

The Association of Service Quality with Patient Satisfaction and Loyalty: a Cross-Sectional Path Analysis in a Pediatric Outpatient Clinic

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Abstrak

Kualitas pelayanan secara konsisten berhubungan dengan kepuasan dan loyalitas pasien dalam pelayanan kesehatan anak, di mana kompetensi klinis harus diimbangi dengan penyelenggaraan layanan yang responsif dan berpusat pada pasien. Menelaah hubungan antara kualitas pelayanan dengan loyalitas pasien melalui kepuasan pasien di Poliklinik Anak Rumah Sakit Ibu dan Anak (RSIA) Ananda Lubuklinggau. Penelitian ini merupakan survei potong lintang terhadap 100 pasien/orangtua pasien (pengambilan sampel purposif; Mei–Juni 2025) menggunakan instrumen tervalidasi untuk kualitas pelayanan (berbasis SERVQUAL), kepuasan pasien (berdasarkan turunan PSQ), dan loyalitas pasien (6 butir pernyataan). Analisis deskriptif dan analisis jalur dilakukan dengan menggunakan SPSS versi 29. Seluruh konstruk dinilai dalam kategori “baik”: kualitas pelayanan ($M = 3,60$), kepuasan ($M = 3,43$), dan loyalitas ($M = 3,60$). Kualitas pelayanan berhubungan signifikan dengan kepuasan ($\beta = 0,619$; $p < 0,001$; $R^2 = 0,383$) dan loyalitas ($\beta = 0,599$; $p < 0,001$), sementara kepuasan berhubungan positif dengan loyalitas ($\beta = 0,317$; $p < 0,001$), dengan model loyalitas menjelaskan 69,5% variansnya ($R^2 = 0,695$). Analisis mediasi menunjukkan bahwa kepuasan memediasi secara parsial hubungan antara kualitas pelayanan dan loyalitas, dengan pengaruh tidak langsung terstandar sebesar 0,196 dan pengaruh total terstandar sebesar 0,795, menunjukkan bahwa kualitas pelayanan memiliki hubungan paling kuat dengan loyalitas. Peningkatan aspek responsivitas (waktu tunggu dan ketepatan waktu dokter), kenyamanan ruang tunggu, ketersediaan informasi layanan secara *real-time*, serta komunikasi dokter–pasien berhubungan dengan meningkatnya kepuasan dan dapat memperkuat loyalitas pasien. Mengingat desain penelitian yang bersifat potong lintang, studi longitudinal diperlukan untuk mengonfirmasi hubungan kausal tersebut.

Kata kunci: Kualitas Pelayanan; Kepuasan Pasien; Loyalitas Pasien; Poliklinik Anak; Rumah Sakit Ibu dan Anak

Abstract

The quality of service is consistently related to patient satisfaction and loyalty in children's health services, where clinical competence must be balanced with the delivery of responsive, patient-centered services. Examining the relationship between service quality and patient loyalty through patient satisfaction at the Children's Polyclinic of Ananda Lubuklinggau Mother and Child Hospital (RSIA). This study is a cross-sectional survey of 100 patients/parents of patients (purposive sampling; May–June 2025) using validated instruments for service quality (based on SERVQUAL), patient satisfaction (based on PSQ derivatives), and patient loyalty (6 statements). Descriptive analysis and path analysis were carried out using SPSS version 29. All constructs were rated in the "good" category: quality of service ($M = 3.60$), satisfaction ($M = 3.43$), and loyalty ($M = 3.60$). Quality of service was significantly related to satisfaction ($\beta = 0.619$; $p < 0.001$; $R^2 = 0.383$) and loyalty ($\beta = 0.599$; $p < 0.001$), while satisfaction was positively correlated with loyalty ($\beta = 0.317$; $p < 0.001$), with the loyalty model explaining 69.5% of the variance ($R^2 = 0.695$). The mediation analysis showed that satisfaction partially mediated the relationship between service quality and loyalty, with a standardized indirect effect of 0.196 and a standardized total influence of 0.795, suggesting that service quality had the strongest relationship with loyalty. Improved responsiveness (waiting time and punctuality of doctors), waiting room comfort, availability of real-time service information, and doctor-patient communication are related to increased satisfaction and can strengthen patient loyalty.

Given the cross-sectional design of the study, longitudinal studies are needed to confirm the causal relationship.

