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Original Research

The role of peer social support on family psychological resilience in caring for Chronic Kidney Disease patients receiving hemodialysis

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Key words: chronic kidney failure; family social support; hemodialysis; psychological resilience

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Significance for public health: This study is the first of its kind to investigate the correlation between peer social support and family psychological resilience in caring for chronic kidney disease patients receiving hemodialysis critically. The results show the importance for healthcare professionals to address the psychological well-being of families, enabling them to adapt and have resilience in supporting and caring for chronic kidney disease patients. Families with high psychological resilience are poised to experience improved quality of life and adherence to hemodialysis therapy.

Abstract

Chronic Kidney Disease (CKD) is a disease that necessitates continuous Hemodialysis (HD) therapy, and families, as primary caregivers in Indonesia, play a crucial role in caring for CKD patients. However, HD therapy places a significant burden not only on patients but also on their families, requiring fostering family psychological resilience to mitigate such a burden. Although peer social support is an important external factor in chronic disease, it is still underdeveloped. Therefore, this study aimed to explore the correlation between peer social support and family psychological resilience in caring for CKD patients receiving HD.

This cross-sectional study used purposive sampling, engaging 134 families serving as caregivers for patients receiving HD therapy. The Berlin Social Support Scales (BSSS) and The Walsh Family Resilience Questionnaire (WFRQ) were adopted as instruments, and data were analyzed using univariate and Spearman tests.

The majority of families reported high levels of peer social support (75,37%), predominantly originating from other members facing similar challenges related to caring for CKD patients. Additionally, a significant relationship was observed between peer social support and family psychological resilience ($p\text{-value}<0.05$), showing that higher levels of peer support corresponded to higher family resilience.

In conclusion, there was a strong correlation between peer social support and family resilience in the context of caring for CKD patients. Healthcare professionals should integrate social support intervention by establishing social groups to enhance family resilience.

Introduction

The prevalence of chronic kidney disease (CKD) is increasing,¹ making it one of the most rapidly growing non-communicable diseases (NCD) with significant mortality and morbidity burdens.² Globally, kidney disease affects over 750 million individuals, as reported by global health authorities.^{2,3} According to the Basic Health Study in 2018, the prevalence of chronic kidney failure was 0.38%, accounting for 713,783 individuals in Indonesia. East Java Province ranks second nationally in terms of the highest number of chronic kidney failure cases, with nearly 113,045 individuals affected.^{4,5} Specifically, in Malang City, the prevalence of the disease exceeds 2,500 patients, a number expected to rise due to the increasing cases of diabetes and hypertension.⁴

Patients with CKD need hemodialysis (HD) therapy to sustain their lives,⁶ with the majority receiving long-term treatment and managing self-care behaviors to maintain a healthy lifestyle at home. However, the prolonged duration of care at home can lead to a sense of burden among families caring for HD patients. The burden arises from the continuous need for medical intervention and the extended treatment duration.⁷ Typically, chronically diseased patients receive care from an informal support system,⁸ with family caregivers playing a crucial role in the care. Caring for individuals with long-term kidney disease poses a psychological burden on families serving as primary caregivers at home due to the various challenges associated with HD.⁹

CKD poses a significant threat to the health, economic, and social well-being of affected individuals and their families.^{10,11} The burdens experienced by families include financial, physical, social, and psychological aspects. Social burden restrict families' ability to socialize with relatives or friends, while physical burden lead to fatigue from the extensive time spent caring for HD patients. Psychological burden manifests as feelings of embarrassment, anger, and disappointment about the current situation. Additionally, the financial burden results in economic instability due to the considerable costs associated with HD.^{8,12,7} Families, as caregivers also encounter challenges in navigating various health and social care settings,⁸ seeking treatments, and managing the associated costs, leading to

additional stress. Therefore, families require psychological resilience to cope with these challenges.^{9,12} Family resilience in caring for chronic disease has garnered attention from analysts in recent years.^{10,13}

