

# The Impact of Service Quality on Hemodialysis Patient Satisfaction: A Literature Review

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## ABSTRACT

Hemodialysis Unit is performed on patients with End-Stage Renal Failure (ESRD) and a background of various pre-existing health problems. Hemodialysis management requires the skills of competent nurses and is supported by hospital management, particularly good service management, to improve patient satisfaction. The study utilizes secondary data by analyzing journals obtained from 2020 to 2025. This study uses the Preferred Reporting Items for literature review and Meta-Analyzes (PRISMA) approach. The article search process was conducted electronically. Data were obtained from the Scopus database and Google Scholar, Pubmed, DOAJ and GARUDA, the literature review used the keywords service quality, patient satisfaction, and hemodialysis. The results obtained in this study obtained 21 articles, 6 articles were not selected because they were not full-text reviews (3 from Scopus, and 3 from Google Scholar). There were 8 articles that were not analyzed because of qualitative research, and a total of 33 duplicate articles were excluded. Finally, 7 articles were selected for review. From the results of the literature review, it was found that good service quality in the hemodialysis room will increase high satisfaction for patients undergoing hemodialysis. From the results of the study, there are several factors that support improved health services such as service, facilities, atmosphere, and short waiting times have a positive effect on patient satisfaction. Good quality healthcare services in the hemodialysis room increase patient satisfaction. Many factors contribute to service quality, including cleanliness, waiting times, facilities, and the hemodialysis treatment environment.

**Keywords:** quality of service, patient satisfaction, hemodialysis

## INTRODUCTION

Hemodialysis is a renal replacement therapy for patients with ESRD (End-Stage Renal Disease) from various chronic illnesses. Although preemptive kidney transplantation (transplantation before the need for dialysis) remains the ideal treatment when possible, this is often not achieved due to various factors, including delays in treatment at a kidney service, the lack of a living donor, or the burden of comorbidities. Similarly, for some individuals with significant frailty or advanced age, nondialysis supportive care approaches can optimize quality and longevity (Corbett, 2023).

ESRD (End-Stage Renal Disease) is a condition in which the kidneys are almost completely unable to filter waste and excess fluid from the body (less than 10% of normal function). This requires kidney replacement therapy such as dialysis or a transplant to survive. This condition

is the final stage of chronic kidney disease (CKD) and causes a buildup of harmful substances in the body that can be life-threatening. Chronic kidney disease (CKD) is a condition of kidney damage or decreased kidney function, characterized by a decreased glomerular filtration rate (GFR), that persists for three months or more. Causes of chronic kidney disease include diabetic nephropathy, hypertensive nephropathy, chronic glomerulonephritis, polycystic kidney disease, and other inherited kidney diseases. This condition is exacerbated by comorbidities, resulting in a high mortality rate. Furthermore, chronic kidney failure is often caused by complications from other chronic diseases that cause kidney damage (Zhu et al., 2024).

ESRD occurs when the GFR is  $<15 \text{ ml/min/1.73 m}^2$ , characterized by the accumulation of toxins, electrolytes, and fluids, resulting in uremia. These patients rely on dialysis as a life-saving treatment for the rest of their lives unless they receive renal replacement therapy. This disease is a deadly disease, with 697.5 million cases of CKD (prevalence 9.1%) globally, and 1.2 million people died from CKD in 2017 (Kim et al., 2021).

The rise in CKD will continue with the rise in ESRD, leading to an increase in hemodialysis therapy as a kidney function maintenance measure. This is evident in the global increase in the prevalence of hemodialysis patients since 2000, reaching 80%, and in 2017, peritoneal dialysis increased to 70%, with the remainder undergoing kidney transplantation. The increase in hemodialysis patients requires serious attention in addressing this important global public health issue, along with other comorbidities, to improve quality of life and prolong life (Daniel et al., 2021).

As the number of patients increases, it is very important for hospitals to improve the quality of services needed effectively and efficiently in order to achieve competitive advantage (Ali, Saleh, et al., 2021). In today's world, most industries use service quality in various fields. The five characteristics of service quality are tangible, assurance, reliability, responsiveness, and empathy. The goal of service quality in the healthcare industry, especially in hospitals, is to provide patients with a high standard of accommodation, and almost 100% hospitals are able to achieve this goal by providing high-quality services (Ali et al., 2021).

