



## **STRUCTURED HEALTH EDUCATION ON SELF-CARE MANAGEMENT TOWARD SELF-EFFICACY, STRESS AND QUALITY OF LIFE IN HEMODIALYSIS PATIENTS: A QUASI-EXPERIMENTAL STUDY**

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### **ABSTRACT**

Hemodialysis patients face complex issues, including decreased self-efficacy, high stress levels, and diminished quality of life. Comprehensive interventions are required to enhance patients' self-management capabilities. This study aims to analyze the effect of structured self-care management health education based on peer group support on the self-efficacy, stress, and quality of life of hemodialysis patients. This quasi-experimental study used a pre-post test control group design involving 70 respondents (35 intervention, 35 control) selected via consecutive sampling. The intervention group received four sessions of structured health education based on peer support. Research instruments included a self-efficacy questionnaire, the Depression Anxiety Stress Scales (DASS-42), and the KDQOL-SF 1.3. Data were analyzed using Paired T-Test and Mann-Whitney tests. There were significant increases in self-efficacy ( $p=0.006$ ) and quality of life ( $p=0.000$ ), as well as a significant decrease in stress levels ( $p=0.027$ ) within the intervention group. In contrast, the control group showed no significant changes across the three variables ( $p > 0.05$ ). Peer group support proved effective in facilitating the exchange of experiences and emotional support, which strengthened patients' self-belief in managing their condition. Structured self-care management health education based on peer group support is effective in improving self-efficacy and quality of life while reducing stress levels in hemodialysis patients. This intervention is recommended as an integral part of supportive nursing care in hemodialysis units.

**Keywords:** Health Education, Self-Care Management, Peer Group Support, Self-Efficacy, Stress, Quality of Life and Hemodialysis

### **INTRODUCTION**

Chronic Kidney Disease (CKD) is a progressive condition characterized by decreased kidney function or structural abnormalities lasting for more than three months, triggered by various risk factors and predicted to become the fifth leading cause of death globally by 2040 (Demirađ & Hintistan, 2022; Mahyuvi, 2020). Impaired blood filtration in CKD patients leads to the accumulation of metabolic toxins, which triggers serious complications such as uremia (Mahyuvi et al., 2021). Although hemodialysis serves as the primary therapy to sustain the survival of end-stage patients, the procedure brings drastic changes and a significant psychosocial burden, including chronic stress due to lifelong therapy dependence, dietary restrictions, as well as financial and



physical burdens that impact the patients' quality of life (Normalitasari & Rosyid, 2024; Göktuna & Arslan, 2024).

Chronic Kidney Disease (CKD) patients undergoing routine hemodialysis face severe adaptation challenges regarding the loss of organ function, which often trigger negative emotional responses such as stress and depression (Normalitasari & Rosyid, 2024; Göktuna & Arslan, 2024). With a global kidney disease prevalence reaching 850 million people, this therapy demands strict adherence to medication regimens and dietary restrictions, which serve as significant physical and psychological stressors (International Society of Nephrology., 2022). These stringent therapy demands risk lowering patients' self-efficacy in managing their illness, which systematically impacts increased stress, decreased motivation, and an overall decline in quality of life (Yonata et al., 2022; Normalitasari & Rosyid, 2024).

Chronic Kidney Disease (CKD) has become a significant global health burden, with a prevalence reaching 9.1% or more than 690 million cases worldwide, and shows an increasing trend in mortality and disability rates (*International Society of Nephrology., 2022*). In Indonesia, the prevalence of CKD is recorded at 0.38%, with the case burden in East Java reaching 0.29%, where the majority of patients face serious psychosocial challenges in the form of high stress (69.49%), low self-efficacy (25.6%), and a decline in quality of life (32.3%) (Kemenkes RI, 2023). This condition was confirmed through a preliminary study at General Hospital dr. Mohamad Soewandhie in January 2025, which showed that out of an average of 984 monthly visits, an alarming phenomenon was found where 60% of patients had low self-efficacy, 40% experienced severe stress, and 60% had a low quality of life, thereby necessitating more intensive nursing interventions.

