Indonesian Journal of Global Health Research
Volume 7 Number 4, August 2025
e-ISSN 2715-1972; p-ISSN 2714-9749
http://jurnal.globalhealthsciencegroup.com/index.php/IJGHR

DIET AS SELF-CARE IN CHRONIC KIDNEY PATIENTS IN PATIENT-CENTERED CARE: SCOPING REVIEW

Siti Nur Aida*, Wahyu Hidayati, Meira Erawati
Master of Nursing, Faculty of Medicine, Universitas Diponegoro, Jl. Prof. Soedarto No.13, Tembalang, Semarang, Jawa Tengah 50275, Indonesia
*sitiaida@students.undip.ac.id

ABSTRACT

Chronic kidney disease (CKD) is a progressive condition that affects the quality of life of millions of people worldwide. While diet is essential in slowing disease progression and preventing complications, its implementation as self-care often faces barriers especially when patient preferences and context are overlooked. Most existing studies focus on clinical outcomes, with limited attention to how dietary practices are applied within a patient-centered approach that considers cultural, social, and psychological factors. This scoping review aims to map the existing evidence on how diet is implemented as a form of self-care in patients with CKD, within the framework of patient-centered care. This article uses three databases PubMed, EBSCO, and science direct with the keywords "diet," "self care," "self management," and "chronic kidney disease" combined using Boolean AND and OR operators. Articles is in full text, in English, open access, published between 2015 and 2025, with quantitative, qualitative, descriptive, secondary analysis, quasi-experimental, or mixed methods research designs. From the 1,935 articles found, gradual screening was carried out until 7 relevant articles were obtained and further analyzed according to the PRISMA-Scr guidelines. Seven relevant articles showed that adherence to CKD diet was influenced by health literacy, self-efficacy, social support, and economic and cultural barriers. Experience-based interventions, goal setting, self-monitoring, and digital technologies such as health apps showed effectiveness in improving dietary adherence and patient quality of life. Collaborative approaches and family support were also shown to be important in strengthening the success of dietary interventions. Diet as part of self-care in CKD patients not only has clinical benefits, but also contributes to improving psychosocial well-being. A holistic approach that considers social, cultural, and emotional aspects is needed for dietary interventions to be more effective and sustainable in patient-centered practice.

Keywords: chronic kidney disease; diet; patient-centered approach; self-care

How to cite (in APA style)
Aida, S. N., Hidayati, W., & Erawati, M. (2025). Diet as Self-Care in Chronic Kidney Patients in Patient-Centered Care: Scoping Review. Indonesian Journal of Global Health Research, 7(4), 479-486. https://doi.org/10.37287/ijghr.v7i4.6382.

INTRODUCTION

Chronic kidney disease (CKD) has become a global problem in addition to being one of the increasingly observed health problems due to its high prevalence and significant impact on the quality of life of patients. Self-management is one of the most important components in the overall management of CKD, where patients are educated to actively participate in several self-care activities, including managing their diet (Tran et al., 2024) . It is now widely accepted that diet plays a vital role in slowing the progression of CKD and preventing related complications (Naber & Purohit, 2021) . In patients with CKD, dietary modifications target the reduction of protein, sodium, potassium, and phosphorus due to their important roles in maintaining electrolytes and kidney function (Pradhan et al., 2025). The prevalence of chronic kidney disease worldwide in 2022 reached 10% of the total population of individuals suffering from chronic kidney disease currently worldwide with stages 1-5, which is estimated at 843.6 million (Kovesdy, 2022) . The prevalence of chronic kidney disease according to national data in 2020 showed that the total was 713,783 sufferers (Health & Indonesia, 2020) .

