

# RESILIENCE AND QUALITY OF LIFE OF HEMODIALYSIS PATIENTS: A NARRATIVE LITERATURE REVIEW

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## Abstract

*Resilience is a significant factor closely associated with the quality of life and well-being of patients undergoing haemodialysis. Resilience serves as a protective factor that can enhance patients' adaptive capabilities and their skills in implementing positive coping strategies. Research on the relationship between resilience and quality of life in haemodialysis patients is still limited and has not been extensively studied. This study aims to explore the interconnection between resilience and quality of life in haemodialysis patients. A search for article data sources was conducted by applying inclusion and exclusion criteria in accordance with the PRISMA format through various databases such as Emerald, PubMed, and ProQuest, as well as e-resources from the National Library. Additionally, searches were performed on article sites such as ResearchGate, Science Direct, and Google Scholar for the period 2019-2024. The keywords utilised included: "Resilience" or "Resiliency" or "Resilient" and "quality of life" and "Haemodialysis". Data were extracted by documenting the author's name, year, country, objective, respondents, design, findings, and implications. The study design included literature reviews in the form of abstracts or full texts from research journals. The quality of the research was evaluated using the PRISMA literature search diagram. From 13 reviewed journals, the analysis indicated that 9 articles suggested a relationship between resilience and the quality of life of haemodialysis patients, whereas 1 article reported no relationship, and 3 other articles highlighted additional factors related to resilience in haemodialysis patients. Enhancing resilience should be a focus in the care of haemodialysis patients to support the achievement of better quality of life. Indicators related to resilience are factors that influence the quality of life of haemodialysis patients. The role of resilience on an individual level requires further investigation within the context of quality of life variables in haemodialysis patients.*

**Keywords:** Factors related, hemodialysis, quality of life, resilience

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## Introduction

Haemodialysis is a renal replacement therapy procedure most commonly employed in patients suffering from chronic kidney disease (CKD), aimed at altering the composition of solutes in the blood by utilising another solution known as dialysate. This fluid flows through a semipermeable membrane, and the method leverages the processes of diffusion and ultrafiltration to cleanse the blood of metabolic waste products (Bello, 2021; Black, J.M., & Hawks, 2020). Haemodialysis, conducted with the aid of a dialyzer machine, serves to prevent the accumulation of harmful substances that may jeopardise the function of vital organs. This therapy is a long-term procedure typically performed twice a week, with each session lasting approximately four to five hours (Murdeswar, 2022).

To enhance the survival rates of patients, which is the primary objective and an indicator of the success of haemodialysis therapy, it is noteworthy that data from the United States Renal Data System (USRDS) in 2018 indicated that the survival rates of haemodialysis patients remain relatively low. More than 10% of the adult population in the United States suffers from chronic kidney disease, with the incidence rate continuing to rise each year. Of the total 398,861 patients undergoing dialysis procedures in the United States, approximately 365,566 are patients with chronic kidney disease receiving haemodialysis treatment (Johansen, 2021). According to data obtained from the *Indonesian Renal Registry* (IRR, 2020)

the number of active patients suffering from *Chronic Kidney Failure* (CKD) in 2019 was recorded at 185,901 patients, but this number decreased to 130,931 patients in 2020. Haemodialysis has several effects, including physical health effects, psychological effects, social effects, and spiritual effects (Lolowang, 2020). Although this therapy can improve life expectancy, patients often face various significant challenges that impact their quality of life across physical, psychological, social, and spiritual dimensions (Andini, 2022). Quality of life is a multidimensional and subjective concept. Subjectivity indicates that the assessment of quality of life can only be conducted from the individual patient's perspective. Meanwhile, the multidimensional nature implies that the evaluation of quality of life is carried out comprehensively, encompassing various aspects of an individual's life, such as biological, physical, psychological, sociocultural, and spiritual aspects (Rustandi et al., 2018).

Quality of life is an aspect that reflects the extent to which individuals perceive satisfaction or happiness in their lives. It is utilised to describe health conditions, which can be observed through various dimensions, including physical health, psychological health, social relationships, and environmental conditions (Mulia, 2018). For patients suffering from chronic illnesses, quality of life plays a crucial role, as it reflects their well-being and health status. Quality of life serves as a parameter encompassing various aspects and indicates the degree to which patients can experience hope, purpose, and meaning in their lives (Aditama et al., 2024).