Hemodialysis therapy brings significant changes to physical, psychological, and social aspects that directly diminish patients' quality of life through complaints of chronic fatigue, anxiety, and social isolation (Mahyuvi & Tukirahmawati, 2022). In facing this burden, self-efficacy emerges as a key predictor that determines the success of self-management; patients with high self-belief tend to be more active in managing symptoms and resilient in facing treatment barriers (Mahyuvi, 2024). Conversely, low self-efficacy not only worsens medical conditions due to treatment non-compliance but also increases patient vulnerability to emotional problems such as stress and depression, which further erode their quality of life (Mahyuvi et al., 2026).

Structured health education is a holistic educational method that utilizes various media, such as modules and booklets, to build a cognitive foundation and self-management skills in patients regarding treatment adherence, diet, and fluid control (Mahyuvi & Hasina, 2023). This approach becomes increasingly effective when integrated with peer group support, which facilitates interaction among peer patients to share experiences, emotional support, and solutions to the challenges of hemodialysis therapy. The synergy between organized information delivery and the reinforcement of emotional resilience through peer groups has been proven to enhance patients' understanding, self-efficacy, and quality of life sustainably (Husain et al., 2020).

Structured health education interventions have been shown to effectively improve the quality of life of hemodialysis patients by up to 50%, while the peer group support approach plays a significant role in reducing social isolation and strengthening emotional resilience through collective support (Husain et al., 2020; Faridah et al., 2021). As a novelty, this study integrates

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Peer Group Support-based Structured Self-Care Management Health Education to provide holistic nursing care that equips patients not only with cognitive information but also with psychosocial reinforcement. This integration is expected to serve as a comprehensive solution to enhance self-efficacy, reduce stress levels, and improve the overall quality of life for chronic kidney disease patients facing long-term therapy challenges.

**RESEARCH METHODOLOGY**

This quantitative study uses a quasi-experimental design with a pretest-posttest control group approach. The independent variable is Structured Self-Care Management Health Education based on Peer Group Support, while the dependent variables include self-efficacy, stress, and quality of life. The researcher selected a sample of 70 respondents (n=35 intervention and n=35 control groups) using a purposive sampling technique based on the following criteria: CKD patients undergoing hemodialysis for at least 5 months (twice a week) at General Hospital dr. Mohamad Soewandhie, cooperative, fully conscious (GCS 456), literate, and willing to sign informed consent.

Data were collected using standardized instruments: the General Self-Efficacy Scale (GSES) to measure self-belief, the DASS questionnaire (stress sub-scale) for stress levels, and the Kidney Disease and Quality of Life Short Form (KDQoL-SF 1.3) for quality of life, alongside a demographic characteristics questionnaire. The intervention group received a systematic educational program covering CKD concepts, hemodialysis, and self-care management through peer group support to facilitate the exchange of experiences and motivation. Structured Self-Care Management Health Education based on Peer Group Support was conducted across six sessions over a period of one month. This study has been declared ethically s (No.070/67617/436.7.2.1/2025 at General Hospital dr. Mohamad Soewandhie, Surabaya) and was conducted from October 20 to November 25, 2025, in the Hemodialysis Ward of General Hospital dr. Mohamad Soewandhie, Surabaya. Data analysis was performed using Paired T-Test and Mann-Whitney tests.

**RESULT AND DISCUSSION**

**RESULT**

Table 1. Characteristics of respondents in the intervention group and the structured health education control group peer group support on self-efficacy, stress and quality of life of hemodialysis patients

Characteristic Data	Intervention		Control	
	F	%	F	%
<b>Age</b>				
20 – 30 Years	1	2.8	0	0
31 – 40 Years	1	2.8	3	8.6
41 – 50 Years	7	20	5	14.2
51 – 60 Years	9	25.8	9	25.7
> 61 years old	17	48.6	18	51.5
<b>Total Amount</b>	35	100	35	100
<b>Gender</b>				
Male	24	68.6	18	51.4
Women	11	31.4	17	48.6
<b>Total Amount</b>	35	100	35	100