There are many factors that support the role of diet in the management of chronic kidney disease (CKD), but the implementation of diet in patient-centered practice, driven by individual preferences, values, and restrictions, the right diet is often difficult to implement (Chen & Pongpirul, 2023) . The patient-centered self-care model emphasizes the active involvement of patients in making decisions about their health. This includes choosing the desired diet considering existing medical conditions (Kalantar-Zadeh et al., 2022).While much research has been conducted on the role of diet in managing chronic kidney disease, most studies still have a dominant focus on the clinical aspects or physiological impacts of diet, rather than focusing on how patients manage their diet as part of self-care. In addition, the available literature is still limited in describing a truly patient-centered approach, such as integrating food preferences, culture, economic constraints, social support, and other factors into diet planning (Khatri et al., 2021, (NT Nguyen et al., 2023) . Therefore, the aim of this scoping review is to map the available evidence on how dietary practices are implemented as a form of self-care in patients with chronic kidney disease (CKD) within the framework of patient-centered care.

METHOD

Research Design

This review uses a scoping review method that aims to map the extent, scope, and nature of the literature, and to determine possible gaps in the literature on a topic (Mak & Thomas, 2022) . A scoping review involves identifying research questions, identifying relevant studies using a systematic literature review based on the formulated research questions, collecting research results, tabulating results, compiling, analyzing, explaining, and reporting results (Peters et al., 2020) .

Data Collection

This review uses three databases Ebsco, pubmed and science direct. The search for this article uses the main keywords, namely "diet, self care, chronic kidney disease " . These keywords are developed with the keywords " diet, self care, self management, chronic kidney disease " from Mesh and combined with AND and OR. This article used is a full text article published from 2015 to 2025. There are no restrictions on the last year of this article, the aim is to find out the dietary approach used by chronic kidney disease patients as part of self-care. The article uses English and the methods used are quantitative, descriptive, secondary analysis, quasi-experimental, qualitative and quantitative and qualitative (mixed method design). This article refers to discussions related to dietary patterns, perceptions, self-care behavior, and the effectiveness of educational interventions and diet monitoring in chronic kidney disease patients, as well as factors that influence them such as health literacy, self-efficacy, and social support. Articles that are not included in this review are articles that do not have an abstract and are not open access because they do not meet the criteria. An article search in three databases yielded articles. These articles were selected after reading the title and summary. Titles and abstracts that did not meet the objectives of this review were excluded, resulting in 1,935 articles. The screened articles were re-reviewed and all articles were read with a focus on duplicates, leaving 10 articles. All articles were re-read considering the relevance and clarity of each article's findings, and 7 articles were determined to be suitable for this review.

Data Extraction And Charting Information

The guidelines used in selecting articles are PRISMA-Scr can be seen in Figure 1. The author developed a search strategy with the help of a librarian searching the database and completing the screening process. The author also reviewed the search strategy and

checked the eligibility of the articles included at each screening stage. The inclusion criteria for this article were English and focused on diet as a form of self-care in the management of chronic kidney disease . After the final series of articles were identified, each article was summarized by mapping relevant information related to the author's name, article title, publication date, identified methods, study design, study objectives, and a summary of the main findings.