In light of the challenges faced by patients undergoing haemodialysis, numerous studies have been dedicated to identifying the psychosocial factors that influence the quality of life of these individuals, one of which is resilience. Resilience reflects the capacity of patients to adapt to challenging situations and to provide flexible responses to everyday problems that arise, whether related to their health condition or the therapy they are undergoing (Böell et al., 2016). Research into resilience among haemodialysis patients has commenced with the aim of examining the impact of psychosocial factors in addition to biochemical factors. This is imperative as the condition of patients cannot be adequately assessed from a solely biological dimension, which often fails to clearly elucidate the variations in patients' conditions (Noghan et al., 2018). When patients are diagnosed with renal failure and must undergo haemodialysis to survive, they become particularly vulnerable to feelings of helplessness, depression, and fear, which can exacerbate the progression of their illness (González-Flores et al., 2021). Therefore, resilience is essential for transforming negative perceptions of the disease and for fostering a positive reaction to health conditions (Liu et al., 2018).

There is a paucity of prior research investigating the relationship between resilience and the quality of life of haemodialysis patients. However, several studies have indicated a correlation between resilience and quality of life in this patient population, specifically (Rahmawan et al., 2021; Claudia et al., 2020; Susanto et al., 2024). The concept of resilience within the field of nursing remains inadequately understood, despite the considerable volume of research conducted on resilience across various healthcare settings. Investigations into resilience continue to evolve, particularly due to the vulnerability of patients to experience stress and suffering as a consequence of their illness trajectory (Böell et al., 2016). Patients with chronic conditions such as renal failure may endure significant symptom burdens, face complex health management challenges, and require haemodialysis to sustain their lives. This situation can lead to the emergence of various issues in the patients' lives, which are subsequently associated with the concept of resilience (Martínez et al., 2022; Qiu et al., 2021).

Resilience is a concept associated with a patient's ability to comprehend their illness, adapt to the various challenges posed by their condition, develop constructive coping mechanisms, and accept any limitations that may arise as a consequence of their disease trajectory (Qiu et al., 2021). Patients undergoing haemodialysis who exhibit strong resilience tend to demonstrate adherence to therapy, effectively adjust to changing circumstances, and enhance their quality of life. Resilience is believed to mitigate the negative impacts of illness, encompassing physical, psychological, social, and spiritual dimensions. This concept is particularly crucial in the care of patients with chronic diseases (Martínez et al., 2022). An analysis of existing literature reveals a correlation between resilience and quality of life among haemodialysis patients (Claudia et al., 2020; Rahmawan et al., 2021; Susanto et al., 2024).

Resilience can be defined as an individual's capacity to endure various conditions, particularly stressful ones (Saptariaji, 2021). In the context of chronic illness, resilience may correlate with adherence to treatment and overall well-being (Kim et al., 2019). Based on this background, the aim of this study is to investigate the relationship between resilience and quality of life in haemodialysis patients.

## Methods

The type of method employed in this study is secondary research, utilising a literature review approach. The type of review conducted in this research is a Narrative literature review. A Narrative literature review is a process of reviewing literature with the aim of synthesising published works on a specific topic, thereby illustrating the current state of knowledge (Ferrari, 2015). The procedure adopted in this study follows the Preferred Reporting Items for Narrative Reviews and Meta Analyses (PRISMA). PRISMA assists researchers in ensuring that reports of Narrative literature reviews are transparent and comprehensive (Duran et al., 2020; García-Martínez et al., 2020).

The inclusion criteria for this study are articles that constitute primary research, samples comprising patients undergoing routine haemodialysis, articles published within the last five years, and a focus on articles discussing the relationship between resilience and quality of life among haemodialysis patients, as well as the analysis of resilience factors in relation to the quality of life of these patients. Only articles with explicit findings related to resilience have been included in this study. A total of 128 articles that presented findings solely concerning quality of life factors in haemodialysis patients were excluded from this study.