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<b>Education</b>				
Elementary School	2	5.7	4	11.4
Junior High School	2	5.7	3	8.6
High School	23	65.7	24	68.6
College	8	22.9	4	11.4
<b>Total Amount</b>	35	100	35	100
<b>Jobs</b>				
Not working	22	62.8	21	60
Civil Servant	5	14.2	5	14.2
Merchant	8	23	6	17.2
Fisherman	0	0	3	8.6
<b>Total Amount</b>	35	100	35	100
<b>Length of time on hemodialysis</b>				
< 1 Year	4	11.4	6	17.1
1-3 Years	6	17.1	8	22.9
>3-5 Years	12	34.3	9	25.7
>5 Years	13	37.1	12	34.3
<b>Total Amount</b>	35	100	35	100

Table 1 shows the demographic characteristics of respondents in both groups. The intervention group was dominated by men (68.6%), aged >61 years (48.6%), high school education (65.7%), not employed (62.8%), and having undergone haemodialysis (HD) >5 years (37.1%). Meanwhile, the majority of the control group consisted of men (51.4%), aged >61 years (51.5%), high school education (68.6%), unemployed (60%), and had an HD duration of >5 years (34.3%). Both groups showed relatively similar distribution of characteristics.

Table 2. Analysis of the results of the effect of structured health education on peer group support-based self-care management on control groups and interventions on self-efficacy

Variabel	Groups	n	Mean Rank	Sum of Ranks	Z	p-value
<b>Self-Efficacy</b>	Intervention	35	42.20	1477	-2.762	0.006
	Control	35	28.80	1008		

Table 2 shows that the intervention group had a Mean Rank of 42.20, higher than the control group of 28.80. This higher rating indicates that the intervention group's self-efficacy score is better than that of the control group. The results of the statistical test showed a p-value of 0.006 (< 0.05), which means that the provision of structured health education self-care management based on peer group support has a significant effect on increasing the self-efficacy of hemodialysis patients.

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Table 3. Analysis of the effects of structured health education on peer group support , group support, and control on stress

Variabel	Groups		Mean Rank	Sum of Ranks	Z	p-value
Stress	Intervention	35	18	630	-7.202	0.001
	Control	35	53	1855		

Table 3 showed that the intervention group had a Mean Rank of 18, much lower than the control group of 53. In this measurement, a lower score indicates a lighter level of stress or a better psychological state. The results of the statistical test obtained a p-value of 0.001 ( $p < 0.05$ ), which means that the provision of Self-Care Self-Care Structured Health Education based on Peer Group Support had a significant effect on reducing the stress level of hemodialysis patients. Patients who received the intervention were shown to have lower levels of stress compared to patients with standard care.

Table 4. Analysis of the effects of structured health education on peer group support , group support, intervention group and control on quality of life

Variabel	Groups	n	Mean	SD Deviation	p-value
Quality of Life	Intervention	35	76.49	6.026	0.001
	Control	35	55.94	15.889	

Table 4 shows a comparison of quality of life scores between the two groups after treatment. The intervention group had a mean score of 76.49 (SD 6.026), which was higher than the control group of 55.94 (SD 15.889). The results of the Paired T-Test test obtained a value of  $p = 0.001$  ( $p < 0.05$ ), which shows that the provision of structured health education self-care management based on peer group support has a significant effect on improving the quality of life of hemodialysis patients. Statistically, the quality of life of the intervention group was in the good category, while the control group was in the moderate category.

## DISCUSSION

### 1. Characteristics of Research Respondents

Based on the research findings in Table 1, the majority of respondents in both groups fall within the elderly age range (>61 years) and are predominantly male. These findings indicate that the hemodialysis patient population at the research site is dominated by a geriatric group with a masculine gender profile. This study aligns with global literature stating that the prevalence of Chronic Kidney Disease (CKD) increases with age. According to the United States Renal Data System (USRDS), the highest incidence of End-Stage Renal Disease (ESRD) occurs in the 65–74 age group, caused by the natural decline of physiological kidney function (organ aging) and the accumulation of degenerative diseases such as hypertension and diabetes (Mahyuv & Sari, 2023). Furthermore, an epidemiological study by Hill et al.