PRISMA Diagram

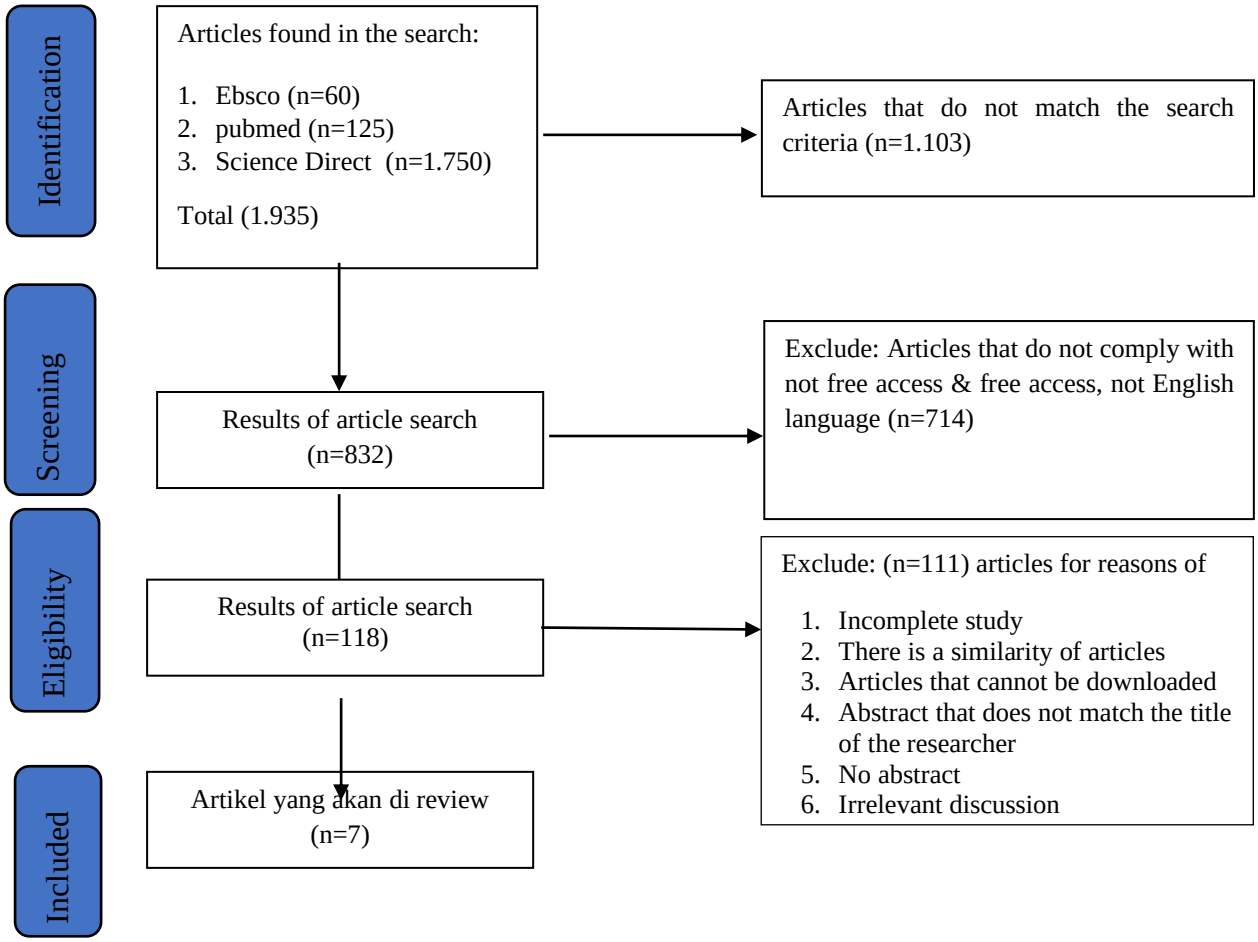

Figure 1. Flow diagram for database search

RESULT

A total of 1,935 articles were identified from EBSCO, PubMed, and ScienceDirect. After removing duplicates and screening titles and abstracts, 10 articles were selected. Following a full-text review, 7 articles met the inclusion criteria and were included in the final analysis (see Figure 1 – PRISMA Flow Diagram). The selected articles, published between 2015 and 2024, employed various methods: qualitative (n=2), quantitative (n=3), mixed-method (n=1), and secondary analysis (n=1). These studies explored several key themes, included dietary adherence, patient experiences, educational interventions, and factors like health literacy, self-efficacy, support, and economic barriers.