Keywords: *Service Quality; Patient Satisfaction; Patient Loyalty; Pediatric Outpatient Clinic; Maternal and Child Hospital*

INTRODUCTION

Hospitals are essential healthcare institutions providing promotive, preventive, curative, rehabilitative, and palliative services (Nair et al., 2025; Panapitiya et al., 2024). In Indonesia, hospitals are categorized into general and specialty facilities (Leider et al., 2021). General hospitals deliver multidisciplinary services, while specialty hospitals focus on specific populations or health needs, including maternal and child hospitals (Althoweby et al., 2024; Lee et al., 2024; Tilenbaeva et al., 2025).

RSIA Ananda Lubuklinggau, established in 2016, is a specialty hospital that evolved from a maternity clinic to meet the increasing maternal and pediatric healthcare needs of Lubuklinggau City, South Sumatra. The hospital provides inpatient services, emergency care, pediatric and obstetrics–gynecology outpatient clinics, operating theaters, a pharmacy, and a laboratory (Bradley et al., 2024; Nareswari & Basri, 2024). By 2024, it employed 20 physicians, including five obstetrician–gynecologists but only two pediatricians, indicating a potential service capacity imbalance between obstetric and pediatric care.

Hospital utilization records further showed that pediatric outpatient visits ($n = 759$) were slightly lower than inpatient admissions ($n = 806$) in 2024, with fluctuating monthly attendance. Limited clinic schedules due to pediatrician availability may contribute to this underutilization (Agarwal et al., 2022; Rea et al., 2024).

Service quality has been consistently associated with patient satisfaction and loyalty (Aladwan et al., 2021; Nguyen & Nagase, 2021; Sundram et al., 2022). The SERVQUAL framework, comprising reliability, assurance, tangibles, empathy, and responsiveness, remains widely applied in healthcare quality assessment (Bentum-Micah et al., 2020). Patient satisfaction, defined as the degree of alignment between expectations and perceived performance (Rao et al., 2025), is strongly associated with loyalty, which reflects patients' intention to return, recommend, and remain with a healthcare provider despite alternatives (Kotler & Keller, 2016; Griffin, 2020).

However, despite these theoretical foundations, empirical studies quantifying the direct and indirect associations between service quality and loyalty in the context of Indonesian maternal and child hospitals remain limited (Hanoum et al., 2023; Paramartha et al., 2024; Puspitasari & Rachmat, 2025). RSIA Ananda Lubuklinggau, like many similar facilities, faces challenges in maintaining patient retention amid increasing competition. Understanding the mediating role of satisfaction in the service quality–loyalty relationship is essential for evidence-based strategic planning (Chehayeb, 2023; Gazi et al., 2025; Qing et al., 2023). Therefore, this study urgently needs to be conducted to provide empirical evidence and a roadmap for improvement in the management of RSIA Ananda and comparable institutions.

The novelty of this study lies in the application of path analysis to quantify the strength of the direct and indirect relationships between service quality and loyalty in the specific context of RSIA children's polyclinics in Indonesia, which have unique patient (parent) dynamics. Unlike previous studies that primarily focused on general hospital settings, this research specifically addresses pediatric outpatient services where decision-makers (parents) evaluate service quality differently from adult patients. Furthermore, this study employs validated Indonesian-adapted instruments and provides quantitative evidence of the mediation mechanism, contributing to both theoretical understanding and practical implications for maternal and child healthcare management in developing countries.

Empirical studies have examined the service quality–satisfaction–loyalty relationship in various healthcare contexts, though findings regarding mediation patterns remain inconsistent (Abdel Fattah et al., 2021; Issa et al., 2025). Aladwan et al. (2021) investigated this relationship at Jordan Mafrq Hospital and found that patient satisfaction fully mediated the association between service quality and loyalty, suggesting that service quality operates entirely through satisfaction. Similarly, Addo et al. (2020), in their study of Ghanaian health institutions, reported full mediation, concluding that service quality must first generate satisfaction before influencing loyalty. These findings emphasize satisfaction as a necessary intermediary mechanism in the service quality–loyalty pathway.