(2016) and recent Global Burden of Disease reports confirm that men have a higher risk of CKD progression than women, often associated with lifestyle, smoking habits, and suboptimal blood pressure control.

The researcher believes that the dominance of elderly participants in this study has significant implications for the intervention approach. Since the elderly often experience cognitive and physical decline, the Structured Health Education method utilizing simple and repetitive modules—is more appropriate than conventional lecture methods. Additionally, the prevalence of male patients suggests the need for an approach that maintains self-esteem; the Peer Group Support method allows male patients to share experiences without feeling "lectured," but rather supported by their peers, which psychologically strengthens their coping mechanisms.

Regarding educational attainment, the results show that most respondents in both groups have a Senior High School background. This indicates that the respondents possess sufficient basic literacy skills to read and understand health information. A study by (Yu et al., 2021) asserts that health literacy correlates positively with self-care management adherence. Patients with secondary education or higher tend to be better at understanding complex medical instructions, such as fluid and dietary restrictions. However, (Febryanti, 2023) emphasize that formal education alone is insufficient; patients require continuous specific education to transform knowledge into adaptive behavior. The researcher assumes that the high school education level dominating the respondents serves as a positive modality for this intervention. Respondents are deemed capable of absorbing the material in the self-care modules effectively. The challenge, however, lies in converting this cognitive understanding into actual practice. This is where Peer Group Support acts as a catalyst; through group discussions, patients with similar educational backgrounds can validate their understanding and motivate one another to adhere to the dietary and fluid regulations they have learned.

The research results also reveal that the majority of respondents are unemployed and have undergone hemodialysis for a long duration (>5 years), categorized as long-term survivors. This condition aligns with a systematic review by (Kirkeskov et al., 2021), which mentions that the unemployment rate among hemodialysis patients is very high due to post-dialysis fatigue and time-consuming therapy schedules, which hinder the ability to maintain full-time employment. Regarding the duration of hemodialysis, patients undergoing therapy for more than five years often experience a "burnout" phase and are vulnerable to long-term complications (Pasyar et al., 2020).

The researcher analyzes that "unemployed" status is a double-edged sword. On one hand, it causes financial stress and decreased self-esteem due to the loss of productive social roles (Role Function Mode in Roy's Theory). On the other hand, these patients have sufficient free time to participate in Peer Group Support activities. The fact that many respondents have undergone HD for over five years is highly beneficial for group dynamics. These "senior" patients can serve as effective role models for newer patients. Their experience of surviving for more than five years provides "vicarious experience," which can enhance the self-efficacy of other group members. This group-based intervention provides a "new job" or role as supportive peers, thus filling the social role vacuum caused by unemployment.

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## **2. The Effect of Peer Group Support-Based Structured Self-Care Management Health Education on the Self-Efficacy of Hemodialysis Patients**

The research findings regarding the self-efficacy variable indicate a highly significant difference between the intervention and control groups post-treatment. These findings statistically confirm the hypothesis that structured self-care management health education combined with peer group support is effective in increasing the self-efficacy of hemodialysis patients. The increase in self-efficacy scores in the intervention group illustrates that patients have transitioned from a phase of doubt toward a stronger self-belief in managing their chronic illness. This proves that an intervention focusing not only on knowledge transfer but also on psychosocial reinforcement is capable of altering patients' perceptions of their own abilities. This statistical significance aligns with the clinical objective of fostering patient independence in adhering to complex, long-term therapeutic regimens.

This improvement is based on the mechanism of mastery experience, or the experience of success obtained by patients through structured education. When patients are provided with systematic self-care management materials ranging from fluid restriction and diet to vascular access care they possess a concrete guide for action, which directly reduces uncertainty. According to Bandura's Social Cognitive Theory, success in performing small self-care tasks fosters a greater sense of self-efficacy. Recent research by (Wahdaniyah et al., 2024) also confirms that education tailored to the specific needs of hemodialysis patients is the strongest predictor of improved adherence and self-efficacy. Therefore, the educational component in this study serves as a cognitive foundation that enables patients to feel competent in making daily health decisions.