Table 1.
Article Review

No	Author and Year	Title Study	Population	Objective	Research methods	Results
1	Derek Sin, Oksana Harasemiw, Sarah Curtis, Yasmin Iman, Jeann Buenafe, Julia DaCosta, Rebecca C. Mollard, Navdeep Tangri, Jennifer LP Protudjer, and Dylan Mackay, 2022	*Dietary Patterns and Perceptions in Older Adults With Chronic Kidney Disease in the Canadian Frailty Observation and Interventions Trial (CanFIT): A Mixed Methods Study*	59 elderly CKD patients (mean age 70.8 years)	Exploring dietary patterns and patient perceptions of diet	Mixed-methods: qualitative & quantitative	This study identified that elderly with CKD (Chronic Kidney Disease) have a diet that is not always in accordance with CKD diet recommendations. There are gaps in knowledge and perception of healthy food, as well as barriers to implementing the diet, including physical, financial, and social limitations.
2	Sayna Norouzi, Kyle S. Liu, Edlyn Bustamante, Ton La Jr., William E. Mitch, Kurtis Pivert, Kristen A. Staggers, Blake Shusterman, Christina M. Yuan, and Rajeev Raghavan, 2022	*The Kidney Diet Challenge: An Experiential Educational Experience*	70 Adult CKD patients	Evaluating the effects of experiential education (diet challenge)	Descriptive study, direct educational experience	This experiential education program helps participants improve their understanding of the kidney diet through a hands-on approach. There is an increased awareness of certain food restrictions, as well as increased empathy for CKD patients.
3	Tiny Hoekstra, Manouk Dam, Gerald Klaassen, Willem Jan W. Bos, Paul JM van der Boog, Liffert Vogt, Brigit van Jaarsveld, Sandra van Dijk, Gerjan Navis, Yvette Meuleman, 2023	*Self -Monitoring and SelfEfficacy in Patients with Chronic Kidney Disease During Low -Sodium Diet SelfManagement Interventions: Secondary Analysis of the ESMO and SUBLIME Trials*	383 CKD patients from the ESMO and SUBLIME trials	.Assessing self-monitoring and self-efficacy in a low-sodium diet	Secondary analysis of the ESMO and SUBLIME trials	Low-sodium dietary interventions accompanied by self-monitoring and increased self-efficacy have been shown to be effective in increasing dietary adherence. Patients with high self-efficacy showed more consistent reductions in sodium intake.
4	Chi H. Chan, Marguerite Conley, Marina M. Reeves, Katrina L. Campbell and Jaimon T. Kelly, 2021	*Evaluating the Impact of Goal Setting on Improving Diet Quality in Chronic Kidney Disease*	41 CKD stage 3–4 patients	Assessing the impact of goal setting on improving diet quality	Intervention studies	Goal setting has been shown to improve diet quality in CKD patients. This intervention encourages patients to take more responsibility for their eating behavior changes and improves overall diet scores.
5	Ping-Shaou Yu, Yi-Chun Tsai, Yi-Wen Chiu, Pei-Ni Hsiao, Ming-Yen Lin, Tzu-Hui Chen, Shu-Li Wang, Lan-Fang Kung, Shih-Ming Hsiao, Shang-Jyh Hwang and Mei-Chuan Kuo, 2021	*The Relationship between Subtypes of Health Literacy and Self-Care Behavior in Chronic Kidney Disease*	359 CKD patients	Assessing the relationship between health literacy subtypes and self-care behavior in CKD patients.	Quantitative design	There is a significant relationship between patients' health literacy and their self-care behaviors, including diet. Patients with higher health literacy tend to have better self-care behaviors, including in terms of diet management.
6	*Gayle M. Timmerman Muna J. TahirRichard M. LewisDeborah SamosonHolli*	*Quality of Life after Dietary Self-Management Intervention for Persons with*	150 early stage CKD patients	Assessing quality of life after dietary intervention as self-management	Quasi-experimental design	Patients who followed the dietary intervention experienced significant improvements in their quality of life, particularly in dietary control and reduction of CKD

No	Author and Year	Title Study	Population	Objective	Research methods	Results
	TempleMichele R. Forman, 2019	*Early Stage CKD*		in early stage CKD patients.		symptoms. Diet as self-management improves the quality of life of CKD patients.
7	Yvette Meuleman & Lucia ten Brinke & Arjan J. Kwakernaak & Liffert Vogt & Joris I. Rotmans & Willem Jan W. Bos & Paul J.M. van der Boog & Gerjan Navis &Gert A. van Montfrans & Tiny Hoekstra & Friedo W. Dekker & Sandra van Dijk , 2015	*Perceived Barriers and Support Strategies for Reducing Sodium Intake in Patients with Chronic Kidney Disease: a Qualitative Study*	30 CKD patients	Exploring barriers and support strategies in reducing sodium intake in CKD patients.	Qualitative study	Patients face barriers to reducing sodium intake, including dietary habits and lack of support from family and healthcare professionals. Helpful strategies include dietary education and ongoing support. Patients are more likely to reduce sodium when they have social support and clear information.