In contrast, several Indonesian studies have documented partial mediation patterns. Sholeh and Chalidyanto (2021) examined outpatient services at Hospital X in Malang and found that satisfaction partially mediated the service quality–loyalty relationship, indicating that service quality maintains significant direct associations with loyalty independent of satisfaction. Pratama and Hartini (2020) corroborated this pattern in their study of mother and child hospitals, reporting that while satisfaction contributes to the association, service quality exerts substantial direct influence on loyalty. Elizar et al. (2020) specifically investigated pediatric polyclinic services at a private hospital in East Jakarta and similarly observed partial mediation with a dominant direct pathway from service quality to loyalty.

Additional studies have explored contextual factors influencing these associations. Goula et al. (2021) applied SERVQUAL in Greek public hospitals and demonstrated that service quality dimensions differentially predict satisfaction and loyalty, with responsiveness and empathy showing particularly strong associations in pediatric contexts. Setyawan et al. (2019) examined SERVQUAL dimensions in Indonesian hospitals and identified reliability and assurance as primary drivers of satisfaction. Sutanto et al. (2019) investigated the role of satisfaction in BPJS (Indonesian national health insurance) patients and found that satisfaction strengthens but does not fully account for the service quality–loyalty association, suggesting that institutional trust and perceived value also contribute to loyalty formation.

These inconsistencies—full mediation in international contexts versus partial mediation in Indonesian settings, particularly in maternal and child healthcare—suggest

that cultural, institutional, and service-specific factors may shape mediation patterns. No previous study has systematically quantified the relative strength of direct versus indirect pathways in Indonesian RSIA pediatric outpatient contexts using path analysis, representing a significant empirical gap. Furthermore, while Elizar et al. (2020) examined pediatric polyclinics, their study focused on a private metropolitan hospital setting, whereas community-based RSIA facilities serving lower- to middle-income populations may exhibit different dynamics. Understanding these mechanisms is essential for developing evidence-based strategies to enhance patient retention and service delivery in resource-constrained maternal and child healthcare settings (Ssegujja et al., 2025).

A preliminary survey of 30 parents at the Pediatric Outpatient Clinic of RSIA Ananda showed that service quality was predominantly rated as “fair,” especially in assurance (43.3%), reliability (40%), and empathy (40%). Patient satisfaction reflected similar results, with interpersonal aspects (43.3%) and technical quality (36.7%) rated as “fair,” while patient loyalty remained modest, dominated by neutral responses in repeat visits (36.7%) and recommendations (40%).

Table 1. Summary of Preliminary Study Results (n = 30)

Variable & Dimension	Dominant Response (%)	Interpretation
Service Quality	Reliability – 40% “Fair”	Moderate
	Assurance – 43.3% “Fair”	
	Tangibles – 40% “Fair”	
	Empathy – 40% “Fair”	
	Responsiveness – 36.7% “Fair”	
Patient Satisfaction	Interpersonal – 43.3% “Fair”	Moderate
	Technical quality – 36.7% “Fair”	
	Financial aspect – 40% “Fair”	
	Physical environment – 30% “Fair”	
	Accessibility – 33.3% “Fair”	
Patient Loyalty	Repeat visits – 36.7% “Neutral”	Moderate
	Cross-service use – 33.3% “Neutral”	
	Recommendations – 40% “Neutral”	
	Resistance to competitors – 33.3% “Neutral”	

These findings suggest persistent service quality gaps that may limit satisfaction and loyalty, underscoring the importance of examining the relationship between service quality, patient satisfaction, and loyalty in this setting.

METHOD

This research adopts a quantitative descriptive-verify design with a cross-sectional approach. The study was conducted at the Pediatric Outpatient Clinic of RSIA Ananda Lubuklinggau between May and June 2025. The quantitative design was selected because it allows systematic, empirical, and measurable examination of associations among variables. However, due to the cross-sectional nature of data collection at a single

time point, this study examines associations rather than causal relationships. Temporal precedence cannot be established definitively.

The study population comprised all patients or parents of patients who visited the Pediatric Outpatient Clinic during the study period. Since the 2025 patient data were not yet available at the time of the study, the estimated population size was calculated based on 2024 records. In 2024, the total number of pediatric outpatients was 759, with an average of 63 patients per month. Accordingly, the estimated number of patients for May–June 2025 was 127 individuals. The minimum required sample size, calculated using Slovin's formula with a 5% margin of error, was 96 respondents. Data collection was conducted in May–June 2025, and a total of 100 respondents were included to increase reliability. Sampling was performed using purposive sampling with the following inclusion criteria:

1. Patients or parents who received services at the pediatric clinic during the study period.
2. Willingness to participate and complete the questionnaire.

