



Implementation of Orem's Self Care Theory in Chronic Kidney Disease Patients in the Hospital: A Systematic Review

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ABSTRACT:

Introduction: Chronic Kidney Disease (CKD) requires long-term care and patient self-care engagement. Orem's Self-Care Theory offers a framework for patient empowerment, although implementation challenges remain across clinical settings.

Objectives: This study identifies and evaluates Orem's Self-Care theory implementation in nursing interventions for CKD patients, assessing its effectiveness on self-care, therapy adherence, and quality of life.

Methods: This PRISMA-based systematic review searched literature through multiple databases with keywords: "implementation", "chronic kidney failure", "self-care", "Orem", and "hospital". Selected articles (2014-2025) included quantitative and mixed-method designs implementing Orem's theory in hospitals. From 1,311 identified articles, 15 met inclusion criteria after quality assessment using JBI Critical Appraisal Tools.

Results: Orem-based nursing interventions positively impacted daily activities, diet and fluid adherence, and psychosocial quality of life through support-educational systems and partial compensation. Studies from diverse regions show similar positive outcomes with culturally-adapted approaches. Implementation challenges included patient compliance issues and limited long-term effectiveness.

Conclusions: Orem's theory effectively improves independence and quality of life in CKD patients, requiring personalized and sustainable approaches. Family-centered care models can enhance intervention effectiveness across cultural contexts.

1. Introduction

Chronic Kidney Disease (CKD) is a chronic progressive disease that requires long-term and continuous care. Patients with CKD undergoing hemodialysis face various complex physical, psychological, social, and economic challenges. Hemodialysis therapy carried out in hospitals not only affects the physical aspects of patients, but also requires active involvement of patients in caring for themselves. Therefore, a nursing approach that is oriented towards patient empowerment is needed to improve their quality of life. [1]

The self-care theory developed by Dorothea Orem is one of the important conceptual foundations in professional nursing practice. Orem defines self-care as activities carried out by individuals to maintain their life, health, and well-being independently. In the context of hospitals, the application of this theory aims to support patients in taking over their care responsibilities gradually through a support-educational system. Thus, nurses not only act as service providers, but also as facilitators who encourage patient independence in chronic disease management.[2]

Several studies have shown the effectiveness of implementing Orem's self-care theory in improving



health outcomes for CKD patients undergoing hospitalization. Moradi Kochi et al. (2024) reported a significant increase in daily living activities of hemodialysis patients after being given an intervention based on Orem's theory.[3] Shojaei Shad et al. (2018) also found a significant increase in patient self-esteem after a self-care program was implemented.[4] Similarly, research proved that self-care theory-based interventions were able to improve the quality of life of hemodialysis patients as a whole, including physical, mental, and social aspects.[1]

However, research in Indonesia shows that the implementation of self-care education in hospitals still faces various obstacles, especially in terms of patient compliance with diet and fluids. A study conducted in a hospital in Indonesia revealed that even though patients had received education related to nutrition and fluids, most of them still did not comply with medical advice.[5] Another study by Rohmaniah et al. (2023) on the Health Belief Model approach to structured education for hemodialysis patients showed the importance of understanding patient health beliefs in designing effective self-care interventions. This reflects the need for a theoretical and systematic approach in the development of nursing education programs in hospitals, especially those that focus on improving self-care.[6]

Cultural aspects and family roles are also important factors in implementing Orem's theory in the Asian context. Mendrofa et al. (2023) in their study on family-based care models showed that family integration in care models can increase the effectiveness of self-care interventions, especially in societies with a collectivist orientation such as in Indonesia.[6] Likewise, Hosseinzadeh et al. (2019) found that marital status and family support had a significant relationship with self-care agency and self-care behavior in elderly patients with chronic diseases.[7]

Considering the high need for long-term care for CKD patients and the challenges of implementing self-care education in hospitals, it is important to conduct a systematic review of the application of Orem's self-care theory. This review aims to identify interventions based on Orem's theory that have been implemented in the hospital environment, and to evaluate their effectiveness in improving patient independence, adherence to therapy, and quality of

life. The results of this study are expected to be a scientific basis for the development of theory-based nursing policies and practices in hospitals, especially in caring for patients with chronic kidney disease.