DISCUSSION

Perception, understanding, and barriers to implementing diet are central issues in self-care for chronic kidney disease (CKD) patients. Many CKD patients, especially the elderly, do not follow recommended diets due to complex physical, economic, and social limitations (Sin et al., 2022) . In addition, ingrained eating habits, minimal family support, and lack of information and education from health workers exacerbate patients' difficulties in reducing sodium intake (Meuleman et al., 2015) . The level of health literacy also greatly influences patients' ability to understand and apply CKD diet principles; patients with better literacy tend to demonstrate more optimal self-care behaviors, including adherence to dietary arrangements (Yu et al., 2021) . Chronic kidney disease patients face barriers to dietary management that are not only physiological but also influenced by socio-cultural contexts. Economic factors, limited access to low-sodium/potassium foods, and local culinary habits complicate the adaptation of a CKD diet (Trigueros-Flores et al., 2025) . In addition, low health literacy, especially in the elderly, reduces the ability to understand dietary guidelines that are often technical and complicated (Billany et al., 2023) . Research by Johnson et al. (2021) also showed that mild cognitive dysfunction in elderly patients adds another layer of difficulty in planning and monitoring daily nutritional intake, so educational interventions must be multimodal and long-term.

The telehealth era opens up opportunities to personalize CKD diet education through mobile applications, tele-coaching, and automated reminders. A study conducted by (Jung et al., 2023) reported that the use of a smartphone app with a sodium dose tracking feature and direct contact with a dietitian increased diet compliance by up to 35%. A study conducted by (Ellis et al., 2025) added that the combination of motivational interviewing via video-call and interactive educational modules can strengthen patient self-efficacy, especially in rural areas with limited access to clinics.Various intervention strategies have been developed to improve dietary adherence as part of CKD patients' self-care. Experiential education approaches, such as the "Kidney Diet Challenge", can increase patients' awareness of dietary restrictions and foster empathy through direct experience of undergoing a kidney diet (Norouzi et al., 2022) . In addition, the implementation of goal setting has also been shown to encourage patients to be more responsible in changing their diet, which has an impact on improving overall diet quality (Chan et al., 2021) . Another effective strategy is the integration of self-monitoring with self-efficacy reinforcement, where patients with high confidence in their abilities show more consistent adherence to a low-sodium diet (Hoekstra et al., 2023) .

The success of the CKD self-management diet is increasingly optimal if supported by an interdisciplinary team of nephrologists, dietitians, psychologists, and social workers who work synergistically. In a study conducted by (Pal et al., 2024) found that patients who received a combined medical-nutrition-psychosocial counseling session showed an increase in quality of life scores and diet compliance compared to those who only received single education. The role of the family is also no less important: the "Family-Centered Nutrition" program has been shown to reduce the psychological burden of patients while building a home environment that supports healthy eating patterns (Riski et al., 2025) .Implementation of diet as part of a self-management strategy also has a positive impact on the quality of life of CKD patients. Patients who undergo dietary interventions not only experience improvements in symptom control, but also feel more able to manage their health independently (Timmerman et al., 2019) . These interventions make an important contribution to improving quality of life, both physically and emotionally, by encouraging self-confidence and self-control in dealing with chronic conditions. Thus, diet as a form of self-care has a broad role, not only in clinical aspects, but also in supporting the psychosocial well-being of CKD patients. Structured dietary interventions not only reduce sodium and phosphorus levels, but also slow the progression of CKD and reduce cardiovascular risk (Pal et al., 2024) . In addition, increased self-control through dietary self-management is positively correlated with decreased symptoms of anxiety and depression, important indicators of patient psychosocial well-being (TTN Nguyen et al., 2022) . In the long term, patient empowerment through diet can reduce emergency visits and the burden of health care costs.

