

Analysis of Service Quality and its Impact on Patient Satisfaction and Loyalty at the Outpatient Dental Clinic of Bethesda Hospital, Tomohon, North Sulawesi

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ABSTRACT

This study aims to analyze service quality, patient satisfaction, and patient loyalty at Bethesda Hospital Tomohon. A quantitative approach was employed, with a sample size of 100 respondents. Data analysis involved both descriptive and verificative methods, specifically path analysis. Descriptive analysis revealed that respondents rated service quality, patient satisfaction, and patient loyalty favorably; however, certain shortcomings requiring attention and improvement were identified. Meanwhile, the verificative analysis (path analysis model) showed positive path coefficients between variables. Furthermore, the path coefficient for the indirect effect exceeded that of the direct effect ($62.5\% > 52.1\%$), indicating that patient satisfaction acts as an intervening variable that mediates the relationship between service quality and patient loyalty. A correlation coefficient of 0.968 indicates a strong relationship between the variables, and a coefficient of determination (R^2) of 67.5% demonstrates a substantial influence of service quality on patient satisfaction and patient loyalty. The statistical hypothesis test results (partial t-test) indicate that service quality has a positive effect on patient satisfaction (t-statistic > α : $12.115 > 1.98$) and a positive, significant effect on patient loyalty (t-statistic > α : $13.498 > 1.98$); patient satisfaction has a positive, significant direct effect on patient loyalty (t-statistic > α : $10.289 > 1.98$); and service quality has a positive indirect effect on patient loyalty mediated by patient satisfaction (t-statistic > α : $9.016 > 1.98$). Overall, the research findings demonstrate the implications of service quality and patient satisfaction for patient loyalty.

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INTRODUCTION

In today's competitive healthcare landscape, hospital services are no longer solely focused on the success of medical procedures, but also on the hospital's ability to provide a quality patient experience. Service quality is a key indicator of patient satisfaction, as patients assess services comprehensively, from the registration process and waiting times, staff friendliness, staff competence, clarity of information, comfort of facilities, and continuity of care. If the quality of service meets or exceeds patient expectations, patient

satisfaction levels will increase, ultimately driving patient loyalty and encouraging repeat patients to return to the same hospital. However, various studies have shown that hospital service quality still faces numerous challenges, particularly in outpatient care, including dental clinics. Common challenges include relatively long wait times, inefficient administrative processes, limited waiting room comfort, suboptimal staff communication, and a mismatch between patient expectations and the service received. These conditions result in service quality not fully meeting patient expectations, resulting in suboptimal patient satisfaction and potentially decreasing patient loyalty.

In dental clinics, service quality is crucial because most patients require repeat visits to complete a series of treatments, such as fillings, root canals, extractions, scaling, and post-procedure checkups. Therefore, a poor service experience during a single visit can influence a patient's decision to return, recommend the hospital to others, or choose another healthcare facility deemed capable of providing better service. Based on a preliminary study conducted at the Outpatient Dental Clinic of Bethesda Hospital in Tomohon, through field observations and brief patient interviews, several service quality indicators were identified that require improvement. Several patients reported that waiting times were still relatively long at certain times, information regarding estimated service times was not always clearly communicated, and the waiting room capacity was deemed uncomfortable when the number of patients increased. Furthermore, some patients requested more intensive communication regarding procedure procedures, estimated treatment duration, and post-procedure education to provide greater patient confidence in the care provided.

Preliminary observations also indicated that although healthcare professionals provided services in accordance with professional standards, there was still room for improvement in the responsiveness dimension, particularly in the speed of responding to patient needs and providing information throughout the service process. In the tangible dimension, several supporting service facilities, such as comfortable waiting rooms, health information resources, and queue management, could still be optimized to enhance the patient experience. Meanwhile, in the empathy dimension, some patients expect more personalized communication and the opportunity for more in-depth consultations regarding their dental health. As a preliminary overview, a preliminary study can be conducted by distributing a simple questionnaire to a number of patients who have received services at the Outpatient Dental Clinic.

Hospital services in today's competitive healthcare landscape are no longer solely focused on the success of medical procedures, but also on the hospital's ability to provide a quality patient experience. Service quality is a key indicator of patient satisfaction, as patients assess services comprehensively, from the registration process and waiting times to the friendliness of staff, the competence of healthcare workers, the clarity of information, the comfort of facilities, and the continuity of care. If the quality of service meets or exceeds patient expectations, patient satisfaction levels will increase, ultimately driving patient loyalty and returning to the same hospital.