Exclusion criteria were incomplete responses or inability to complete the questionnaire independently.

The study used primary data obtained from questionnaires and secondary data from hospital records and relevant literature. The main instrument was a structured questionnaire adapted from validated scales:

1. Service Quality: 20 items covering reliability, responsiveness, assurance, empathy, and tangibles (Oktaviani; $\alpha = 0.738$).
2. Patient Satisfaction: 10 items adapted from PSQ-18/KKP-2017 ($\alpha = 0.883$).
3. Patient Loyalty: 6 items adapted from Maherdiana.

All items were measured using a 5-point Likert scale.

Data were collected through both printed questionnaires and Google Forms distributed to eligible respondents. The process included: (1) distribution, (2) completion by respondents, (3) editing and coding, (4) scoring and tabulation.

1. Prior to analysis, instruments underwent:
2. Validity test: Corrected Item-Total Correlation ($r > 0.3$) (Priyatno).
3. Reliability test: Cronbach's Alpha ($\alpha \geq 0.7$) (Priyatno).
4. Normality test: Kolmogorov-Smirnov test ($p > 0.05$).
5. Linearity test: ANOVA-based approach ($p < 0.05$ indicates linearity).
6. Ordinal data from Likert scales were transformed into interval data using the Method of Successive Interval (MSI) prior to inferential analysis.

Analysis was performed using SPSS 29.0 with two stages:

1. Descriptive Analysis

The initial stage involved profiling the constructs of service quality, patient satisfaction, and patient loyalty. Statistical techniques included calculation of frequency distributions and mean scores for each variable.

2. Inferential Analysis

The second stage applied path analysis using SPSS 29.0 to test hypothesis-driven relationships between variables. This method quantified both the direct association of service quality with patient loyalty and the indirect association mediated by patient satisfaction, adhering to the guidelines of path analysis modeling (Sugiyono, 2018). The structural model summarizing these relationships is presented in Figure 1.

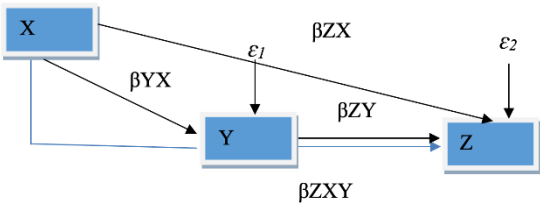


Figure 1. Mesh Diagram

Source: Conceptualization of Researchers, 2025

Description:

X = Service Quality

Y = Patient Satisfaction

Z = Patient Loyalty

β_{YX} = Path coefficient of service quality on patient satisfaction

β_{ZX} = Path coefficient of service quality on patient loyalty

β_{ZY} = Path coefficient of patient satisfaction on patient loyalty

ϵ = Epsilon, representing residual factors or variables that account for the variance from other determinants recognized in theory but not examined in this study, or other factors not yet identified by theory, or arising from measurement errors of the variables.

Research Hypotheses

H1: Service quality shows a significant positive association with patient satisfaction in the pediatric outpatient clinic setting.

H2: Patient satisfaction shows a significant positive association with patient loyalty in the pediatric outpatient clinic setting.

H3: Service quality shows a significant positive association with patient loyalty, independent of patient satisfaction.

H4: Patient satisfaction partially mediates the association between service quality and patient loyalty.

Ethical Considerations

This study received institutional approval from RSIA Ananda Lubuklinggau (approval letter number: 432/RSIA Ananda/XII/2024, dated December 3, 2024). Following ethical approval, data collection was conducted from May to June 2025 using both printed questionnaires and Google Forms to facilitate respondent participation and ensure data accuracy. All participants received comprehensive information about the research purpose, procedures, voluntary participation, confidentiality measures, and their right to withdraw at any time without consequences. For respondents using printed

questionnaires, verbal informed consent was obtained before questionnaire administration. For online respondents, a digital informed consent form was integrated into the Google Forms questionnaire, requiring explicit consent acknowledgment before proceeding to the survey items. Only respondents who provided consent were able to complete the questionnaire. All responses were anonymized, assigned unique identification codes, and stored securely with restricted access to maintain participant confidentiality in accordance with hospital ethical policies and national research integrity standards.