CONCLUSION

Diet is an important component of self-care strategies for patients with chronic kidney disease (CKD) that has been shown to have a significant impact on disease progression, symptom control, and quality of life. However, various barriers such as limited health literacy, socio-economic factors, eating habits, and lack of social and professional support remain major challenges in implementing an appropriate diet. Various innovative interventions, including experiential education approaches, self-monitoring, digital technology, and interdisciplinary collaboration have shown effectiveness in improving patient adherence and self-efficacy in diet management. Therefore, a holistic and sustainable approach is needed that not only emphasizes educational aspects, but also considers the patient's social, cultural, and emotional context. Thus, diet is not only a clinical rule, but an integral part of patient empowerment towards a healthier and more independent life.

REFERENCES

Billany, R.E., Thopte, A., Adenwalla, S.F., March, D.S., Burton, J.O., & Graham-Brown, M.P.M. (2023). Associations of health literacy with self-management behaviors and health outcomes in chronic kidney disease: a systematic review. Journal of Nephrology , 36 (5), 1267–1281. https://doi.org/10.1007/s40620-022-01537-0

Chan, C.H., Conley, M., Reeves, M.M., Campbell, K.L., & Kelly, J.T. (2021). Evaluating the Impact of Goal Setting on Improving Diet Quality in Chronic Kidney Disease. Frontiers in Nutrition , 8 (March), 1–8. https://doi.org/10.3389/fnut.2021.627753

Chen, F., & Pongpirul, K. (2023). Rethink nutritional management in chronic kidney disease care. Frontiers in Nephrology , 3 (January), 10–13. https://doi.org/10.3389/fneph.2023.1108842

Ellis, T., Kwon, A. J., & Hong, M. Y. (2025). The Effectiveness of Telehealth Intervention on Chronic Kidney Disease Management in Adults: A Systematic Review. Mayo Clinic

Proceedings: Digital Health , 3 (1), 100181. https://doi.org/10.1016/j.mcpdig.2024.11.002

Hoekstra, T., Dam, M., Klaassen, G., Bos, WJW, Boog, PJM van der, Vogt, L., Jaarsveld, B. van, Dijk, S. van, Navis, G., & Meuleman, Y. (2023). Self-Monitoring and Self-Efficacy in Patients with Chronic Kidney.pdf. International Journal of Behavioral Medicine .

Jung, CY, Kim, Y., Kim, HW, Han, SH, Yoo, TH, Kang, SW, & Park, JT (2023). Effectiveness of a Smartphone Application for Dietary Sodium Intake Measurement. Nutrients , 15 (16), 1–12. https://doi.org/10.3390/nu15163590

Kalantar-Zadeh, K., Lockwood, MB, Rhee, C.M., Tantisattamo, E., Andreoli, S., Balducci, A., Laffin, P., Harris, T., Knight, R., Kumaraswami, L., Liakopoulos, V., Lui, SF, Kumar, S., Ng, M., Saadi, G., Ulasi, I., Tong, A., & Li, PKT (2022). Patient-centred approaches for the management of unpleasant symptoms in kidney disease. Nature Reviews Nephrology , 18 (3), 185–198. https://doi.org/10.1038/s41581-021-00518-z

Health, K., & Indonesia, R. (2020). Indonesia Health Profile .

Khatri, M., Donnelly, L.R., Thompson, A.I., & Hall, R. (2021). Preferences of people with chronic kidney disease regarding digital health interventions that promote healthy lifestyles: A qualitative study. BMJ Open . https://doi.org/10.1136/bmjopen-2021-049650

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

Mak, S., & Thomas, A. (2022). Steps for Conducting a Scoping Review. Journal of Graduate Medical Education , 14 (5), 565–567. https://doi.org/10.4300/JGME-D-22-00621.1

Meuleman, Y., ten Brinke, L., Kwakernaak, A.J., Vogt, L., Rotmans, JI, Bos, WJW, van der Boog, P.J.M., Navis, G., van Montfrans, G.A., Hoekstra, T., Dekker, F.W., & van Dijk, S. (2015). Perceived Barriers and Support Strategies for Reducing Sodium Intake in Patients with Chronic Kidney Disease: a Qualitative Study. International Journal of Behavioral Medicine , 22 (4), 530–539. https://doi.org/10.1007/s12529-014-9447-x