Keywords utilised in the Indonesian language include “Resiliensi” and “kualitas hidup” and “hemodialisis”, while the English keywords comprise “Resilience” or “Resiliency” or “Resilient” and “quality of life” and “hemodialysis”. The search for articles was conducted using multiple databases, namely Emerald, PubMed, and ProQuest, accessed through the e-resources of the National Library, in addition to article search sites such as Science Direct and Google Scholar. The criteria for the selection of literature in this research encompass all literature published within a five-year period (2019-2024) and all literature published in both Indonesian and English. The articles were identified based on the established keywords. The identified articles were subsequently filtered according to the inclusion and exclusion criteria, leading to the analysis of 13 articles that are included in this literature review

## Result

This The authors conducted a search for articles using predetermined keywords. Following a selection process based on inclusion and exclusion criteria, a review yielded 13 articles that aligned with the previously established PRISMA guidelines. The articles pertain to the theme of the relationship between resilience and quality of life in patients undergoing haemodialysis. It is essential for researchers to expand their knowledge regarding the relationship between resilience and quality of life in haemodialysis patients, as developed by the researchers. From the theme concerning the relationship between resilience and quality of life in haemodialysis patients, 13 articles were identified. Subsequently, these 13 articles were analysed. Below is a table listing the 13 extracted articles:

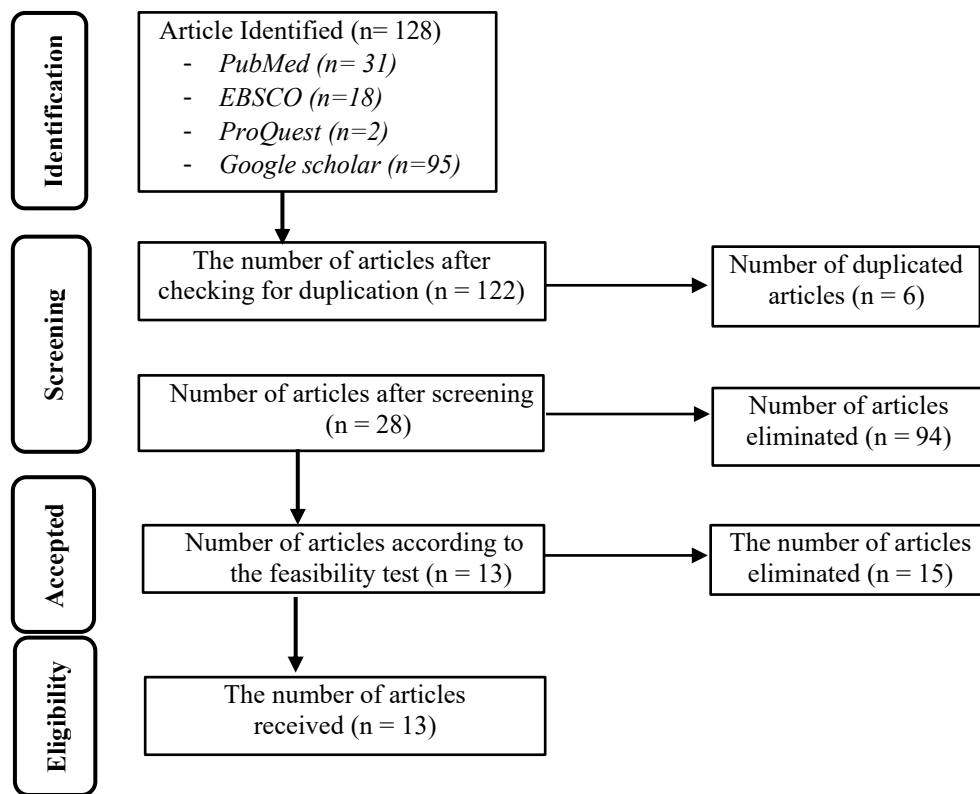


Figure 1. Literature Search and Selection Process Using the PRISMA Procedure

Table 1. Synthesis Matrix

No.	Author	Title	Method (Design, Population, Variable)	Results
1.	Jagentar Pane, Ice Septriani Saragih (2020)	The Relationship Of Resilience And Quality Of Life Patient With Chronic Kidney Disease Who Undergoing Haemodialysis In Rasyda Kidney Hospital Medan	Design : Cross sectional study Population : 117 respondents Variable : Resiliennce, Quality of Life	The results of this study, as indicated by the Chi-square test, demonstrate a significant relationship between resilience and the quality of life of chronic kidney disease patients undergoing haemodialysis at Rasyda Specialised Kidney Hospital ( $p=0.001$ , $\alpha < 0.005$ ). The researchers recommend that future studies investigate the factors influencing resilience and the quality of life of patients with chronic renal failure who are receiving haemodialysis.
2.	Fatemeh Hassani, Kourosh Zarea, Maryam Gholamzadeh Jofreh, Zahra Dashtbozorgi, Sally Wai-Chi Chan (2022).	Effect of Perceived Social Support, Spiritual Well-being, Health Literacy, and Resilience on Quality of Life in Patients Undergoing Hemodialysis: A Structural Equation Model	Design : Cross sectional study Population : 260 respondents Variable : Gender, age, status marital, comorbid, perceived social support, spiritual well-being, health literacy, and resilience	Results In this study, the majority of patients were married (76.9%) and had at least one comorbid condition (59.2%). The findings indicate that health literacy, spiritual well-being, and social support have a significant correlation with Quality of Life ( $P < 0.001$ ). However, resilience did not show a significant relationship with the Quality of Life of patients ( $P > 0.58$ ).
3.	Hassan Zahid, Jehanzaib Islam (2024).	Psychosocial Resilience and Quality of Life in Patients with End-Stage Renal Disease Undergoing	Design : Cross sectional study Population : 191 respondents	The results of this study indicate an average age of $53.4 \pm 14.2$ years, with a gender distribution of 45% male and 55% female. Common comorbidities include hypertension (85%), diabetes (65%), and cardiovascular disease (40%). The average duration

		Hemodialysis: A Cross-Sectional Study	Variable : Age, gender, comorbid, duration of dialysis, education, status marital	of end-stage renal disease (ESRD) is $5.6 \pm 3.2$ years, with 70% of patients undergoing haemodialysis three times a week. A significant proportion of patients (60%) have attained higher education, while 15% lack formal education, and 70% are married. Resilience, as measured by the Connor-Davidson Resilience Scale (CD-RISC), has an average score of $45.27 \pm 8.35$ , and Quality of Life, assessed using the WHOQOL-BREF™, has an average score of $51.71 \pm 6.30$ . Both scores are significantly lower than population norms ( $p = 0.029$ for resilience, $p = 0.001$ for Quality of Life), indicating considerable psychological challenges. Conclusion: Patients with ESRD undergoing haemodialysis experience low levels of psychosocial resilience and quality of life, highlighting the need for targeted interventions to enhance these critical aspects of patient well-being.
4.	Claudia Wuri Prihandini, Ni Komang Matalia Gandari, I Putu Yehuda Widana (2020).	Hubungan Resiliensi Dengan Kualitas Hidup Pada Pasien Gagal Ginjal Kronis Yang Menjalani Hemodialisa	Design : Cross sectional study Population : 72 respondents Variable : Age, gender, Education, Occupation, duration of dialysis, Frequency of dialysis, resilience	The results of this study, utilising the Spearman Rank test to analyse the relationship between resilience and quality of life, yielded a p-value of 0.001. This indicates a statistically significant correlation between resilience and quality of life. The strength of the correlation between the two variables is reflected in a correlation coefficient of 0.592, suggesting a moderate correlation. Therefore, it can be concluded that higher levels of resilience are associated with improved quality of life for the respondents.
5.	Fajri Andi Rahmawan, Defi Wulandari, Anita Dwi Ariyani (2021)	Adakah Hubungan Resiliensi Dengan Kualitas Hidup Pasien Di Ruang Hemodialisis Selama Pandemi Covid 19?	Design : Cross sectional study Population : 56 respondents Variable : Age, gender, Education, Occupation, duration of dialysis, resilience	The research findings indicate that among 56 patients in the haemodialysis unit, 29 respondents (51.8%) exhibited low resilience, while 34 respondents (60.7%) reported a moderate quality of life. Statistical analysis conducted using the Spearman Rank test yielded a calculated p-value of 0.003, where $p < 0.05$ , signifying a significant relationship between resilience and quality of life.
6.	Dwi Prastiyo Susanto, Asmuji Asmuji, Ginanjar Sasmito Adi (2024)	Hubungan Resiliensi Dengan Kualitas Hidup Pada Pasien Gagal Ginjal Kronik Di Rsud Dr. Soebandi Jember	Design : Cross sectional study Population : 69 respondents Variable : Age, gender, marital status, resilience	The results of the study, as indicated by the Spearman's rho correlation test, demonstrate a p-value of 0.004, which is less than the significance level of 0.05. This indicates that the null hypothesis ( $H_0$ ) can be rejected, thereby suggesting a significant relationship between resilience and quality of life in patients with chronic kidney failure at RSUD Dr. Soebandi Jember.
7.	Yeon Hee Cho, Yun Mi Lee (2019).	Resilience as a Moderator and Mediator of the Relationship between Symptom Experience and Quality of Life in Hemodialysis Patients	Design : Cross sectional study Population : 105 respondents Variable : Age, gender, religion, marital status, education, occupation, duration of hemodialysis, number of hemodialysis per week, monthly	The results of this study indicate a significant correlation between symptom experience and resilience among participants ( $r = -.36$ , $p < .001$ ), symptom experience and quality of life ( $r = -.50$ , $p < .001$ ), and resilience and quality of life ( $r = .67$ , $p < .001$ ), respectively. Resilience exhibits a partial mediating effect ( $z = -3.48$ , $p < .001$ ) in the relationship between symptom experience and quality of life, although it does not demonstrate a moderating effect. Conclusion: To enhance the quality of life among patients undergoing haemodialysis, it is essential to develop interventions that bolster resilience in addition to providing symptom relief.