Assessing patient satisfaction with healthcare services is a crucial component of improving the quality of healthcare services. It has been proven that increased patient satisfaction leads to a better quality of life related to healthcare services (Nuairi et al., 2022). Measuring the quality and satisfaction of healthcare services is a very important element for the management system

in hospitals, with adequate resources allowing a focus on user preferences, thus giving them the opportunity to build customized healthcare services, more in line with their needs and expectations (Ferreira et al., 2023).

The past few decades have seen a series of transformations in the healthcare industry related to service delivery. Factors such as technology, intense competition, mergers, rising operating costs, and increasingly sophisticated patients have put pressure on healthcare services (Ramayah et al., 2022). The numerous healthcare industries competing to improve service quality has led to many patients opting for better service, as better service quality will increase patient satisfaction and improve their quality of life. The novelty of this research is that the hemodialysis room was chosen because it was considered important to maintain good and quality services to ensure an increase in the quality of life and an increase in the life expectancy of patients. Therefore, with this background in mind, the researchers examined how healthcare service quality impacts patient satisfaction in the Hemodialysis Unit.

## **METHODS**

The resulting a literatur review research design focused on recent research over the past 5 years, from 2020 to 2025. This study used the Preferred Reporting Items for a literatur review and Meta-Analyzes (PRISMA) approach. The article search process was conducted electronically. Data were obtained from the Scopus database and Google Scholar, Pubmed, DOAJ and GARUDA . The literature review used the keywords 'service quality,' 'patient satisfaction,' and 'hemodialysis.' After several articles were obtained, the researchers then selected them again according to the inclusion and exclusion criteria.

Inclusion criteria included studies that described quantitative data on service quality and patient satisfaction in the hemodialysis unit. Qualitative research was not an option in this study. After obtaining articles that met the researcher's requirements, they were analyzed individually and grouped to obtain the results. The next step was to discuss the findings based on the points obtained from the results. Ethics approval was not required because the article was based on a literatur review.

## **RESULTS**

The literature search obtained 37 journals (13 from Scopus, 24 from Google Scholar) from January 2020 to December 2025 covering the variables of service quality, patient satisfaction,

and hemodialysis. Then, reviewing the titles and abstracts to match them with the variables and inclusion criteria, obtained 21 articles, 6 articles were not selected because they were not full-text reviews (3 from Scopus, and 3 from Google Scholar). There were 8 articles that were not analyzed because they were qualitative research, and a total of 33 duplicate articles were excluded. Finally, 7 articles were selected for review.

Table 1. Journal Review Data

Author	Design	Sample	Variables	Results
Fansuri et al. (2023)	Quantitative	90 respondents	Efficiency and patient satisfaction	The hemodialysis room service at General Ahmad Yani Regional Hospital is quite efficient and satisfactory, but there are several aspects that need to be improved in order to meet the level patient satisfaction with hemodialysis room services.
Hartanti and Antonio (2022a)	Quantitative	321 respondents	Quality of service and patient satisfaction	Eight dimensions of service quality significantly influence hemodialysis patient satisfaction with both hospital and clinic services.
Jasmine (2016)	Quantitative	98 respondents	Hemodialysis services, Patient satisfaction	The majority of 98 respondents were satisfied with hemodialysis services, and there was a significant relationship between hemodialysis services and patient satisfaction.
Hermanto (2024)	Quantitative	152 respondents	Quality of service, facilities, atmosphere, and waiting time management and satisfaction of hemodialysis patients	The four factors tested, namely service quality, facilities, atmosphere and short waiting times, had a positive effect on patient satisfaction.

Haura et al. (2022)	Quantitative	118 respondents	Tangible, Patient Satisfaction	The results of the study show that tangible has a positive and significant effect on patient satisfaction.
Ali et al. (2021)	Quantitative	111 respondents	Quality of patient service, patient satisfaction	The research results show that the service dimension that has the highest value is the responsive dimension, while the assurance dimension has the lowest value
Ramayah et al. (2022)	Quantitative	367 respondents	Patient satisfaction, Healthcare environment	This study provides significant insights from the patient perspective towards the healthcare environment.