Family psychological resilience serves as a strategy for families to navigate pressure, challenges, or conflicts arising from caring for HD patients, enabling them to overcome discomfort and pressure effectively.^{14,15} High resilience is essential for families caring for the patients, with positive resilience arising from high self-confidence and belief.¹⁶ This resilience enables families to fulfill their functions effectively and adapt positively to stressful situations.^{17,18,19,20} Viewing family resilience from a relational perspective acknowledges the interconnectedness of individuals within familial networks managing the complex demands of HD treatment.¹⁴

Resilience, influenced by both internal and external factors, is essential for families navigating the challenges of caring for HD patients.²¹ External encouragement, known as social support, plays a crucial role in aiding families to overcome the challenges. Social support includes various forms of attention, enthusiasm, appreciation, acceptance, and assistance from multiple sources. Peer support, a specific type of social support, provides a complementary approach to addressing patients' emotional well-being and informational needs.²² It comprises individuals with firsthand experience of a condition sharing knowledge and experiences to support others facing similar health-related issues caring for CKD patients benefit from peer social support offered by individuals or families facing similar challenges.²³ Families caring for CKD patients also benefit from peer social support provided by those experiencing similar challenges.²⁴

Social support, recognized as an effective intervention, can manifest in various aspects, including emotional, appreciative, informational, and instrumental,²⁵ nurturing hope among HD patients.²⁶ Several reviews have shown that peer social support helps alleviate depression and burden while fostering a positive outlook for families.^{24,27} Support from families and friends plays a crucial role in coping with the advanced stages of chronic renal

failure.¹⁰ However, investigations on the correlation between peer social support for families and resilience in caring for CKD patients remain limited.

Materials and Methods

Design

This study used a cross-sectional design with an observational method.

Sample

The data collection was carried out from March to October 2023, engaging families caring for CKD patients receiving HD therapy at Lavalette Hospital in Malang City, East Java Province. The samples were families meeting the specific inclusion criteria, comprising, those caring for CKD patients receiving HD therapy for 1—5 years, aged at least 19 years old, cooperative, and proficient in Indonesian communication. A total of 134 families of CKD patients participated in this study, through the purposive sampling method.

Ethical Consideration

This study received ethical clearance under number 6806/UN10.F17.10.4/TU/2023 from the Faculty of Health Sciences, Universitas Brawijaya, Indonesia.

Data Collection and Procedures

The research process commenced with licensing and obtaining ethical clearance. Detailed informed consent was obtained from each participant without coercion to participate in the study. Data were collected offline using a paper-based questionnaire tailored to each participants condition, and statistical analysis was performed using SPSS. The data input process consisted of editing to ensure completeness, coding for scoring and interpretation, and checking for missing data and errors. Univariate and bivariate tests were conducted for data analysis.

An Instrument for Data Collection

The *Walsh Family Resilience Questionnaire* (WFRQ) was adopted to assess family psychological resilience, comprising the indicator of belief systems, organizational patterns, and communication/problem-solving. The questionnaire consisted of 26 questions, rated on a

scale from 1 (Strongly disagree) to 5 (Strongly agree), with a total score range of 26 to 130. Similarly, the *Berlin Social Support Scales* (BSSS) questionnaire was used to evaluate peer social support, covering emotional, instrumental, appreciation, and informational. The questionnaire consisted of 12 questions, also rated from 1 to 5, resulting in a total score range of 12 to 48. Both instruments received rigorous testing for reliability and validity. The WFRQ questionnaire showed validity with a value range of $r = 0.493-0.948$ and a reliability score of 0.957. The BSSS had a reliability value of 0.941 and validity ranging from 0.521–0.915.

Data Analysis

The collected data were subjected to screening for missing items, followed by the computation of total scale scores for peer social support and family psychological resilience. The score of each variable was categorized as high (96 – 130), sufficient (61 – 95), and low (26-60). Peer social support was categorized to be high (36 – 48), medium (24 – 35), and low (12-23). Statistical analysis was performed through univariate and Spearman rank correlation, using SPSS version 25.