			hospital expence, comorbidity		
8.	P García-Martínez, M D Temprado-Albalat, R K Gandhi-Morar, J Castro-Calvo, E Collado-Boira (2020).	Predictive model of variables associated with health-related quality of life in patients with advanced chronic kidney disease receiving hemodialysis	Design : Cross sectional study Population : 155 respondents Variable : Age, gender, comorbid		The results of this study, which was conducted as a multicentre, cross-sectional, and correlational research involving 155 patients with Advanced Chronic Kidney Disease (ACKD) in the Valencia Community (Spain), are presented herein. The instruments utilised for this research included the Kidney Disease Quality of Life 36 (KDQOL-36), the Perceived Stress Scale 10 (PSS10), and the Connors-Davidson Resilience Scale (CD-RISC). To identify the variables with predictive power over the scales and subscales of the KDQOL-36, multiple regression analysis was performed. The mean age of the participants was 67.39 years, with 68.4% being male, 29% having diabetes, and 83.2% having undergone arteriovenous vascular access placement, with a Charlson Comorbidity Index of 6 (SD = 2.09). The regression model identified that age and resilience accounted for up to 26.8% of the variance in the total KDQOL-36 score. For the physical component of Quality of Life (QoL), comorbidities with other clinical conditions, resilience, and the presence of diabetes explained 32.1% of the variance.
9.	Na Li ( 2024).	Mediating Role of Psychological Resilience Between Depression and Quality of Life in Maintenance Hemodialysis Patients in Baoding City, China: A Cross-Sectional Study	Design : Cross sectional study Population : 215 respondents Variable : Depression, psychological resilience, and quality of life		The results of this study employed a general information questionnaire, the Hemodialysis Patient Depression Scale, the Psychological Resilience Scale, and the Quality of Life Scale. Structural equation modelling using AMOS 21.0 was employed to analyse the mediating effects. The scores for depression, psychological resilience, and quality of life among patients undergoing maintenance haemodialysis (MHD) were 9.37±4.6, 30.58±6.1, and 59.48±9.3, respectively. Depression exhibited a negative correlation with quality of life, whereas psychological resilience demonstrated a positive correlation with quality of life, with correlation coefficients of -0.453 and 0.578, respectively (all P<0.01). Psychological resilience acted as a mediating factor in the relationship between depression and quality of life ( $\beta=-0.13$ , P<0.05), with mediation analysis revealing a significant indirect effect of depression on quality of life. The direct and indirect effects of depression on quality of life were -0.34 and -0.13, respectively, yielding a total effect of -0.47. The mediating effect accounted for 27.7% of the total effect. Interpretation: The PHQ-9 scores range from 0 to 27, with higher scores indicating more severe depressive symptoms. The CD-RISC scores range from 0 to 100, with higher scores reflecting greater psychological resilience. The SF-12 scores range from 0 to 100, with higher scores indicating better quality of life.