RESULTS AND DISCUSSION

The questionnaire data were collected in May–June 2025 at the Pediatric Outpatient Clinic of RSIA Ananda Lubuklinggau, following a preliminary study.

Respondent Characteristics

Table 2. Respondent Characteristics Data

Category	Item	Percentage (%)
Gender	Male	19.0
	Female	81.0
Age	20–25 years	19.0
	26–30 years	36.0
	31–35 years	19.0
	36–40 years	18.0
	41–45 years	8.0
Education	Elementary School	4.0
	Junior High School	10.0
	Senior High School	27.0
	Diploma/Bachelor	52.0
	Master's Degree	7.0
Job	Not Working/Housewife	22.0
	Farmer	5.0
	Private Employee	38.0
	Government Employee	17.0
	Entrepreneur	18.0
Financing	BPJS	70.0
	Out-of-pocket	30.0

Source: Primary Data Processed by Researchers, 2025

Most respondents were female (81.0%), aged 26–30 years (36.0%), with the highest educational background at the diploma/bachelor level (52.0%). In terms of occupation, most respondents were private employees (38.0%). Regarding payment type, the majority used BPJS health insurance (70.0%).

Descriptive Analysis

Table 3. Descriptive Statistics of Study Variables

Variable	Total Score	Average (Likert)	Category
Service Quality (X)	7,212	3.60	Good
Patient Satisfaction (Y)	3,432	3.43	Good
Patient Loyalty (Z)	2,160	3.60	Good

Source: Primary Data Processed by Researchers, 2025

The descriptive analysis indicated that all study variables were rated in the “good” category. Service quality ($M = 3.60$) and patient loyalty ($M = 3.60$) obtained the highest mean values, while patient satisfaction ($M = 3.43$) was slightly lower but still within the “good” range.

Service Quality

The overall mean of 3.60 indicates a favorable perception of service quality. The assurance dimension achieved the highest score ($M = 3.72$), driven by pediatricians’ diagnostic accuracy ($M = 3.92$), reflecting strong clinical competence. Conversely, responsiveness was lowest ($M = 3.45$), mainly due to prolonged waiting times exceeding 60 minutes ($M = 3.22$) and suboptimal punctuality ($M = 3.41$). These results highlight the need to improve efficiency and timeliness without compromising professional quality.

Patient Satisfaction

Patient satisfaction averaged 3.43, denoting overall positive experiences with room for improvement. The technical quality dimension scored highest ($M = 3.63$), confirming patient confidence in pediatricians’ competence and clarity. The lowest dimension was physical environment ($M = 3.19$), particularly the boring waiting area ($M = 3.01$). Enhancing comfort, reducing administrative complexity, and improving waiting time information ($M = 3.11$) could further strengthen satisfaction.

Patient Loyalty

Patient loyalty was rated good ($M = 3.60$), reflecting consistent care-seeking behavior. The repeat visits dimension achieved the highest score ($M = 3.72$), while resistance to competitors was lowest ($M = 3.52$), indicating that some patients remain responsive to alternative hospital offers. Strengthening loyalty programs and continuity of pediatric care may enhance long-term patient retention.

Data Quality Testing Results

Instrument Validity and Reliability

Prior to hypothesis testing, the research instruments underwent rigorous validity and reliability assessments to ensure measurement quality. Table 4 presents the summary of validity and reliability testing results for all study variables.

Table 4. Summary of Instrument Validity and Reliability Testing (N = 100)

Variable	Number of Items	CITC Range	Cronbach's Alpha
Service Quality (X)	20	0.717–0.919	0.980
Patient Satisfaction (Y)	10	0.573–0.851	0.943
Patient Loyalty (Z)	6	0.849–0.913	0.964

Source: Primary Data Processed by Researchers, 2025

Validity testing using Corrected Item-Total Correlation (CITC > 0.30) confirmed that all items across service quality ($r = 0.717\text{--}0.919$), patient satisfaction ($r = 0.573\text{--}0.851$), and patient loyalty ($r = 0.849\text{--}0.913$) demonstrated adequate validity. Reliability analysis using Cronbach's Alpha yielded excellent internal consistency for all constructs: service quality ($\alpha = 0.980$), patient satisfaction ($\alpha = 0.943$), and patient loyalty ($\alpha = 0.964$), well exceeding the 0.70 threshold.

