & Martinez, D. (2024). The relationship between SGLT2 and systemic blood pressure regulation. *Hypertension Research*, 1-10. <https://www.nature.com/articles/s41440-024-01723-6>

Altamura, S., Pietropaoli, D., Lombardi, F., Del Pinto, R., & Ferri, C. (2023). An Overview of Chronic Kidney Disease Pathophysiology: The Impact of Gut Dysbiosis and Oral Disease. *Biomedicines*, 11(11), 3033. <https://doi.org/10.3390/biomedicines11113033>

Amalia, I. N., Said, F. M., & Nambiar, N. (2024). The Utilizing Heart Failure Digital Education Media (HF-DEM) Intervention on the Quality of Life among Heart Failure

Patients. *International Journal of Advancement in Life Sciences Research*, 7(2), 123-131. <https://doi.org/https://doi.org/10.31632/ijalsr.2024.v07i02.010>

Aryani, F., Umar, N., & Kasim, S. N. O. (2020). Psychological well-being of students in undergoing online learning during pandemi COVID-19. <https://ojs.unm.ac.id/icsat/article/view/19985>

Ausrianti, R., Malini, H., & Sasmita, H. (2019). Influence of Individual Medical Logoterapi Medical Ministry against Motivation and Meaning of Life in Hemodialisa patient with Low Self-Esteem in Padang City 2018. *International Journal of Nursing Education and Research*, 7(1), 21-29. <http://dx.doi.org/10.5958/2454-2660.2019.00005.X>

Ben Salah, G., Farooqui, M., Salem Alshammari, M., Elghazali, A., Kassem, L., Ibrahim, N., Ben Abdelmalek, I., & Rasheed, M. K. (2023). Prevalence, types and disclosure of complementary and alternative medicine (CAM) use among chronic kidney disease (CKD) patients in Saudi Arabia. *Journal of pharmaceutical policy and practice*, 16(1), 89. <https://doi.org/10.1186/s40545-023-00589-2>

Cardol, C. K., Meuleman, Y., van Middendorp, H., van der Boog, P. J. M., Hilbrands, L. B., Navis, G., Sijpkens, Y. W. J., Sont, J. K., Evers, A. W. M., van Dijk, S., & E-GOAL Study Group (2023). Psychological Distress and Self-Management in CKD: A Cross-Sectional Study. *Kidney medicine*, 5(10), 100712. <https://doi.org/10.1016/j.xkme.2023.100712>

Chan, K., Wong, F. K. Y., Tam, S. L., Kwok, C. P., Fung, Y. P., & Wong, P. N. (2022). Effectiveness of a brief hope intervention for chronic kidney disease patients on the decisional conflict and quality of life: a pilot randomized controlled trial. *BMC nephrology*, 23(1), 209. <https://link.springer.com/article/10.1186/s12882-022-02830-7>

Chen, T. K., Knically, D. H., & Grams, M. E. (2019). Chronic kidney disease diagnosis and management: a review. *Jama*, 322(13), 1294-1304. <https://doi.org/10.1001/jama.2019.14745>

Chuamanochan, N., & Wongchan, N. (2022). Nurse@s Role of Complementary Therapies in Palliative Care. *Vajira Nursing Journal*, 24(2), 103@114. <https://he02.tci-thaijo.org/index.php/vnj/article/view/258707>

Fletcher, B. R., Damery, S., Aiyegbusi, O. L., Anderson, N., Calvert, M., Cockwell, P., ... & Kyte, D. (2022). Symptom burden and health-related quality of life in chronic kidney disease: A global systematic review and meta-analysis. *PLoS medicine*, 19(4), e1003954. <https://doi.org/10.1371/journal.pmed.1003954>

Guerra, F., Di Giacomo, D., Ranieri, J., Tunno, M., Piscitani, L., & Ferri, C. (2021). Chronic kidney disease and its relationship with mental health: allostatic load perspective for integrated care. *Journal of personalized medicine*, 11(12), 1367. <https://doi.org/10.3390/jpm11121367>

Handayani, B., Hamid, A. Y., & Mustikasari, M. (2017). Decreasing the depression level of chronic kidney failure clients undergoing hemodialysis with medical ministry logotherapy and acceptance commitment therapy. *Jumantik (Scientific Journal of Health Research)*, 2(2), 78-88. <https://jurnal.uinsu.ac.id/index.php/kesmas/article/view/1188>

Ibrahim, A. A., Althormali, O. W., Atyia, M. R., Hussein, H. M., Abdelbasset, W. K., Eldesoky, M. T. M., & Gamal, M. (2022). A systematic review of trials investigating the efficacy of exercise training for functional capacity and quality of life in chronic kidney disease patients. *International Urology and Nephrology*, 54(2), 289-298. <https://link.springer.com/article/10.1007/s11255-021-02917-4>