Results and Discussion

Table 1 presented the characteristics of the participants, indicating that the majority of them fell within the 45-59 age range (47%) and had a senior high school education background (42,5%). A significant portion of the participants were unemployed (55,2%) and the majority had incomes below the minimum wage (87,3%). All of them had a familial relationship with the patients, predominantly as spouses. Most of the participants resided in close proximity to a hospital (69%), with an average distance of around 10 kilometers. Additionally, the duration of caregiving at home ranged from 1- 2 years for the majority (63,4%).

In Table 2, the independent variables were described, suggesting that the emotional support received by families in caring for CKD patients was largely categorized as high (76.11%), with only a small percentage falling into the low category (3.73%). Meanwhile, instrumental, appreciation, and information support received by families were mostly at high

levels (79.10%, 85.07%, and 85.3%, respectively). The results showed that peer social support enjoyed by families caring for CKD patients receiving HD was generally at a high level.

Table 3 presented the description of dependent variables, indicating that the indicators of family resilience, specifically belief systems, predominantly fell within the high-level category (96.6%). Additionally, organizational patterns and communication/problem-solving fell into the high level for the majority (88.8% and 82.83% respectively). The results showed that family psychological resilience in caring for CKD patients receiving HD tended to be predominantly at a high level.

In Table 4, a significant relationship between peer social support and family psychological resilience (p -value < 0.05) was observed, with a strong positive correlation of $R = 0,584$. This implied that higher levels of peer social support were associated with better family psychological resilience in caring for CKD patients receiving HD.

This study aimed to measure the correlation between peer social support and family psychological resilience in caring for CKD patients receiving HD. The results showed that peer support received by families caring for CKD patients fell within the high category. The analysis was in line with previous reviews indicating the importance of peer social support from friends or families facing similar challenges.²⁷ Peer support covered a range of supportive actions, including understanding, attention, and affection, which individuals could access through their social relationships with others, groups, or communities, thereby enhancing the quality of life.^{6,7}

Families encountering similar challenges of caring for CKD patients often showed mutual care and empathy when interacting with other families in hospital settings.²³ Sharing experiences and information regarding caring for the patients receiving HD could alleviate stress and family burdens. Social support covered four types, appreciation, instrumental, emotional, and informational. The predominant type of social support received by families in this study was appreciation. Chronic diseases such as breast cancer and CKD require complex treatment due to their inherent uncertainty. However, emotional support from peers facing similar diseases was crucial in helping families and patients manage psychological

challenges.²⁸⁻³⁰ Appreciation support, identified as the most common form of support received by 114 families (85,07%), consisted, of showing positive appreciation, encouragement, and approval of ideas or individual feelings. Families reported receiving consistent encouragement and support from individuals around them, which corroborated with previous reviews indicating high-esteem support characterized by positive reinforcement, constructive criticism, and appreciation for efforts made, thereby fostering motivation.³¹ Appreciation support could build individuals' self-esteem, leading to greater respect from others.³²

Patients receiving HD faced mental and health challenges, which also affected their families.¹⁰ In Indonesia, families played a crucial role as primary caregivers, with the majority of participants having a relationship with CKD patients as spouses (58,2%). This was in line with the investigation conducted in other Indonesian hospitals, where “caregivers” included spouses, children, grandchildren, nieces, nephews, and acquaintances. Families served as the primary caretaker and provided support for self-management and other necessities.³³ Caring for a chronic disease, particularly CKD comprised managing the demands of the disease and coping with the associated stress.¹⁷ The results showed the majority of families had high resilience (82.83%), attributed to the fact that most of them (63.8%) had been caring for CKD patients for 1-2 years. The analysis was in line with previous reviews suggesting that spending more time caring for the patients enabled families to become more adaptable.²¹ As caregivers provided care over an extended period, they tended to experience fewer emotional problems and develop better-coping mechanisms. Consequently, families with high resilience tended to experience lower levels of depressive symptoms.^{15,21}