Naber, T., & Purohit, S. (2021). Chronic kidney disease: Role of diet for a reduction in the severity of the disease. Nutrients , 13 (9), 1–16. https://doi.org/10.3390/nu13093277

Nguyen, N.T., Da Silva, M.A., Reilly, T., Patel, M.L., & Horne, R. (2023). Nutrition education models for patients with chronic kidney disease. Journal of Renal Nutrition . https://doi.org/10.1053/j.jrn.2023.02.001

Nguyen, TTN, Liang, SY, Liu, CY, & Chien, CH (2022). Self-care self-efficacy and depression associated with quality of life among patients undergoing hemodialysis in Vietnam. PLoS ONE , 17 (6 June), 1–13. https://doi.org/10.1371/journal.pone.0270100

Norouzi, S., Liu, K.S., Bustamante, E., La, T., Mitch, W.E., Pivert, K., Staggers, K.A., Shusterman, B., Yuan, C.M., & Raghavan, R. (2022). The Kidney Diet Challenge: An Experiential Educational Experience. Kidney360 , 3 (2), 279–286. https://doi.org/10.34067/KID.0001162021

Pal, S., Panduragan, S.L., Said, F.M., & Poddar, S. (2024). Effect of Self-management Intervention on Improvement of Quality of Life in Chronic Kidney Disease Patients: A

Scoping Review. The Open Nursing Journal , 1–14. https://doi.org/10.2174/0118744346323309241009074442

Peters, M.D.J., Marnie, C., Tricco, A.C., Pollock, D., Munn, Z., Alexander, L., McInerney, P., Godfrey, C.M., & Khalil, H. (2020). Updated methodological guidance for the conduct of scoping reviews. JBI Evidence Synthesis , 18 (10), 2119–2126. https://doi.org/10.11124/JBIES-20-00167

Pradhan, N., Kerner, J., Campos, L. A., & Dobre, M. (2025). Personalized Nutrition in Chronic Kidney Disease. Biomedicine , 36 (Ext3), 63–69. https://doi.org/10.3390/biomedicines13030647

Riski, M., Puspitasari, IM, Rahayu, C., & Alfian, SD (2025). Factors associated with self-care behavior in patients with chronic kidney disease: a systematic review. BMC Nephrology , 26 (1). https://doi.org/10.1186/s12882-025-04137-9

Sin, D., Harasemiw, O., Curtis, S., Iman, Y., Buenafe, J., DaCosta, J., Mollard, R.C., Tangri, N., Protudjer, JLP, & Mackay, D. (2022). Dietary Patterns and Perceptions in Older Adults With Chronic Kidney Disease in the Canadian Frailty Observation and Interventions Trial (CanFIT): A Mixed-Methods Study. Canadian Journal of Kidney Health and Disease , 9 . https://doi.org/10.1177/20543581221140633

Timmerman, G.M., Tahir, M.J., Lewis, R.M., & Forman, M.R. (2019). Quality of Life after Dietary for Persons with Early Stage CKD. Nephrology Nursing Journal, 46(1), 23-29, 47. , 46 (1).

Tran, T.B., Ambrens, M., Nguyen, J., Coleman, E., Gilanyi, Y., Letton, M., Pandit, A., Lock, L., Thom, J.M., Sen, S., Lambert, K., & Arnold, R. (2024). Preferences of people with chronic kidney disease regarding digital health interventions that promote healthy lifestyles: qualitative systematic review with meta-ethnography. BMJ Open , 14 (5), 1–13. https://doi.org/10.1136/bmjopen-2023-082345

Trigueros-Flores, Martín-Del-campo, F. (2025). Barriers and Facilitators to Adherence to a Healthy Diet Across the Spectrum of Chronic Kidney Disease. Patient Preference and Adherence , 19 (January), 123–137. https://doi.org/10.2147/PPA.S494390

Yu, P., Tsai, Y., Chiu, Y., Hsiao, P., Lin, M., Chen, T., Wang, S., Kung, L., Hsiao, S., Hwang, S., & Kuo, M. (2021). The Relationship between Subtypes of Health Literacy and Self-Care Behavior in Chronic Kidney Disease. Journal of Personalized Medicine.