10.	Lu Peng, Yuling Ye, Lingzhen Wang, Wanling Qiu, Sicheng Huang, Lixing Wang, Fengling He, Lili Deng, Jingxia Lin (2022)	Chain Mediation Model of Perceived Stress, Resilience, and Social Support on Coping Styles of Chinese Patients on Hemodialysis During COVID-19 Pandemic Lockdown	Design : Cross sectional study Population : 197 respondents Variable : stress, coping style, resilience, and social support	The result Perceived stress was negatively correlated with positive coping style ( $r=-0.305$ , $P<0.001$ ) and resilience ( $r=-0.258$ , $P<0.001$ ), whereas resilience ( $r=0.631$ , $P<0.001$ ) and social support ( $r=0.300$ , $P<0.001$ ) were positively correlated with positive coping style among patients on MHD. In the moderated mediating model, perceived stress had significant direct predictive effects on positive coping style (95% CI -0.33, -0.07), and perceived stress had significant indirect predictive effects on positive coping styles through resilience (95% CI -0.26, -0.06) or social support (95% CI 0.01, 0.06). Perceived stress had significant indirect predictive effects on positive coping style through both resilience and social support (95% CI -0.04, -0.01)
11.	Rikarda Ogetai, Henni Kusuma (2020).	Gambaran Tingkat Resiliensi pada Pasien Penyakit Ginjal Kronik yang Menjalani Hemodialisis	Design : Cross sectional study Population : 55 respondents Variable : age, gender, occupation, marital status, resilience	The results of this study indicate that the majority of respondents were elderly individuals aged between 51 and 56 years, comprising 26 patients (47%). The majority were male, with 36 patients (65%), and the educational background revealed that 26 patients (48%) had completed high school. Furthermore, 30 patients (55%) were unemployed, and with regard to marital status, 52 patients (95%) were married. Among the respondents, 40 patients (73%) had been undergoing haemodialysis for a duration of one year or more. In terms of resilience levels, 47 patients (85%) exhibited a very high level of resilience, while 8 patients (15%) demonstrated a high level of resilience. The resilience items most frequently selected by respondents indicated strong agreement, particularly in two characteristics: existential aloneness, as evidenced by the statement regarding the effective execution of haemodialysis (74.5%), and meaningfulness, reflected in the statement expressing gratitude for the ability to continue haemodialysis in their lives (74.5%). Conversely, the resilience item with the highest level of disagreement pertained to the characteristic of perseverance, where 14 patients (25.4%) indicated that they could not navigate difficult times due to prior experience with haemodialysis. In conclusion, it can be inferred that resilience among patients with chronic kidney disease undergoing haemodialysis is notably high.
12.	Yuan Qiu, Yingying Huang, Yuxin Wang, Liya Ren, Hao Jiang, Liping Zhang, Chaoqun Dong (2021)	The Role of Socioeconomic Status, Family Resilience, and Social Support in Predicting Psychological Resilience Among Chinese Maintenance Hemodialysis Patients	Design : Cross sectional study Population : 258 respondents Variable : family resilience; maintenance hemodialysis; psychological resilience; social support; socioeconomic status	The result maintenance hemodialysis patients reported a low level of physical resilience, with a score of $(58.92 \pm 15.27)$ . Hierarchical linear regression analysis showed that education level ( $\beta = 0.127$ , $p = 0.018$ ), maintenance of a positive outlook by the family ( $\beta = 0.269$ , $p = 0.001$ ), positive social interaction support from the family ( $\beta = 0.233$ , $p = 0.002$ ), and tangible support ( $\beta = -0.135$ , $p = 0.037$ ) were significantly associated with psychological resilience.

13.	Fajri Andi Rahmawan, Defi Wulandari, Anita Dwi Ariyani (2020)	hubungan tingkat resiliensi dengan kualitas hidup pasien yang menjalani hemodialisis di rs pgi cikini Jakarta	Design : Cross sectional study Population : 56 respondents Variable : family resilience; maintenance hemodialysis; psychological resilience; social support; socioeconomic status	The results of the chi-square test statistically indicate a significant relationship between resilience and the quality of life of haemodialysis patients, with a p-value of 0.001. In conclusion, the higher the resilience score of the patients, the better the quality of life they experience.
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The article selection process utilised the PRISMA diagram. A total of 128 articles were identified during the search across four databases: PubMed yielded 31 articles, EBSCO 18 articles, ProQuest 2 articles, and Google Scholar 95 articles. During the screening phase, 6 articles were excluded due to being duplicates, review articles, published beyond the last 9 years, or not in English, resulting in 122 articles remaining. Subsequently, screening of titles and abstracts led to the exclusion of 94 articles that did not align with the research question, and an additional 15 articles were excluded for not meeting the inclusion criteria. Consequently, 13 articles were included in this review (see Figure 1). The studies included were published between 2019 and 2024. The sample in this research comprised patients with chronic kidney failure undergoing a haemodialysis programme.