Assumption Testing

Normality testing using the Kolmogorov-Smirnov test at $\alpha = 0.05$ revealed that patient satisfaction exhibited a normal distribution ($p = 0.098$), whereas service quality ($p = 0.005$) and patient loyalty ($p = 0.005$) showed deviations from normality. The non-normal distributions observed in service quality and patient loyalty may be attributed to response bias, heterogeneous respondent characteristics (education level, healthcare experience, visit frequency), and positively skewed response patterns resulting from concentration in higher rating categories. Despite these deviations, path analysis using maximum likelihood estimation remains robust to moderate violations of normality when sample sizes exceed 100, measurement reliability is high, and the primary analytical focus lies in parameter estimation rather than significance testing alone. The large sample theory underlying regression-based path analysis demonstrates relative resilience to non-normality, particularly when relationships are linear and measurement quality is strong, as observed in this study.

Linearity testing confirmed that all variable relationships satisfied linearity assumptions ($p < 0.001$), including service quality to patient loyalty, patient satisfaction to patient loyalty, service quality to patient satisfaction, and the full structural model encompassing all three variables. These findings verify that linear modeling appropriately represents the relationships among service quality, patient satisfaction, and patient loyalty, thereby satisfying a critical prerequisite for valid path coefficient estimation and interpretation.

Verificative Analysis

A path analysis was performed using data from 100 respondents to examine the associations between service quality (X), patient satisfaction (Y), and patient loyalty (Z). The analysis was conducted to assess both the direct and indirect associations, with patient satisfaction acting as a mediating variable. The full path model illustrates the structural relationships, including standardized path coefficients, coefficient of determination (R^2), and error terms.

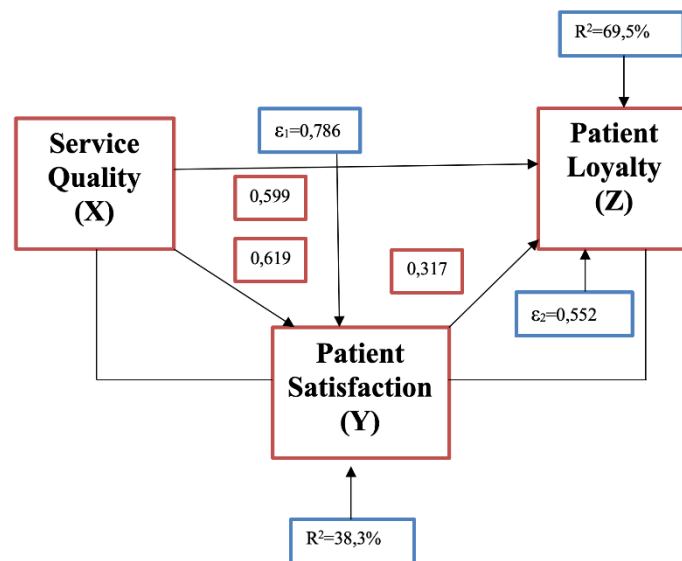


Figure 2. Full Path Diagram

Source: Primary Data Processed by Researchers, 2025

Table 5. Regression Results of Service Quality (X) on Patient Satisfaction (Y)

Variable	Path Coefficient (β)	t-value	p-value	R^2	Collinearity Statistics	
					Tolerance	VIF
Service Quality	0.619	7.806	<.001	0.383	1.000	1.000

Dependent Variable: Patient Satisfaction

Source: Primary Data Processed by Researchers, 2025

As shown in Table 5, service quality had a significant positive association with patient satisfaction, with a standardized path coefficient ($\beta = 0.619$, $t = 7.806$, $p < 0.001$). The coefficient of determination ($R^2 = 0.383$) indicates that service quality explains 38.3% of the variance in patient satisfaction, suggesting that improvements in service delivery are substantially associated with higher patient perceptions of satisfaction.

Table 6. Regression Results of Service Quality (X) and Patient Satisfaction (Y) on Patient Loyalty

Variable	Path Coefficient (β)	t-value	p-value	R^2	Collinearity Statistics	
					Tolerance	VIF
Service Quality	0.599	8.394	<.001	0.695	0.617	1.622
Patient Satisfaction	0.317	4.447	<.001		0.617	1.622

Dependent Variable: Patient Loyalty

Source: Primary Data Processed by Researchers, 2025

Table 6 shows that both service quality and patient satisfaction show significant positive associations with patient loyalty. Service quality demonstrated the strongest direct association ($\beta = 0.599$, $t = 8.394$, $p < 0.001$), while patient satisfaction also

contributed positively ($\beta = 0.317$, $t = 4.447$, $p < 0.001$). Together, these predictors explained 69.5% of the variance in patient loyalty ($R^2 = 0.695$). This indicates that higher perceived service quality is directly related to loyalty, and that satisfaction further mediates and reinforces this relationship.