Beyond the cognitive aspect, the peer group support element contributes uniquely through the mechanism of vicarious experience, or learning by observing others. In group sessions, respondents observed fellow hemodialysis patients successfully managing their conditions, which fostered the belief that "if they can do it, so can I." The dynamic interaction among group members creates a supportive environment where patients feel validated and realize they are not struggling alone against the burden of end-stage renal disease. A study by (Al-Ghazali, 2025) in Indonesia found that social support from peers has a stronger positive correlation with self-efficacy than support from healthcare providers alone. This suggests that peer support acts as a catalyst, reinforcing the impact of the health education materials provided.

The synergy between structured education and peer support addresses the weaknesses of conventional educational methods, which are often one-way and unengaging. The researcher argues that increased self-efficacy cannot be achieved merely by providing leaflets or lectures without sustained emotional reinforcement. This combination facilitates verbal persuasion from peers, which is more effective because it utilizes language and experiences relevant to the patients' daily lives. These results strengthen the findings of (Almutary & Tayyib, 2021), stating that group-based psychosocial interventions effectively lower self-perceived barriers in chronic disease patients. Thus, this intervention model offers a holistic approach that simultaneously addresses the intellectual and emotional aspects of the patient.

These research findings are also consistent with various recent international literatures regarding the importance of patient empowerment in

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nephrology nursing care. A systematic review by (Bijani et al., 2022) concluded that community-based self-management interventions consistently improve self-efficacy scores and quality of life in Asian hemodialysis populations. At the national level, similar research by (Safitri & Jamil, 2024) showed that an intensive 4-week mentoring program significantly improved fluid restriction adherence, mediated by high self-efficacy. The consistency of these results with previous studies strengthens the external validity of the current findings, confirming that the intervention protocol implemented has a solid empirical foundation relevant to global nursing science.

High self-efficacy in the intervention group did not occur instantaneously but through an adaptation process facilitated by group support. Orem's Self-Care Deficit Theory explains that the nurse's role is to assist patients in achieving independence when a self-care deficit occurs, and the peer group functions as a "nursing agency" that extends the nurse's reach. In this context, the significance value of  $p=0.006$  reflects the success of the nurse in mobilizing the patient's social resources to bridge that self-care deficit. Research by (Lininger, 2023) supports this view, finding that patients actively involved in support groups have lower anxiety levels and higher self-confidence. This implies the intervention successfully transformed the patient's role from a passive care recipient into an active manager of their own health.

Statistically and theoretically, peer group support-based self-care management interventions have proven superior to standard care in increasing self-efficacy. The clinical implications suggest that hospitals and hemodialysis units should not only provide medical facilities but also facilitate the formation of structured peer support groups. Increased self-efficacy should be viewed as a quality-of-care indicator, given its broad impact on treatment adherence and patient prognosis. With high self-efficacy, patients are expected to maintain healthy behaviors independently, even without direct supervision from healthcare professionals. This study recommends integrating the peer support model into the standard operating procedures for patient education in hemodialysis units.

### **3. The Effect of Peer Group Support-Based Structured Self-Care Management Health Education on Stress Levels**

The research findings regarding the stress variable indicate a significant difference between the intervention and control groups following the treatment. These results confirm the hypothesis that structured self-care management health education based on peer group support is effective in significantly reducing stress among hemodialysis patients. The decrease in stress scores within the intervention group suggests that the combination of education and social support is capable of mitigating negative psychological responses to chronic illness (Mahyuvi & Sari, 2024). The researcher argues that this significant result is not merely a placebo effect, but the outcome of an adaptation mechanism facilitated by a supportive group environment. This reinforces the notion that stress management in hemodialysis patients cannot rely solely on pharmacological approaches but requires planned psychosocial interventions.