However, various studies have shown that hospital service quality still faces numerous challenges, particularly in outpatient care, including dental clinics. Common challenges include relatively long wait times, inefficient administrative processes, limited waiting room comfort, suboptimal staff communication, and a mismatch between patient expectations and the service received. These conditions result in service quality not fully meeting patient expectations, resulting in suboptimal patient satisfaction and potentially decreasing patient loyalty.

METHOD

This study employs a quantitative research design utilizing both descriptive and verificative analysis approaches, specifically path analysis. The research was conducted at Bethesda Hospital Tomohon between July 10, 2026, and July 24, 2026. A random sampling technique was used, involving 100 respondents. The research instrument consisted of a questionnaire comprising 30 statements. The variables examined in this study include Service Quality (X), Patient Satisfaction (Y), and Patient Loyalty (Z). Data analysis encompassed descriptive analysis, verificative analysis, correlation coefficient analysis, and determination analysis (R^2).

RESULTS AND DISCUSSION

Descriptive Analysis

Table 1. Service Quality

Variable	Total Score	Average	Category
Service Quality	4.046	4.14	Good

Source: Primary Data Processing Results, 2026

Therefore, from the calculation results, it can be concluded that respondents' perceptions of service quality are in the good category.

Tabel 2. Patient Satisfaction

Variable	Total Score	Average	Category
Patient Satisfaction	4.210	4.20	Good

Source: Primary Data Processing Results, 2026

Therefore, from the results of these calculations, it can be concluded that respondents' perceptions regarding patient satisfaction are in the very good category.

Table 3. Patient Loyalty

Variable	Total Score	Average	Category
Patient Loyalty	4.070	4.07	Very Good

Source: Primary Data Processing Results, 2026

Therefore, from the results of these calculations, it can be concluded that respondents' perceptions regarding the Patient Loyalty are in the very good category.

Verification Analysis (Path Analysis)

Tabel 4. Direct and Indirect Influence

Variable	Path Coefficient	Influence	
		Direct	Indirect
Quality of service towards patient satisfaction	0.775	$0.775 \times 0.775 = 0.600$	
Patient satisfaction towards patient loyalty	0.807	$0.807 \times 0.807 = 0.651$	
Quality of service towards patient loyalty	0.722	$0.722 \times 0.722 = 0.521$	
Quality of service towards patient loyalty through patient satisfaction			$0.775 \times 0.807 = 0.625$

This indicates that the indirect effect is greater than the direct effect, or $62.50\% > 52.1\%$. This means that patient satisfaction, as an intervening variable, is able to mediate the relationship between service quality and patient loyalty.

Hypothesis Testing

Hypothesis Testing the Effect of Service Quality on Patient Satisfaction

The p-value was 0.000, meaning $p\text{-value} < \alpha = 0.05$, and the calculated t-value was greater than 1.98. This means that H01 is rejected and Ha1 is accepted. There is a significant effect between service quality and patient satisfaction. Therefore, the hypothesis stating that there is a significant effect between service quality and patient satisfaction is accepted.

Hypothesis Testing the Effect of Patient Satisfaction on Patient Loyalty

The p-value was 0.000, meaning $p\text{-value} < \alpha = 0.05$, and the calculated t-value was greater than 1.98. This means that H02 is rejected and Ha2 is accepted. There is a significant effect between patient satisfaction and patient loyalty. Therefore, the hypothesis stating that there is a significant effect between patient satisfaction and patient loyalty is accepted.

The Effect of Service Quality on Patient Satisfaction

The p-value obtained was 0.000, meaning the p-value $< \alpha = 0.05$, and the calculated t-value was greater than 1.98. This means that H01 is rejected and Ha1 is accepted. There is a significant effect between service quality and patient satisfaction. Therefore, the hypothesis stating that there is a significant effect between service quality and patient satisfaction is accepted.

The Influence of Service Quality on Patient Loyalty Through Patient Satisfaction

To test the significance of patient satisfaction as a mediating variable in the model, the Sobel test results can be examined. First, find the calculated t-value for service quality obtained from the path analysis calculation in the first substructure, which is 12.115. Then, find the calculated t-value for patient satisfaction on patient loyalty obtained from the path analysis calculation in the second substructure, which is 13.498. Once each calculated t-value is known, the next step is to enter these values into the Sobel test calculator, with the following results.

Table 5. Results of the Sobel Test: The Effect of Service Quality on Patient Loyalty Mediated by Patient Satisfaction

Input:	Test Statistic:	p-value:
ta : 12.115	Sobel test: 9,01631954	0
tb : 13.498	Aroian test: 9,00252071	0
	Goodman test: 9,02934637	0

Based on the calculation results, the calculated t value for the mediation effect test on this hypothesis is 9.016. If $\alpha = 0.05$ then t table = 1.98. From the calculation above, it can be concluded that the calculated t of 9.016 is greater than the t table of 1.98 with a significance level of 0.05, so it can be concluded that patient satisfaction is able to mediate the relationship between service quality and patient loyalty. Thus, hypothesis 4 can be accepted and the type of mediation of patient satisfaction is partial mediation, where both patient satisfaction and no service quality still have a significant influence on patient loyalty.