- Juncos, L. I., & Caputo, J. (2015). Combination therapy in chronic kidney disease?. *Therapeutic Advances in Cardiovascular Disease*, 9(4), 147-152. <https://doi.org/10.1177/1753944715579628>
- Kefale, B., Alebachew, M., Tadesse, Y., & Engidawork, E. (2019). Quality of life and its predictors among patients with chronic kidney disease: A hospital-based cross sectional study. *PloS one*, 14(2), e0212184. <https://doi.org/10.1371/journal.pone.0212184>
- Klimasiński, M., Baum, E., Praczyk, J., Ziemkiewicz, M., Springer, D., Cofta, S., & Wieczorowska-Tobis, K. (2022). Spiritual Distress and Spiritual Needs of Chronically Ill Patients in Poland: A Cross-Sectional Study. *International journal of environmental research and public health*, 19(9), 5512. <https://doi.org/10.3390/ijerph19095512>
- König, P. (2005). Peritoneal dialysis indication: importance of psychosocial aspects. *Wiener Klinische Wochenschrift*, 117. <https://doi.org/10.1007/s00508-005-0487-8>
- Kovesdy C. P. (2022). Epidemiology of chronic kidney disease: an update 2022. *Kidney international supplements*, 12(1), 7@11. <https://doi.org/10.1016/j.kisu.2021.11.003>
- Li, C. Y., Hsieh, C. J., Shih, Y. L., & Lin, Y. T. (2021). Spiritual well-being of patients with chronic renal failure: A cross-sectional study. *Nursing open*, 8(5), 2461-2469. <https://doi.org/10.1002/nop2.1004>
- Liu, S., Zhang, F., Bai, Y., Huang, L., Zhong, Y., & Li, Y. (2024). Therapeutic effects of acupuncture therapy for kidney function and common symptoms in patients with chronic kidney disease: a systematic review and meta-analysis. *Renal failure*, 46(1), 2301504. <https://doi.org/10.1080/0886022X.2023.2301504>
- Livana, P. H., Susanti, Y., & Rahmawati, D. (2019). Gambaran Tingkat Ansietas Pasien dan Keluarga Pasien Hemodialisis. *Jurnal Keperawatan Jiwa*, 5(1), 10-13.
- Mahato, S., Pal, S., & Ghosh, K. G. (2020). Effect of lockdown amid COVID-19 pandemic on air quality of the megacity Delhi, India. *Science of the total environment*, 730, 139086. <https://doi.org/10.1016/j.scitotenv.2020.139086>
- Mehrzi, F. Z., Bagherian, S., Bahramnejad, A., & Khoshnood, Z. (2022). The impact of logotherapy on disease acceptance and self-awareness of patients undergoing hemodialysis; a pre-test-post-test research. *BMC psychiatry*, 22(1), 670. <https://doi.org/10.1186/s12888-022-04295-2>
- Moura, H. C. G. B., Menezes, T. M. D. O., Freitas, R. A. D., Moreira, F. A., Pires, I. B., Nunes, A. M. P. B., & Sales, M. G. S. (2020). Faith and spirituality in the meaning of life of the elderly with Chronic Kidney Disease. *Revista Brasileira de Enfermagem*, 73, e20190323. <https://doi.org/10.1590/0034-7167-2019-0323>
- Nair, K., Shadman, S., Chin, C. M., Sakundarini, N., Yap, E. H., & Koyande, A. (2021). Developing a system dynamics model to study the impact of renewable energy in the short-and long-term energy security. *Materials Science for Energy Technologies*, 4, 391-397. <https://doi.org/10.1016/j.mset.2021.09.001>
- Nurbadiyah, W. D., Nursalam, & Widyawati, I. Y. (2023). Do spiritual religious coping strategies affect quality of life in patients with chronic kidney disease? A systematic review. *JPMA. The Journal of the Pakistan Medical Association*, 73(Suppl 2) (2), S148@S152. <https://doi.org/10.47391/JPMA.Ind-S2-34>
- Phang, K., Anis, A., Lee, K. W., Ching, S. M., & Ooi, P. B. (2022). Effects of psychotherapy on quality of life in end-stage renal disease patients: A systematic review with meta-analysis. *Oman Medical Journal*, 37(3), e383. <https://doi.org/10.5001%2Fomj.2021.88>
- Poppe, C., Crombez, G., Hanoulle, I., Vogelaers, D., & Petrovic, M. (2013). Improving quality of life in patients with chronic kidney disease: influence of acceptance and personality. *Nephrology Dialysis Transplantation*, 28(1), 116-121. <https://doi.org/10.1093/ndt/gfs151>
- Rahgozar, S., & Giménez-Llort, L. (2020). Foundations and applications of logotherapy to improve mental health of immigrant populations in the third millennium. *Frontiers in Psychiatry*, 11, 546567. <https://doi.org/10.3389/fpsy.2020.00451>
- Rao, A. S. A., Phaneendra, D., Pavani, C. D., Soundararajan, P., Rani, N. V., Thennarasu, P., & Kannan, G. (2016). Usage of complementary and alternative medicine among patients with chronic kidney disease on maintenance hemodialysis. *Journal of Pharmacy and Bioallied Sciences*, 8(1), 52-57. <https://doi.org/10.4103/0975-7406.171692>
- Risdianti, W., & Budiman, A. (2018). Descriptive Study on the Meaning of Life in Hemodialysis Patients at KPCDI Bandung City. *Proceedings of Psychology*, 723-729. <http://dx.doi.org/10.29313/v0i0.11422>
- Rosdiana, I., Cahyati, Y., & Hartono, D. (2018). The Effect of Education Oninterdialytic Weight Gain in Patients Undergoing Hemodialysis. *Malaysian Journal of Medical Research (MJMR)*, 2(4), 16-21. <https://doi.org/10.31674/mjmr.2018.v02i04.002>
- Sharma, S., Kalra, D., Rashid, I., Mehta, S., Maity, M. K., Wazir, K., Gupta, S., Ansari, S. A., Alruqi, O. S., Khan, R., Khan, I., & Anwar, S. (2023). Assessment of Health-Related Quality of Life in Chronic Kidney Disease Patients: A Hospital-Based Cross-Sectional Study. *Medicina (Kaunas, Lithuania)*, 59(10), 1788. <https://doi.org/10.3390/medicina59101788>
- Shohet, M., Nguyen, N. H., Stern, L. D., Waikar, S. S., & Schmidt, I. M. (2023). Structural and Psychosocial Challenges Among Underserved Patients Receiving Hemodialysis During and Beyond the COVID-19 Pandemic: A Qualitative Study. *Kidney medicine*, 5(11), 100717. <https://doi.org/10.1016/j.xkme.2023.100717>
- Silver, S. A., Beaubien-Souligny, W., Shah, P. S., Harel, S., Blum, D., Kishibe, T., ... & Harel, Z. (2021). The prevalence of acute kidney injury in patients hospitalized with COVID-19 infection: a systematic review and meta-analysis. *Kidney medicine*, 3(1), 83-98. <https://doi.org/10.1016/j.xkme.2020.11.008>
- Sitjar-Suñer, M., Suñer-Soler, R., Bertran-Noguer, C., Masià-Plana, A., Romero-Marull, N., Reig-Garcia, G., Alòs, F., & Patiño-Masó, J. (2022). Mortality and Quality of Life with Chronic Kidney Disease: A Five-Year Cohort Study with a Sample Initially Receiving Peritoneal Dialysis. *Healthcare (Basel, Switzerland)*, 10(11), 2144. <https://doi.org/10.3390/healthcare10112144>
- Slametiningsih, S., & Rachmawati, S. (2018). Self-Hypnosis and Anxiety in Hypertensive Patients in Puskesmas Pademangan Barat 1 North Jakarta. *Indonesian Journal of Nursing Sciences and Practice*, 1(1), 38-48. <https://jurnal.umj.ac.id/index.php/ijnsp/article/view/2702>
- Su, G., Song, H., Lanka, V., Liu, X., Fang, F., Valdimarsdóttir, U. A., & Carrero, J. J. (2021). Stress related disorders and the risk of kidney disease. *Kidney international reports*, 6(3), 706-715. <https://doi.org/10.1016/j.ekir.2020.12.032>
- Sui, Z., Wang, J., Cabrera, C., Wei, J., Wang, M., & Zuo, L. (2020). Aetiology of chronic kidney disease and risk factors for disease progression in Chinese subjects: A single-centre retrospective study in Beijing. *Nephrology*, 25(9), 714-722. <https://doi.org/10.1111/nep.13714>