2. Objectives

This study identifies and evaluates Orem's Self-Care theory implementation in nursing interventions for CKD patients, assessing its effectiveness on self-care, therapy adherence, and quality of life.

3. Methods

This study is a systematic review *using* the PRISMA (*Preferred Reporting Items for Systematic Reviews and Meta-analyses*) method. This method is carried out systematically by following the correct research stages or protocols. The *systematic review procedure* consists of several steps, namely: 1) compiling *the background and purpose*; 2) *research question*; 3) *searching for the literature*; 4) *selection criteria*; 5) *practical screen*; 6) *quality checklist and procedures*; 6) *data extraction strategy*; 7) *data synthesis strategy*.[8]

Literature searches were obtained from *Google Scholar*, *Semantic Scholar*, *Proquest*, *ScienceDirect*, and *PubMed*. The keywords used were "implementation", "chronic kidney disease", self-care, hospital, "orem", including the equivalents in English, namely "implementation", "chronic kidney disease", "self-care", "hospital", and "Orem's theory". In addition to keywords, the article search was based on articles written between 2014-2025 and obtained 1,311 journal articles. After going through a screening process based on title and abstract, duplication, and inclusion/exclusion criteria, 15 articles met the requirements for further analysis.

Methodological quality assessment of each article was performed using the JBI Critical Appraisal Tools appropriate to the study design. For experimental and quasi-experimental studies, the assessment included randomization method, blinding, completeness of follow-up, outcome measures, and statistical analysis. For descriptive and cross-sectional studies, the assessment included sample suitability, exposure and outcome measures, and control of confounding factors. Risk of bias assessment was performed using the Cochrane Risk



of Bias Tool for experimental studies and ROBINS-I for non-experimental studies.

The selected journal articles are based on several inclusion criteria. The inclusion criteria in this study include the following: 1) Research articles published

in 2015-2025; 2) The type of research design is cross-sectional, case study, experiment, mix method; 3) The research study discusses the implementation of Orem's self-care theory in the field of nursing; 4) implemented in hospitals.

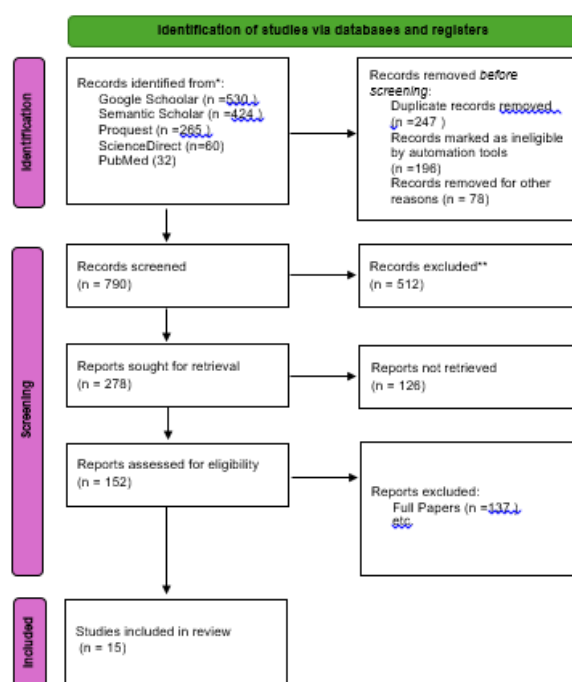


Figure 1. PRISMA Flowchart

Description: The flowchart shows the process of identification, screening, eligibility, and inclusion of articles. Of the 1,311 articles identified through the database search, after removing duplicates, 915

4. Results

The results of the literature review on articles with a publication period of 2014-2025, using Indonesian

articles were screened based on title and abstract. Of these, 152 articles were assessed for eligibility based on full text, and finally 15 articles were included in the qualitative synthesis.

and English and the overall research found 15 articles based on the systematic review discussion topic.