DISCUSSION

Descriptive Analysis

Service Quality

Service quality still needs to be improved. Research by Yadav (2026) explains that improving the quality of healthcare services in hospitals is a crucial strategy to ensure safe, effective, patient-centered services that meet the public's increasingly high expectations for healthcare. Research by Novitasari (2022) explains that service quality is not only measured by the success of medical procedures but also includes speed of service, healthcare worker competence, effective communication, empathy, patient safety, and facility comfort. Several recent studies have shown that good service quality can increase patient satisfaction, build trust in the hospital, reduce complaints, improve patient safety, and strengthen the image of the healthcare organization (Putra, 2026). Furthermore, optimal service quality contributes to hospital operational efficiency by reducing service errors, improving interprofessional coordination, and more effective resource utilization. Therefore, improving service quality is one of the main indicators of hospital management's success in facing increasingly competitive healthcare services (Alfarizi, 2022).

The primary goal of improving the quality of healthcare services is to generate sustainable patient satisfaction, thereby fostering patient loyalty, enhancing hospital sustainability, and supporting the achievement of high-quality healthcare services. Research from 2022–2026 showed that patients who receive quality care tend to have higher levels of satisfaction, are more willing to return to the hospital when they need it, and are more likely to recommend the hospital to family and friends (Edward, 2026). Furthermore, improving service quality also aims to enhance hospital competitiveness through the implementation of patient-centered care, developing human resource competencies, digitizing services, reducing waiting times, and continuously improving the five dimensions of SERVQUAL: tangibles, reliability, responsiveness, assurance, and empathy. Therefore, improving service quality is not only oriented towards short-term satisfaction but also serves as a strategic investment to enhance patient loyalty, the hospital's reputation, and the sustainability of the healthcare organization (Indira, 2026).

Patient Satisfaction

Improving patient satisfaction is one of the primary goals of healthcare delivery in hospitals because it reflects the hospital's success in meeting patients' needs, expectations, and experiences during their care (Nadifa, 2026). Satisfied patients will assess the care they receive as meeting or even exceeding their expectations, both in terms of healthcare worker competence, patient safety, speed of service, communication, empathy, and facility quality (Olesen, 2022). Various national and international studies from 2022–2026 indicate that patient satisfaction levels are closely related to increased trust in hospitals, treatment adherence, therapy success, and positive perceptions of healthcare quality (Prakoeswa, 2022). Furthermore, patient satisfaction is a crucial indicator in evaluating hospital service quality because it reflects the extent to which services provided are oriented toward patient needs (patient-centered care). Therefore, hospitals need to continuously improve service quality by improving service systems, enhancing human resource competency, reducing waiting times, strengthening a culture of patient safety, and optimizing communication between healthcare professionals and patients (Tesema, 2026).

The primary goal of improving patient satisfaction is to foster patient loyalty and ensure the long-term sustainability of the hospital organization. Patients with high levels of satisfaction are more likely to return to the hospital when they need healthcare, recommend the hospital to family and friends (positive word of mouth), and have a higher level of trust in healthcare professionals and institutions. Research in Indonesia and various countries from 2022–2026 also shows that patient satisfaction acts as a mediating variable, strengthening the relationship between service quality and patient loyalty. In other words, improving service quality will not result in optimal loyalty without increasing patient satisfaction. From a hospital management perspective, high patient satisfaction also impacts the hospital's image, organizational competitiveness, marketing cost efficiency through patient retention, and the hospital's financial sustainability amidst increasingly competitive healthcare environments. Therefore, patient satisfaction must be a strategic performance indicator that is evaluated periodically as a basis for developing programs to improve the quality of health services.

Patient Loyalty

Increasing patient loyalty is a strategic goal for every hospital because loyalty reflects the patient's level of trust and commitment to continue using the same hospital for future healthcare services. Loyal patients not only make repeat visits but also tend to recommend the hospital to family, friends, and the community (positive word of mouth) (Ichsan, 2025). Various national and international studies from 2022–2026 show that patient loyalty is formed through positive service experiences, consistent service quality, patient satisfaction, effective communication, and trust in healthcare professionals and the hospital (Winata, 2022). High patient loyalty benefits hospitals by increasing patient retention, reducing patient transfers to other hospitals, enhancing the organization's image, and fostering long-term relationships between patients and healthcare providers. Thus, patient loyalty is an indicator of the successful implementation of patient-centered healthcare services and the sustainability of hospital service quality (Nadifa, 2022).