This stress reduction is based on the Uncertainty in Illness Theory (Suwardianto, Mahyuvi, et al., 2025). Stress in hemodialysis patients is frequently triggered by ignorance and uncertainty regarding prognosis, complications, and complex self-care procedures. Through structured health



education, patients gain clarity regarding fluid management, diet, and vascular access care, which directly reduces cognitive tension. When patients understand what is happening to their bodies and know how to respond, the perceived threat of the disease diminishes. A recent study by (Bijani et al., 2022) supports this, stating that comprehensive educational interventions correlate linearly with reduced levels of anxiety and stress in patients with end-stage renal disease.

Beyond cognitive aspects, the role of peer group support is a key factor in modulating patients' emotional responses to stressors (Suwardianto, Santoso, et al., 2025). During group sessions, a process of emotional ventilation occurs, where patients can release their anxieties to others who truly understand their suffering (Istiqomah & Mahyuvi, 2023). The sense of shared experience among peers creates a feeling of "being in the same boat," which eliminates social isolation one of the largest sources of stress for chronic patients. According to the Buffering Hypothesis by Cohen and Wills, social support acts as a buffer that blunts the pathogenic impact of stress on mental health. Findings by (Al-Ghazali, 2025) strengthen this argument, showing that patients active in kidney support communities have more stable cortisol (stress hormone) levels compared to those undergoing therapy alone.

This intervention also facilitates a shift in the patients' coping mechanisms from emotion-focused coping to problem-focused coping. Before the intervention, patients tended to respond to stress with denial or negative resignation due to a sense of helplessness against the exhausting hemodialysis routine. Through peer group support, patients learn practical problem-solving strategies from the experiences of their peers, such as how to manage muscle cramps or excessive thirst. This change in coping strategy gives patients a sense of control over stressful situations, ensuring that stressors are no longer perceived as paralyzing threats. International research by (Guler & Baglama, 2024) demonstrates that peer modeling is effective in enhancing psychological resilience, which directly impacts the reduction of perceived stress scores.

These findings indicate that a holistic bio-psycho-social approach is highly necessary. A study by (Iraqpour et al., 2019) found that health education provided in small groups is far more effective in reducing stress levels than one-way individual education. The consistency of these results shows that social interaction within a group provides a therapeutic value-add that cannot be replaced by educational materials alone. Group dynamics create a positive atmosphere that shifts the patient's focus from physical pain to meaningful social interaction. This proves that the mental health of hemodialysis patients is heavily dependent on the quality of the social networks they possess within the dialysis unit.

While other factors such as family support, economic status, and the duration of hemodialysis may interact, the research results highlight the strength of peer group support in reducing stress. The advantage of the peer group support model lies in the sustainability of the emotional support formed among members, even outside formal research sessions. This aligns with the findings of (Prastya et al., 2024), stating that support systems built among fellow patients have better sustainability because they are based on authentic empathy. Therefore, this intervention offers a long-term solution for stress management in hemodialysis units.

In summary, the integration of self-care education with peer group support is statistically proven to be effective in lowering stress in hemodialysis patients. The practical implication of these findings is the need for nurses to

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facilitate the formation of support groups as an integral part of mental-psychological nursing care. Reducing stress is not just about patient comfort, but also a clinical strategy to prevent cardiovascular complications often triggered by high stress in renal patients. The researcher recommends that hospitals provide specific space and time for patients to interact structurally under the guidance of nurses. Thus, hemodialysis units can transform from mere physical treatment facilities into holistic healing environments.

#### **4. The Effect of Peer Group Support-Based Structured Self-Care Management Health Education on Quality of Life**

The research findings regarding the quality of life variable indicate a significant difference between the intervention and control groups following the treatment. These findings provide empirical evidence that the integration of structured self-care management health education with peer group support effectively and significantly improves the quality of life of hemodialysis patients. The increase in quality of life scores within the intervention group encompasses both physical and mental health dimensions, indicating that this intervention provides a holistic impact. The researcher argues that this change occurs because patients are not only taught "what" to do but also receive support on "how" to manage it amidst physical limitations. This validates the importance of a nursing care approach centered on patient empowerment to achieve optimal subjective well-being (Tanoto & Zaenal B., 2022).