Table 1. Literature Review

No	Name & Year	Country	Title	Method	Objective	Research result	Quality of Methodology
1	Fahime Shojaei Shad et al. (2018)	Iran	The effect of a self-care program based on the Orem model on the self-esteem of	Controlled clinical trial	Determining the effect of Orem-based self-care program	A significant increase in self-esteem after intervention	High adequate randomization, minimal drop-out,



No	Name & Year	Country	Title	Method	Objective	Research result	Quality of Methodology
			patients undergoing hemodialysis[9]		self-esteem of hemodialysis patients	of ($p < 0.001$), indicates the effectiveness of the Orem model in improving self-esteem in hemodialysis patients.	appropriate the statistical analysis of analysis in improving self-esteem in hemodialysis patients.
2	Moradi Kochi et al. (2024)	Iran	Effect of Orem's Self-care Model on the Daily Living Activities of Patients Undergoing Hemodialysis[3]	Quasi-experimental (group intervention and control)	Measuring the influence of Orem's self-care model on daily life activities of hemodialysis patients	Activity scores increased significantly in the intervention group compared to the control group two months after the intervention ($p < 0.05$).	Moderate - no randomization, no blinding, complete follow-up
3	Adiyati Mardiyah & Zulkifli (2023)	Indonesia	Selfcare in Relation to Dietary Compliance for Nutrition and Fluid Among Patients Undergoing Hemodialysis[10]	Descriptive quantitative, cross-sectional	Assessing the relationship between self-care and good compliance with nutritional diet in chronic kidney failure (hemodialysis)	the complementary foods, although self- they were quite good consuming vitamins and diet in fruits/vegetables. In general, compliance with nutritional diet and fluids was still in the non-compliant category (68.6 %).	Moderate - small sample size, sampling method not well described
4	Bahadori et al. (2014)	Iran	The effects of an interventional program based on self-care model on health-related quality of life	Quasi-experimental, with pre- and post-test	Assessing the impact of self-care models on the quality of life	All dimensions of quality of life (physical, emotional, social, pain) improved	Moderate - valid outcome measures, but short-term follow-up



No	Name & Year	Country	Title	Method	Objective	Research result	Quality of Methodology
			outcomes in hemodialysis patients[1]		hemodialysis patients	significantly after the intervention (p<0.001).	
5	Shojaee Shad et al. (2018)	Iran	An Investigation Into the Impact of Orem's Self-Care Program on Life Satisfaction in Hemodialysis Patients[4]	Clinical trial	Determining the effectiveness of an Orem-based self-care program in improving life satisfaction in hemodialysis patients.	There was a High increase in self-care scores from 16.12 to 41.18 in the intervention group (p<0.001).	- adequate randomized, validated instruments, appropriate statistical analysis
6	Rahimi et al. (2017)	Iran	The effect of self-care on patients undergoing Hemodialysis in Kurdistan[11]	Quasi-experimental, pre-post control group	Evaluating the self-care effect of self-care program on hemodialysis patients' ability in daily activities	There was a difference in self-care scores between the control and intervention groups after the short follow-up although it was not statistically significant (p=0.312).	Moderate - no randomization, follow-up
7	Leone et al. (2021)	Brazil	Nursing assistance in peritoneal dialysis: applicability of Orem theory[2]	Mixed-method (quantitative + descriptive + Grounded Theory)	Explaining the application of Orem's theory in nursing peritoneal dialysis patients at home	59% of patients showed good self-care capacity; the role of nurses and educators supported proved important in this model.	High - strong mixed methods and design, data triangulation
8	Mahmoud et al. (2023)	Egypt	Effectiveness of Orem-Based Self-Care Education on Knowledge and Self-Care	Quasi-experimental (one group, pre-post test)	Evaluating the effect of Orem-based self-care education on the knowledge and self-care	Significant increase in self-care knowledge and behavior 1 and 3 months post-	Moderate - no control group, adequate sample size