The primary goal of increasing patient loyalty is to maintain hospital sustainability by increasing repeat visits, cost-efficient new patient acquisition, and strengthening competitiveness amidst increasingly fierce competition in the healthcare industry. Recent research shows that loyal patients have better adherence to treatment, have greater trust in healthcare professionals' recommendations, and are more likely to establish ongoing therapeutic relationships, which in turn improves healthcare outcomes (Sitepu & Kosasih, 2024). From a hospital management perspective, patient loyalty also contributes to revenue stability, enhanced institutional reputation, successful quality-based accreditation, and the development of patient-centered healthcare services. Therefore, hospitals need to build patient loyalty through improving service quality, patient satisfaction, effective interpersonal communication, the use of healthcare technology, and ongoing evaluation of patient experiences to foster long-term, mutually beneficial relationships between patients and the hospital (Rahmadani, 2026).

Verification Analysis (Path Analysis)

The Influence of Service Quality on Patient Satisfaction

Service quality has been shown to have a positive and significant impact on patient satisfaction. Service quality is a crucial factor in healthcare organizations, particularly hospitals, as it is directly linked to meeting patient needs and expectations. Increasing public awareness of the importance of health encourages every healthcare institution to improve the quality of its services. Hospitals, as healthcare institutions, are obligated to provide quality healthcare services that meet patient expectations (Akmal, 2022). Referring to Law Number 44 of 2009 concerning Hospitals, a hospital is a healthcare institution that provides comprehensive individual healthcare services, including outpatient, inpatient, and emergency services. Therefore, improving service quality must be comprehensive across all service lines.

According to Bahri (2022), service quality can be measured through five dimensions: tangibles, reliability, responsiveness, assurance, and empathy. These five dimensions serve as important indicators in assessing the quality of service provided to patients. This also indicates that service quality has a significant impact on patient satisfaction. This indicates that patient satisfaction significantly influences patient satisfaction (Eftitah, 2024). Therefore, it is clear that service quality plays a crucial role in creating patient satisfaction in healthcare.

The Influence of Patient Satisfaction on Patient Loyalty

Patient satisfaction has been shown to have a positive and significant influence on patient loyalty. Patient satisfaction is one of the main indicators used to assess the success of healthcare services provided by hospitals. Hospitals are required to create patient satisfaction to maintain service continuity amidst increasingly fierce competition (Naro, 2025). Previous research has shown that patient satisfaction is closely related to patient loyalty. Patients who are satisfied with the service they receive are more likely to return to the service in the future and recommend it to others. Based on this explanation, it is clear that high satisfaction influences patient loyalty (Naurah, 2024).

The Direct Influence of Service Quality on Patient Loyalty

The direct influence of service quality has been shown to have a positive and significant influence on patient loyalty. Patient loyalty is a crucial aspect in maintaining a hospital's existence as a healthcare provider. Quality service can create a positive experience for patients, making them more likely to return to healthcare services in the future. Furthermore, this positive experience can encourage recommendations to others (Handayani, 2024). However, it cannot be denied that the relationship between loyalty and service quality does not show significant results because other aspects serve as assessment indicators in some cases (Aulia, 2025). Therefore, it is necessary to provide patient satisfaction first to reinforce patient loyalty.

Indirect Effect of Service Quality on Patient Loyalty through Patient Satisfaction

The indirect effect of service quality has been shown to have a positive and significant effect on patient loyalty through patient satisfaction. Patient satisfaction is a key factor in bridging the relationship between service quality and patient loyalty. Quality healthcare services can increase patient satisfaction, which in turn leads to patient loyalty (Puspita, 2024). Several previous studies have shown that service quality has a significant influence on patient satisfaction, and this has a direct impact on patient loyalty. This reinforces the assumption that service quality is determined not only by medical aspects but also by the patient's experience receiving care, including interactions with healthcare professionals and the comfort of the facilities provided. Therefore, in this context, service quality can be a primary strategy for building sustainable patient loyalty (Akmal, 2022).

CONCLUSION

Service quality, patient satisfaction, and patient loyalty at Bethesda Hospital Tomohon fall into the "good" category. Service quality has a positive and significant effect on patient satisfaction. Patient satisfaction has a positive and significant effect on patient loyalty. Service quality has a positive and significant effect on patient loyalty. Service quality exerts a significant indirect influence on patient loyalty through patient satisfaction at Bethesda Hospital Tomohon. Path analysis results indicate that the indirect effect is greater than the direct effect. Thus, patient satisfaction acts as an intervening variable that mediates the relationship between service quality and patient loyalty at Bethesda Hospital Tomohon.

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