The improvement in the physical dimension of quality of life is based on enhanced symptom management through self-care education. Patients receiving structured education possess a better ability to control fluid intake and diet, which directly reduces the incidence of intradialytic complications such as hypotension, muscle cramps, and shortness of breath. When physical complaints are reduced, patients can perform daily activities more comfortably, which is a key indicator of physical quality of life. Symptom Management Theory asserts that a patient's ability to recognize and handle symptoms as early as possible will prevent a decline in functional status. Recent research by (Mahyuv, 2020) supports this, where adherence to fluid management proved to be the most significant predictor of quality of life scores in hemodialysis patients.

Regarding the mental and social dimensions, peer group support plays a crucial role in improving quality of life by reducing social isolation. Chronic kidney disease often causes patients to withdraw from their environment due to fatigue or changes in body image; however, peer support groups provide a safe space to re-engage socially. Within these groups, patients feel a strong bond of solidarity that revives their hope and self-esteem. The emotional support received from fellow sufferers provides a sense of acceptance rarely found in the healthy external environment. A study by (Mulyani et al., 2022) found that active participation in social groups correlates positively with better mental health and a decrease in depression among dialysis patients.

The effect of this intervention also works by enhancing the patient's psychological resilience. The combination of self-management knowledge and social support forms a protective buffer that helps patients adapt to the lifelong "binding" routine of hemodialysis. Patients with sufficient knowledge and strong support tend to view hemodialysis not as the end of life, but as a means to remain productive. This shift in perspective is fundamental to the assessment of subjective quality of life. These findings align with research by (Rina et al.,



2022), stating that the level of self-acceptance facilitated by group support is a major mediating factor in improving the quality of life of renal failure patients.

Furthermore, the effectiveness of this intervention is evident in the increase of patient independence, which reduces reliance on caregivers or family members. By mastering self-care management, patients feel more empowered and no longer perceive themselves as a burden to others a common source of major psychological distress. This independence provides a sense of control and autonomy that is closely linked to life satisfaction. The researcher emphasizes that group-based education also fosters healthy competition among patients to reach health targets, such as ideal dry weight. This is supported by global research from (Sinaga, 2022), which shows that patient autonomy in care significantly contributes to the perception of general well-being.

The result of  $p=0.016$  also implies that non-pharmacological interventions have a clinical impact just as important as medical therapy in the context of chronic disease. Often, the focus of hemodialysis services is solely on dialysis adequacy and hemoglobin levels, while neglecting the patient's life satisfaction. The researcher argues that the parameters for successful hemodialysis therapy must be expanded to include quality of life, as patients with a low quality of life have a higher risk of hospitalization and mortality. The integration of structured peer support programs offers a cost-effective solution to achieve these goals. A research (Yu et al., 2021) recommends this collaborative care model as a new standard in developing countries.

In conclusion, peer group support-based self-care management interventions are proven to improve the quality of life of hemodialysis patients through better physical symptom management and strengthened psychosocial support. These findings refute the assumption that a decline in quality of life is inevitable for hemodialysis patients. Conversely, with the right intervention, nurses can help patients not only "add years to their life but also add life to their years." The researcher recommends that hospitals adopt this intervention module into the patient education curriculum and facilitate the formation of sustainable patient communities. This is essential for achieving comprehensive and humanistic nursing care.

## **CONCLUSION AND RECOMMENDATIONS**

The intervention enhances patients' self-confidence through vicarious experience (observing the success of peers) and a comprehensive understanding of self-care materials. This process stimulates the cognitive mechanism to form positive perceptions. Furthermore, peer support provides a platform for emotional ventilation, reduces social isolation, and transforms the perceived threat of the illness into a manageable challenge, thereby decreasing physiological stress responses. The combination of increased self-efficacy and reduced stress levels leads to better adaptation in role function and interdependence, ultimately improving the overall quality of life. In conclusion, structured self-care management health education based on peer group support is proven to have a significant effect on enhancing self-efficacy, reducing stress levels, and improving the quality of life among hemodialysis patients.

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