Based on the review of the 13 journal articles, 9 articles indicated a relationship between resilience and the quality of life of haemodialysis patients, while 1 article reported no relationship between resilience and the quality of life of haemodialysis patients. Additionally, 3 articles identified other factors associated with the resilience of haemodialysis patients.

Among the 13 articles, nine reported male respondents (over 50%), with an average age ranging from 25 to 85 years. The respondents were predominantly married, living with family, and the majority were either unemployed or retired, as outlined in Table 1. Furthermore, the majority of the research respondents had been undergoing haemodialysis for more than five years. (Claudia Wuri Prihandini et al., 2020; García-Martínez et al., 2020; Hassan Zahid & Jehanzaib Islam, 2024; Hassani et al., 2022; Rahmawan et al., 2021; Susanto Dwi Prastiyo et al., 2024).

Hasil analisis artikel menunjukkan bahwa tiga di antaranya menggunakan CD-RISC untuk mengevaluasi resiliensi, dan satu di antaranya menggunakan RSA. Qiu et al (2021) menemukan bahwa rata-rata skor CD-RISC adalah 58,92, sedangkan Peng et al (2022) menemukan skor CD-RISC rata-rata 58,28. Skor ini lebih rendah dibandingkan dengan rata-rata skor pada populasi dewasa secara keseluruhan di Amerika Serikat (rata-rata 80,4). Qiu et al (2021) juga membandingkan hasil penelitian dengan penelitian pada populasi umum di Cina, yang menemukan rata-rata resiliensi responden 65,4, menunjukkan bahwa resiliensi pasien hemodialisis masih rendah. Namun, skor resiliensi rata-rata pasien dapat lebih moderat jika dibandingkan dengan pasien depresi.

The analysis of articles concerning resilience factors reveals that socio-demographic variables, clinical factors, spiritual influences, social support, and stress factors significantly affect the variation in resilience among patients undergoing regular haemodialysis. Demographic factors such as education level and economic status are also correlated with resilience; patients with higher educational attainment and better economic standing were found to possess higher resilience scores (Duran et al., 2020; Qiu et al., 2021). It was also found that chronic kidney disease and the type of vascular access have a significant correlation with resilience (Duran et al., 2020; García et al., 2022).

Furthermore, other factors identified as correlating with resilience include spiritual well-being (Duran et al., 2020), family resilience and social support (Qiu et al., 2021). García et al (2020) and Peng et al (2022) It was found that stress correlates with resilience. Individuals experiencing higher levels of stress demonstrate lower resilience, which further contributes to poor coping mechanisms in haemodialysis patients undergoing severe stress (Peng et al., 2022). The resilience of haemodialysis patients is also associated with depression and self-esteem (Cho & Lee, 2019).

## Discussion

Research has demonstrated that resilience is a significant factor closely associated with the quality of life of haemodialysis patients. Patients exhibiting high levels of resilience tend to adapt effectively to high-pressure environments and are able to implement effective coping strategies. Conversely, patients with low levels of resilience have been found to possess a higher risk of depression and non-compliance in executing preventive behaviours against disease complications (Duran et al., 2020; Liu et al., 2018).

Based on an analysis of 13 articles concerning resilience and quality of life in haemodialysis patients, it was found that the majority of the studies employed a cross-sectional design, utilising the chi-square test, while some utilised a cross-sectional design with the Spearman rank test. Among these 13 articles, it was observed that the majority, specifically 9 articles, reported a relationship or correlation between resilience and the quality of life of haemodialysis patients. Conversely, one article indicated that there was no relationship between resilience and the quality of life in this patient population. Additionally, three articles employed the CD-RISC measurement tool in their research.