No	Name & Year	Country	Title	Method	Objective	Research result	Quality of Methodology
			Behaviors among Patients with Heart Failure[12]		behavior of intervention heart failure (p<0.001). patients.		
9	Fouad & Belal (2017)	Egypt	Application of Self Care Orem's theory Guideline on elderly Suffering from Urinary Diversion[13]	Quasi-experimental	Assessing the effect of implementing Orem-based self-care guidelines in elderly patients with urinary diversion.	There was a significant increase in knowledge and practice of self-care in the intervention group (p<0.001).	Currently - no disguise, precise statistical analysis
10	Hosseinzadeh et al. (2019)	Iran	Self-care Behavior and Self-care Agency in Lowering Salt Consumption in Hypertensive Older Patients	Cross-sectional	Investigating the relationship between self-care agency and self-care behavior in reducing salt consumption in elderly hypertensive patients.	Significant relationship between marital status and self-care agency behavior; self-care agency is a strong predictor of salt reduction behavior.	High - adequate sample size, validated instruments
11	Rohmaniah et al. (2023)	Indonesia	Health Belief Model Approach Structured Health Education on Self-Efficacy in Compliance with Hemodialysis[6]	Quasi-experimental	Evaluating the effectiveness of structured health education with the Health Belief Model approach on self-efficacy and compliance of hemodialysis patients.	Significant increase in self-efficacy and adherence in the intervention group compared to control group (p<0.05)	High - good quasi-experimental design, valid outcome measures
12	Mendrofa et al. (2025)	Indonesia	Family-based care model for dependent elderly: Integration of	Mix method	Developing a family-based care model that can be improved integrated with independence		High - data triangulation, comprehensive independence



No	Name & Year	Country	Title	Method	Objective	Research result	Quality of Methodology
			family systems nursing theory and disengagement theory to achieve sustainable development goals[14]		self-care and nursing theory	and quality of life (p<0.01)	of outcome measurement
13	Wong et al. (2020)	Malaysia	Self-care practices and self-care agency among patients with chronic kidney disease in Malaysia	Cross-sectional	Assessing the relationship between self-care practices and self-care agency in CKD and patients	Self-care agency significantly (β=0.45, p<0.001); cultural factors were important mediators.	Moderate sample size, multivariate analysis, but family cross-sectional design
14	Jaarsma et al. (2022)	Dutch	A comparative study of Orem's self-care model implementation across cultural contexts in patients with chronic diseases	Systematic review	Comparing the implementation of Orem's model across cultural contexts in patients with chronic illness	Implementation of the Orem model needs to be adapted to local cultural context; the role of the family is very important in collectivist cultures.	High - rigorous systematic review methods, assessment of study quality
15	Chen et al. (2024)	Taiwan	Technology-assisted self-care interventions based on Orem's theory for hemodialysis patients: A randomized controlled trial	RCT	Assessing the effectiveness of technology-assisted self-care interventions in hemodialysis patients	The intervention group showed significant improvements in self-care abilities and quality of life compared to the control group (p<0.01)	High - adequate randomization, good blinding, complete follow-up



5. Discussion

Self-Care Perspective in Orem's Self-Care Theory

Self-care according to Orem is an action taken by individuals consciously to maintain their life, health, and well-being. In the context of Chronic Kidney Diseases (CKD) patients undergoing hemodialysis in hospital, self-care skills become very important because patients are required to undergo complex therapy regimens, such as strict diet, fluid management, routine medication, and monitoring of symptoms of complications. Several studies have shown that Orem's theory-based interventions significantly improve patients' ability to carry out self-care activities. [15] A study by Moradi Kochi et al. (2024) showed that patients who followed a program based on Orem's theory experienced significant improvements in daily activities and physical independence compared to the control group.[3]

In the educational-supportive system developed by Orem, nurses have an important role to assess patients' self-care needs and provide support so that they can achieve independence. Research by Rahimi et al. (2017) showed that after a self-care education intervention in the hospital, there was an increase in self-care scores although it was not statistically significant. This indicates that the effectiveness of self-care is greatly influenced by the continuity of support, monitoring, and individual approaches. [11] In addition, study showed that self-care education not only improves self-care skills but also increases patients' self-esteem and confidence in living with chronic diseases.[9]

Recent developments in the implementation of Orem's theory show a shift from an individual approach to a more family-involved approach. Mendrofa et al. (2025) developed a family-based care model that integrated family nursing theory with a self-care approach, showing significant improvements in patient independence and quality of life. [14] This finding is supported by Wong et al. (2020) who found that in Malaysia, cultural factors and family support were important mediators in the relationship between self-care agency and self-care practices.