## DISCUSSION

The results of this study indicate that the quality of service and patient satisfaction in the hemodialysis unit is very good, however, health workers continue to improve and maintain the quality of their services because patients undergoing hemodialysis need to be taken seriously because they have poor clinical conditions and poor quality of life as well as a high risk of infection (Basile et al., 2021). Comorbidities that cause patients to undergo hemodialysis are end-stage disease conditions that require intensive care, thus requiring good quality health services to overcome excessive anxiety and poor quality of life (Alshammari et al., 2024). Furthermore, good service will improve the quality of healthcare services. This can be seen in the increase in visitors to the hospital.

The research above found that good service quality will improve service quality, and improved service quality will increase patient satisfaction. Patient satisfaction with hemodialysis services will influence patient compliance with hemodialysis therapy, ultimately improving quality of life and extending life expectancy.

Good health services will increase patient satisfaction, this will help improve patient health and increase their survival considering that hemodialysis services are the final referral for patients experiencing end-stage kidney failure (Morales & William, 2024).

End-stage renal failure (ESRD) is associated with a decline in patients' health-related quality of life. Given the length of time spent on dialysis, satisfaction with care is crucial to patients' quality of life. Patient satisfaction with hemodialysis should be addressed to improve clinical outcomes and provide quality care (Cirillo et al., 2021). The results of this study are consistent with other studies that show that good quality healthcare services will improve patients' quality of life. This will have an impact on improving health status, therefore patients will comply with every hemodialysis procedure that will be carried out according to the schedule. However, other studies have stated that quality of life is reduced when patients on hemodialysis also suffer from accompanying illnesses or comorbidities (Wu et al., 2022).

Patients with end-stage renal disease desperately need renal replacement therapy, known as hemodialysis. Hemodialysis is the treatment of choice, alongside kidney transplantation. Patients with this condition have a low life expectancy, as their immune system is weakened, and their health can deteriorate suddenly. This emergency requires high-quality care from healthcare professionals, with proper monitoring and procedures aimed at increasing life expectancy.

The results of this study also found that many factors underlie the quality of service in the hemodialysis room, starting from cleanliness, waiting time, facilities and the atmosphere of hemodialysis management or what is called environmental factors will affect SERQUAL or the measurement of service quality because environmental factors support patient satisfaction. These factors are the responsibility of all parties in health services to improve the quality of service, because good service quality will simultaneously improve the quality and satisfaction of patients. Increased patient satisfaction with the service will also affect the patient's willingness to undergo routine hemodialysis, where regular hemodialysis will improve the patient's health and prolong the patient's life.

Practical implications for improving hemodialysis services are needed, such as improving human resources, standardizing services, improving facilities and equipment, making scheduling more flexible, reducing waiting times, and utilizing technology. The hope is that this can be achieved, in accordance with theory and practical application, so that patients no longer choose healthcare facilities that meet high standards.

## **CONCLUSION**

The study found that good service quality in the hemodialysis room significantly increased patient satisfaction. The study found that several factors contribute to improved healthcare services, such as service, facilities, atmosphere, and short waiting times, all positively impacting patient satisfaction. This study suggests that further research will assess other important variables in improving the quality of healthcare services in hemodialysis, as well as other studies to improve patient satisfaction with hemodialysis patient care services.

## LIMITATION

The primary limitation of this study is its reliance on secondary data derived exclusively from a literature review of quantitative studies published between 2020 and 2025, thereby explicitly excluding qualitative research that could offer different perspectives on patient experiences. Additionally, the search process, restricted to specific databases such as Scopus and Google Scholar, resulted in a relatively small final sample size of only seven full-text articles, which may limit the comprehensive generalizability of the findings regarding service quality in hemodialysis units. Finally, the study acknowledges constraints regarding the limited availability of data and time, which restricted the breadth of the analysis performed

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