Family resilience covered three indicators, including belief systems, organizational patterns, and communication and problem-solving processes.^{15,19} The results showed that the most commonly experienced type of resilience among families was belief systems (96.6%). Belief systems comprised the family's positive interpretation of events, such as maintaining optimism about the future or having faith in God.¹⁹ Families with good knowledge, an optimistic outlook, and strong religious beliefs or confidence could reduce feelings of anxiety and enhance their readiness to care for CKD patients at home.^{15,7} This was in line with

previous reviews indicating that families managing chronic disease strive for self-adjustment by adapting to uncertainty and overcoming family problems related to disease.^{21,34,29}

The analysis showed a significant relationship between peer social support and family psychological resilience (p -value <0.05), suggesting that higher levels of peer social support corresponded to increased family resilience. The results were in line with previous reviews indicating that peer social support served as a predictor of quality of life, not only for patients but also for their families. Peer support played a crucial role in fostering relationships and preparing individuals for uncertainty.²³ Moreover, it motivated families to support patients in adhering to therapy regimens.^{1,27} Positive peer support and family resilience were associated with improved adherence to functional exercise, leading to a reduction in symptom burden. The results contributed to the understanding of the positive psychological and social implications of family resilience.²¹

Conclusions

In conclusion, peer social support and family resilience in caring for CKD patients receiving HD predominantly fell into the high category. The strong correlation between peer social support and family resilience showed the importance of enhancing peer social to support family psychological resilience in caring for CKD patients. Health workers should consider integrating social group interventions to strengthen family resilience.

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Table 1. Family Characteristics

Characteristics	Category	Frequency (f)	Percentage (%)
Age	19 – 44 years	47	35.1
	45 – 59 years	63	47.0
	≥ 60 years	24	17.9
Gender	Male	50	37.3
	Female	84	62.7
Education	No Education	1	0.7
	Elementary school	18	13.4
	Junior high school	23	17.2
	Senior high school	57	42.5
	University	35	26.1
Work	Working	60	44.8
	No working	74	55.2
Economy status	Under the minimum wage for work	117	87.3
	Above the minimum wage for work	17	12.7
Family relationship with patients	Parents	17	12.7
	Husband/wife	78	58.2
	Grand parents	1	0.7
	child	30	22.4
	Grand child	2	1.5
	Siblings	6	4.5
Distance of home to hospital	Near (10 kilometers)	69	51.5
	Far enough (10-20 kilometers)	34	25.4
	Far (more than 20 kilometers)	31	23.1
Length of time for caring patients	1 -2 years	85	63.4
	3 – 5 years	49	36.6

Table 2. Distribution of independent variables

Variable	Category					
	Low		Medium		High	
	f	%	f	%	f	%
Emotional support	5	3.73	14	12.1	102	76.11
Instrumental support	6	4.47	10	8.6	106	79.10
Appreciation support	2	1.49	5	4.3	114	85.07
Informational support	2	1.49	15	12.9	99	85.3
Peer social support	8	3.73	25	18.65	101	75.37

Table 3. Distribution of dependent variables

Variable	Category					
	Low		Medium		High	
	f	%	f	%	f	%
Belief systems	5	0.9	8	2.6	121	96.6
organization patterns	7	1.7	12	9.5	115	88.8
Communication/problem-solving	8	2.6	10	5.2	116	92.2
Family Psychological Resilience	9	6.71	14	10.44	111	82.83

Table 4. Correlation peer social support and psychological family resilience

Peer social support	Family Psychological Resilience						Total		p-Value	<i>r correlation</i>
	Low		Medium		High		n	%		
	n	%	n	%	n	%				
Low	5	2.58	2	0.86	0	0	7	3.44	0.000	0.584
Medium	0	0	5	2.58	14	9.46	19	12.04		
High	0	0	2	0.86	97	83.42	108	84.24		
<i>Uji Spearman's rho r= 0.584** p-value 0.000</i>										
**. Significant										