The results confirm that service quality is not only associated with higher patient satisfaction but is also directly related to patient loyalty. Patient satisfaction plays a complementary role as a mediator, strengthening the overall association between service quality on loyalty. These findings align with previous studies demonstrating associations between service quality and patient satisfaction and loyalty within healthcare settings

Hypothesis Testing

The hypothesis testing was performed using the partial t-test to assess the individual associations of each independent variable with the dependent variable, and the Sobel test to examine the mediating role of patient satisfaction between service quality and patient loyalty.

Table 7. Partial t-Test and Sobel Test of Service Quality on Patient Satisfaction

Partial t-Test						
Path	Path Coefficient (β)	t-value	t-table	p-value	Result	
Service Quality (X) → Patient Satisfaction (Y)	0.619	7.806	1.984	0.001	Positive & Significant	
Patient Satisfaction (Y) → Patient Loyalty (Z)	0.317	4.447	1.984	0.001	Positive & Significant	
Service Quality (X) → Patient Loyalty (Z)	0.599	8.394	1.984	0.001	Positive & Significant	
Sobel Test						
Path	Parameter	Mediator Test	Statistic Test (z)	Std. Error	p-value	Result
Service Quality (X) → Loyalty via Satisfaction	a = 0.309	Sobel Test	3.8811	0.01608	0.00010394	Positive & Significant
	b = 0.202					
	s _a = 0.040	Aroian Test	3.8571	0.01618	0.00011473	Positive & Significant
	s _b = 0.045	Goodman Test	3.9057	0.01598	0.00009394	Positive & Significant

Note:

a = Unstandardized path coefficient from the independent variable (X) to the mediator (Y).

b = Path coefficient from the mediator (Y) to the dependent variable (Z).

sa = Standard error of the path coefficient a (unstandardized).

sb = Standard error of the path coefficient b.

Unstandardized coefficients (a, b) obtained from regression output in SPSS Coefficients table.

Source: Primary Data Processed by Researchers, 2025

The interpretation of the partial t-test results was based on comparing the calculated t-values with the t-table value at a 5% significance level ($\alpha = 0.05$). When the calculated t-value exceeds the t-table value and the p-value is below 0.05, it indicates a statistically significant relationship between the variables. The partial t-test results reveal that service quality shows significant positive associations with both patient satisfaction and loyalty, while patient satisfaction also shows significant positive associations with patient loyalty. Furthermore, the Sobel, Aroian, and Goodman tests consistently confirm that patient satisfaction partially mediates the relationship between service quality and patient loyalty ($z > 1.96$; $p < 0.05$).

In summary, service quality shows both direct and indirect associations with patient loyalty, with patient satisfaction functioning as a significant mediating variable that strengthens the overall model of patient behavioral outcomes.

This study examined the associations of service quality with patient satisfaction and loyalty in the Pediatric Outpatient Clinic of RSIA Ananda Lubuklinggau. The results demonstrated that service quality showed positive and significant associations with both patient satisfaction and loyalty, operating directly and indirectly through satisfaction as a partial mediating variable. However, as a cross-sectional study conducted at a single time point, these results reflect associative rather than causal relationships. Confirmation of directional causality requires longitudinal designs or experimental interventions beyond the scope of this investigation.

The results of this study confirm that service quality shows a significant association with both patient satisfaction and loyalty, operating directly and indirectly through satisfaction as a partial mediating variable. These findings provide strong empirical evidence consistent with the SERVQUAL model within the healthcare service context of the Pediatric Outpatient Clinic at RSIA Ananda Lubuklinggau.