Technological innovations are also beginning to be integrated into Orem's theory-based interventions. Chen et al. (2024) tested the effectiveness of a technology-assisted self-care intervention in hemodialysis patients in Taiwan, showing significant improvements in self-care ability and quality of life compared to conventional

approaches. This technology integration opens up new opportunities to overcome the barriers of continuity and remote monitoring in the implementation of Orem's theory.

However, obstacles in self-care practices still often occur in the field. Research by Mardiyah and Zulkifli (2023) shows that most hemodialysis patients in hospitals do not comply with dietary and fluid management rules even though they have received education. This reflects a gap between knowledge and implementation of self-care. [10] According to Orem's theory, this condition indicates a *self-care deficit* that requires a more active and sustainable nursing approach. Therefore, the strategy for implementing Orem's theory in clinical practice must include a comprehensive assessment of individual factors that influence self-care capacity, as well as the use of adaptive, collaborative, and long-term-oriented educational methods.[2]

Self-Care Deficit Perspective in Orem's Self-Care Theory

The concept of *self-care deficit* in Orem's theory explains the condition when an individual is unable to meet his/her self-care needs independently due to physical, psychological, or cognitive limitations, thus requiring nursing intervention. In Chronic Kidney Failure (CKF) patients undergoing hemodialysis in hospital, this deficit often occurs due to chronic fatigue, depression, lack of knowledge, and inability to manage diet, fluids, and medication. A study by Mardiyah and Zulkifli (2023) identified that the majority of CKF patients were non-compliant with fluid and diet restrictions, reflecting a significant deficit in self-care abilities, even though education had been provided. This phenomenon reinforces the importance of the role of nurses in recognizing areas of deficit and designing appropriate interventions.[10]

Jaarsma et al. (2022) in their comparative study found that the identification and treatment of self-care deficits need to consider the patient's cultural context. In collectivist cultures such as in Asia, self-care deficits are often treated by involving family members, while in Western countries there is more emphasis on individual independence. This culturally sensitive approach is important to ensure the effectiveness of Orem's theory-based interventions in various contexts.

In Orem's approach, nurses must be able to identify the level of self-care deficit---whether total, partial, or



requiring educational support systems---and adjust the nursing care plan. Rahimi et al. (2017) stated that although self-care scores increased after educational intervention, the difference was not statistically significant, indicating the need for further strengthening of therapeutic support to address complex deficits. These deficits include not only physical disabilities, but also psychological aspects such as lack of motivation and self-confidence. Therefore, educational programs based on Orem's theory carried out in hospitals must be designed not only to be informative, but also psychosocially transformative.[11]

Rohmaniah et al. (2023) showed that the Health Belief Model approach in structured education can help overcome self-care deficits by influencing patients' health beliefs. This study underlines the importance of understanding patients' perceptions, beliefs, and motivations in developing interventions to address self-care deficits. The integration of psychological approaches with Orem's theory provides a more comprehensive perspective in addressing self-care deficits.[6]

Intervention approaches to address self-care deficits can be done through personalized education and empowerment strategies. Shojaee Shad et al.'s (2018) study showed that Orem's intervention based on structured training was able to significantly increase life satisfaction, which also had an impact on increasing self-care capacity. This shows that addressing deficits is not just about teaching procedures, but building the patient's capacity to become the main actor in managing their disease. Thus, in the context of the hospital, Orem's self-care deficit theory provides a strong framework for nurses to design adaptive, sustainable interventions that focus on restoring the independent function of CKD patients.[4]

Nursing Systems Perspective in Orem's Self-Care Theory

Orem's Self-Care Theory divides the nursing system into three forms: full compensation system, partial compensation system, and support-education system. The selection of the nursing system depends on the patient's level of ability to perform self-care. In patients with Chronic Kidney Failure (CKF) undergoing hemodialysis in the hospital, a support-education system is generally applied, where nurses act as facilitators in improving patient knowledge and skills so that they are able to perform self-care independently. A study by

Bahadori et al. (2014) showed that the implementation of a self-care-based education program in a support-education system significantly improved all dimensions of the quality of life of CKF patients, including physical, social, and psychological aspects.[1]