Resilience factors such as sociodemographic aspects, haemodialysis conditions, spiritual well-being, social support, support from significant individuals for patients, as well as the level of stress experienced by patients, are all interconnected with resilience (Cho & Lee, 2019; Duran et al., 2020; García et al., 2020; Qiu et al., 2021). One of the elements of haemodialysis related to resilience is the duration of the haemodialysis procedure itself. The resilience of patients with renal failure tends to decline as the disease progresses over time. This may be attributed to the fact that the longer the disease persists, the greater the likelihood of complications arising from the condition, as well as the exacerbation of symptoms experienced. This situation contributes to a deterioration in the current health quality of the patients (Qiu et al., 2021). Cho & Lee (2019) It has been reported that one of the factors influencing the resilience of haemodialysis patients is their current health status.

Moreover, physical, mental, social, and economic challenges represent urgent issues that can significantly impact individual resilience. Patients who are in economically disadvantaged situations, unemployed, or lacking adequate support systems find themselves in vulnerable positions. Conversely, patients with a solid socio-economic and educational background tend to have a better understanding of their illness, are more capable of addressing challenges, and have broader access to medical care and information. Patients undergoing haemodialysis who have families that can adapt to environmental changes are likely to experience improved and more sustainable mental health. Flexible families that embrace changes in the environment play a crucial role in assisting patients in maintaining optimism and developing positive adaptations to alterations in their health conditions. This dynamic is instrumental in enhancing patient resilience throughout the course of illness and treatment (Cho & Lee, 2019; Duran et al., 2020; García et al., 2020; Qiu et al., 2021).

Resilience is a factor that can significantly influence the quality of life. Due to illness and environmental conditions, haemodialysis patients face various challenges that impact their well-being. Enhancing resilience should be a primary focus in the care of haemodialysis patients, to support the achievement of improved quality of life. Haemodialysis patients with high levels of resilience are more likely to demonstrate adherence to therapy, adapt effectively to the situations they encounter, and enhance their quality of life. Resilience is believed to be capable of mitigating the negative impacts caused by illness, encompassing physical, psychological, social, and spiritual dimensions. This concept is particularly important in the care of patients with chronic illnesses, where resilient patients can respond appropriately to enhance their mental well-being, improve adherence to therapy, adapt more effectively to their condition, and attain a better quality of life (García et al., 2020; Gusti, 2022).

The findings of this study indicate a relationship between resilience and quality of life in patients undergoing haemodialysis. To enhance positive resilience in these patients, an approach is required that considers individual characteristics, socioeconomic conditions, and current health status, while also taking into account various components that may influence the resilience of haemodialysis patients. Strategies to improve resilience warrant further investigation, given the significance of resilience for patients with chronic illnesses, including those undergoing haemodialysis.

The published literature concerning the relationship between resilience and quality of life in haemodialysis patients remains relatively sparse; however, the evidence contained within is robust, as it is derived from reputable and high-quality literature that has undergone a peer-review process prior to publication. Further research is necessary to elucidate

the relationship between resilience and quality of life in haemodialysis patients, considering that the quality and evidence from the existing articles are sufficiently adequate to support this relationship.

## Conclusions

Research indicates that patients with high levels of resilience tend to enjoy a better quality of life. Factors influencing resilience include socio-demographic aspects, elements related to haemodialysis, spirituality, stress, and social support. These factors may be considered when formulating strategies to enhance resilience in haemodialysis patients. Resilience is the result of successful adaptation, even when faced with challenging situations, which is reflected in the ability to "bounce back." Future research should focus on a deeper understanding of the factors affecting resilience and quality of life, as well as the development of more sensitive measurement tools to evaluate both aspects. It is crucial for healthcare professionals to design interventions that can enhance resilience and support the quality of life of haemodialysis patients.

## Research Limitations

The writing in this Narrative literature review is not without its various shortcomings. The limitations faced by the researchers in analysing the articles stem from difficulties in accessing journals, language barriers, a lack of meta-analyses, potential publication bias, a search restricted to the last five years, and a deficiency in the necessary variables to achieve the objectives of this research. Consequently, the results of this review's analysis do not fully represent the discussion of each element employed by the researchers. Findings regarding the resilience and quality of life of patients undergoing haemodialysis frequently encounter challenges, given that many studies are conducted with limited samples and within specific contexts. This can lead to conclusions that are not broadly applicable to the larger population of haemodialysis patients, thereby complicating the formulation of effective health policies. When the available data do not reflect the overall experiences of patients, efforts to enhance the quality of life for haemodialysis patients may prove to be less effective.

## Reference

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