Empirically, service quality demonstrated a positive and significant association with patient satisfaction ($\beta = 0.619$, $t = 7.806$, $p < 0.001$; $R^2 = 0.383$). This indicates that improvements in perceived service quality are associated with higher satisfaction levels, with 38.3% of the variance in satisfaction explained by service quality. The finding aligns with previous studies by Addo et al. (2020), Elizar et al. (2020), and Sholeh and Chalidyanto (2021), which collectively affirmed that the SERVQUAL dimensions—reliability, assurance, tangibility, empathy, and responsiveness—constitute the core determinants of patient satisfaction. Within the context of RSIA Ananda Lubuklinggau, this is consistent with the proposition that staff professionalism, punctuality, and responsiveness may support sustaining a positive patient experience and supporting continued satisfaction.

Further analysis revealed that both service quality ($\beta = 0.599$, $t = 8.394$, $p < 0.001$) and patient satisfaction ($\beta = 0.317$, $t = 4.447$, $p < 0.001$) were significantly associated with patient loyalty, with the model explaining 69.5% of the variance in loyalty ($R^2 = 0.695$). This high explanatory power indicates that patient loyalty is primarily associated with both the functional quality of healthcare delivery and the emotional satisfaction derived from the service encounter. These results are consistent with the findings of

Lisdiana et al. (2023), Aladwan et al. (2021), and Kristinawati et al. (2023), who also identified satisfaction as a central determinant of loyalty formation. In pediatric care settings, the emotional dimension of satisfaction—particularly among parents—is especially influential, as trust and perceived competence of healthcare providers tend to support long-term relational continuity.

Moreover, the strong direct association of service quality with loyalty ($\beta = 0.599$) underscores that loyalty can emerge independently of satisfaction, connected to the inherent quality of the healthcare service itself. Tangible and process-related attributes—such as facility comfort, service efficiency, and clinical reliability—can be directly related to loyal behavior. This is consistent with the results of Sutanto et al. (2019) and Sholeh and Chalidyanto (2021), who reported similar direct relationships. Conversely, Pratama and Hartini (2020) found no significant direct link between perceived quality and loyalty, suggesting that contextual moderators—such as hospital reputation, patient demographics, and specialization type—may affect this relationship.

The mediation analysis revealed that patient satisfaction partially mediates the relationship between service quality and loyalty. The indirect association through satisfaction was 0.196 (19.6% of the total association), while the direct association of service quality with loyalty was substantially stronger at 0.599 (75.3% of the total association), yielding a total association of 0.795. This indicates that service quality is predominantly associated with loyalty through direct pathways rather than through satisfaction as a mediator. The dominance of the direct association suggests that the five core dimensions of service quality—assurance (clinical competence), reliability (consistent service delivery), tangibles (physical facilities), empathy (personalized care), and responsiveness (timely service)—collectively show immediate associations with patient loyalty, independent of satisfaction-based emotional responses. This finding corroborates Elizar et al. (2020), who also observed partial mediation with a stronger direct pathway but diverges from Addo et al. (2020) and Aladwan et al. (2021), who reported full mediation where service quality operated entirely through satisfaction.

Therefore, in the pediatric care context of RSIA Ananda Lubuklinggau, consistent, high-quality service delivery across all dimensions shows the strongest association with patient loyalty, with satisfaction acting as a complementary but secondary emotional reinforcement mechanism. These associations suggest that improvements in responsiveness (reducing waiting times and improving physician punctuality, $M = 3.45$), while maintaining strong performance in assurance (diagnostic accuracy and clinical competence, $M = 3.72$) and upgrading the physical environment (waiting area comfort, $M = 3.01$), simultaneously support satisfaction through empathetic communication and patient-centered care.

From a theoretical standpoint, the results reinforce the SERVQUAL framework as a robust model for understanding healthcare service performance. The study demonstrates that patient satisfaction functions as a reinforcing rather than substituting mechanism in the service quality–loyalty relationship. Consequently, a dual strategic approach integrating continuous quality improvement with patient engagement and relationship

management initiatives is essential for achieving sustainable patient retention and institutional competitiveness.

CONCLUSION

This cross-sectional study at the Pediatric Outpatient Clinic of RSIA Ananda Lubuklinggau demonstrated that service quality, patient satisfaction, and patient loyalty are positively perceived and significantly interrelated, with service quality directly influencing both satisfaction and loyalty, and satisfaction partially mediating this relationship. These findings highlight the importance of ongoing improvements in service quality to enhance patient satisfaction and foster long-term loyalty. To address the limitation of causal inference inherent in the study's design, future research should employ longitudinal methods to confirm the directional and temporal aspects of these relationships.

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