Partial compensation systems are often applied to CKD patients who already have some self-care abilities but still need help in certain aspects such as medication management or symptom monitoring. In the study by Moradi Kochi et al. (2024), this system is reflected in nursing interventions that help patients improve their ability to perform daily living activities, such as personal hygiene, mobility, and food intake. The results showed a significant increase in patient activity scores after being given interventions based on Orem's theory, which emphasizes the importance of nurses in providing appropriate assistance according to the patient's level of deficit. This systemic approach helps align the role of nurses with patient needs dynamically.[3]

Recent developments in the implementation of the Orem nursing system show integration with information technology. Chen et al. (2024) developed a technology-assisted system that allows hemodialysis patients to monitor and manage their self-care with remote support from nurses. This system combines partial compensation with educational support, providing flexibility in the intensity of support based on the patient's individual needs. This technology integration increases the efficiency and scope of the Orem nursing system, especially in the context of limited health care resources.

On the other hand, a full compensation system is more relevant to be applied to CKD patients with severe complications or critical conditions that cause total dependence, such as elderly patients with comorbidities or cognitive impairment. Although most of the studies in this review focus on the support-educational system, studies such as by Fouad and Belal (2017) show that the application of Orem's theory-based guidelines in elderly patients with urinary diversion shows the important role of the compensation system in supporting self-care practices. Therefore, a thorough understanding of Orem's three nursing systems is essential in clinical practice, especially in hospitals, to ensure that nursing interventions are truly adaptive and in accordance with the individual conditions of CKD patients.[13]

The family approach in the Orem nursing system has also begun to receive attention. Mendrofa et al. (2025) developed a model that integrates the Orem nursing



system with the family care approach, especially for highly dependent patients. This model suggests that family involvement can strengthen the educational-supportive and partially compensatory system, providing continuity of care even after the patient leaves the hospital. This finding is particularly relevant to the context of Indonesia and other Asian countries where the family plays a central role in patient care.[14]

6. Conclusion

The results of a systematic review showed that the application of Orem's Self-Care theory in the care of Chronic Kidney Disease (CKD) patients undergoing hemodialysis in the hospital had a positive impact on improving self-care skills, quality of life, and psychosocial aspects of patients. This model is effective in various forms of nursing systems both educational-supportive and partial compensation depending on the level of self-care deficits experienced by patients. Orem's theory-based interventions have also been shown to improve self-esteem, life satisfaction, and compliance with therapeutic regimens, including diet and fluid management.

Further research is recommended to develop contextualized Orem-based interventions, which consider cultural values, educational backgrounds, and family support of patients in hospitals. Studies with more rigorous methodological designs, larger sample sizes, and longer follow-up periods are needed to evaluate the long-term effectiveness of Orem-based interventions. A mixed-method approach that combines quantitative and qualitative data will provide a deeper understanding of how socio-cultural factors influence the implementation of Orem's theory in various contexts.