- Tanyi, R. A., & Werner, J. S. (2008). Women's experience of spirituality within end-stage renal disease and hemodialysis. *Clinical Nursing Research*, 17(1), 32-49. <https://doi.org/10.1177/1054773807311691>
- Teo, W. Y., Chu, S. W. F., Chow, L. Y., Yeam, C. T., Low, L. L., Quah, J. H. M., Foo, M., & Seng, J. J. B. (2022). Role of Alternative Medical Systems in Adult Chronic Kidney Disease Patients: A Systematic Review of Literature. *Cureus*, 14(12), e32874. <https://doi.org/10.7759/cureus.32874>
- Tirgari, B., Khaksari, M., Soltani, Z., Mirzaee, M., Saberi, S., & Bashiri, H. (2022). Spiritual well-being in patients with chronic diseases: a systematic review and meta-analysis. *Journal of religion and health*, 61(5), 3969-3987. <https://link.springer.com/article/10.1007/s10943-022-01595-5>
- Wakhid, A., Astuti, A. P., & Dewi, M. K. (2019). Improving the Quality of Life through Logotherapy in Clients Undergoing Hemodialysis. *Nursing Journal*, 11(1), 9-18. <https://doi.org/10.32583/keperawatan.v11i1.425>
- Zahra, Z., Effendy, E., Mawarpury, M., Marthoenis, & Jaya, I. (2023). Psychotherapies for chronic kidney disease patients with hemodialysis: A systematic review of randomized control trials and quasi-experiments. *Narra J*, 3(3), e215. <https://doi.org/10.52225/narra.v3i3.215>
- Zakaria, N. F., Mohd Noor, M. T., & Abdullah, R. (2021). Traditional and complementary medicine use among chronic haemodialysis patients: a nationwide cross-sectional study. *BMC complementary medicine and therapies*, 21, 1-12. <https://link.springer.com/article/10.1186/s12906-021-03268-4>