References

- [1] M. Bahadori, F. Ghavidel, S. Mohammadzadeh, and R. Ravangard, "The effects of an interventional program based on self-care model on health-related quality of life outcomes in hemodialysis patients," *J. Educ. Health Promot.*, vol. 3, no. 1, pp. 1–9, 2014, doi: 10.4103/2277-9531.145899.
- [2] D. Rocha *et al.*, "Nursing assistance in peritoneal dialysis: applicability of orem theory –mixed method studya," *Esc. Anna Nery*, vol. 25, no. 3, p. 2021, 2021, [Online]. Available: <http://www.scielo.br/j/ean/a/bhNNF3NKfRkdPrKLXz3pMVD/abstract/?lang=en>
- [3] E. Moradi Kochi, A. Dehghani, and M. Hojat, "Effect of Orem's Self-care Model on the Daily Living Activities of Patients Undergoing Hemodialysis: A Quasi-experimental Study," *Avicenna J. Nurs. Midwifery Care*, vol. 32, no. 3, pp. 217–228, 2024, doi: 10.32592/ajnmc.32.3.217.
- [4] F. Shojae Shad, M. Rahnama, A. Abdollahi Mohammad, and S. Ahmadi Dareh Sima, "An Investigation Into the Impact of Orem's Self-Care Program on Life Satisfaction in Hemodialysis Patients," *Med. - Surg. Nurs. J.*, vol. In Press, no. In Press, 2019, doi: 10.5812/msnj.88795.
- [5] Zulkifli B. Pomalango, "Penerapan Teori Keperawatan Comfort Katharine Kolcaba dalam Pemberian Asuhan Keperawatan Perioperatif," *J. Anestesi J. Ilmu Kesehat. dan Kedokt.*, vol. 1, no. 3, pp. 118–128, 2023.
- [6] F. A. Motuho Mendrofa, F. Alfiatur Rohmaniah, W. Widiyaningsih, and J. E. Priya Utama, "Health Belief Model Approach Structured Health Education on Self-Efficacy in Compliance With Hemodialisa," *J. Smart Keperawatan*, vol. 10, no. 2, p. 81, 2023, doi: 10.34310/jskp.v10i2.402.
- [7] O. A. Johnson *et al.*, "Baseline and Postintervention Assessment of Sexual Violence and Condom Use among Female Sex Workers in a Semiurban African Community," *Soc. Heal. Behav.*, pp. 89–95, 2020, doi: 10.4103/SHB.SHB.
- [8] G. Chironda, B. Bhengu, and A. Manwere, "Models and theories of care applicable to predicting and improving adherence behaviours among Chronic Kidney Disease (CKD) patients," *Rwanda J. Med. Heal. Sci.*, vol. 2, no. 2, pp. 48–58, 2019, doi: 10.4314/rjmhs.v2i1.9.
- [9] F. S. Shad, M. Rahnama, H. Shahdadi, and A. Abdollahimohammad, "The effect of self-care program based on Orem model on the self-esteem of patients undergoing hemodialysis," *Med. Sci.*, vol. 22, no. 93, pp. 462–467, 2018, [Online]. Available: https://www.researchgate.net/profile/Abdolghani-Abdollahimohammad/publication/328601794_The_effect_of_self-care_program_based_on_Orem_model_on_the_self-esteem_of_patients_undergoing_hemodialysis/links/5bd8143e299bf1124fad23e9/The-effect-of-self-care-progr
- [10] A. Diah and Zulkifli, "Selfcare in Relation To Dietary Compliance for Nutrition and Fluid Among Patients Undergoing Hemodialysis," *J. Mutiara Ners*, vol. 6, no. 2, pp. 158–171, 2023, doi: 10.51544/jmn.v6i2.3940.
- [11] F. Rahimi, F. Oskouie, O. Naser, M. E. Sanandji, and A. Gharib, "The effect of self-care on patients undergoing Hemodialysis in the Sanandaj Hospitals affiliated to Kurdistan University of Medical Sciences in 2016," *Bali Med. J.*, vol. 6, no. 3, p. 684,



2017, doi: 10.15562/bmj.v6i3.707.

- [12] M. Mahmoud, A. Behairy, and S. Abd-Elghany, "The Effectiveness of Orem-Based Self-Care Education on Knowledge and Self-Care Behaviors among Patients with Heart Failure," *Assiut Sci. Nurs. J.*, vol. 11, no. 40, pp. 210–225, 2023, doi: 10.21608/asnj.2023.251587.1727.
- [13] A. I. Fouad and S. A. Belal, "Application of Self Care Orem's theory Guideline on elderly Suffering from Urinary Diversion," *IOSR J. Nurs. Heal. Sci.*, vol. 06, no. 01, pp. 28–39, 2017, doi: 10.9790/1959-0601052839.
- [14] F. A. M. Mendrofa, "Family-based care model for dependent elderly: Integration family systems nursing theory and disengagement theory to achieve sustainable development goals," *Edelweiss Appl. Sci. Technol.*, vol. 9, no. 4, pp. 1352–1360, 2025, doi: 10.55214/25768484.v9i4.6264.
- [15] Chloranyta Shanty, "Analisis Penerapan Teori Self Care Dorothea Orem Pada Pasien Diabetes Mellitus Tipe 2," *Ilm. Keperawatan Sai Betik*, vol. 16, no. 1, pp. 1–21, 2020.