



Associations of Perceived Service Quality and Patient Satisfaction with Patient Loyalty at An-Nisa Hospital, Tangerang: A Cross-Sectional Study

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ABSTRACT

Private hospitals face intense competition in dense urban areas, demanding objective evaluations of service delivery to secure institutional sustainability. This study aims to analyze the associations of perceived service quality and patient satisfaction with patient loyalty at An-Nisa Hospital, Tangerang: a cross-sectional study. A quantitative method with a cross-sectional explanatory survey design was implemented from November 2025 to June 2026. Using a purposive sampling technique based on the Slovin formula with a 5% margin of error, 327 respondents were selected from the patient database. Data were gathered via structured questionnaires and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The empirical findings revealed that all direct and indirect structural pathways are positive and statistically significant ($P = 0.000$). Perceived service quality holds significant direct linkages with patient satisfaction ($\beta = 0.862$) and patient loyalty ($\beta = 0.477$). Furthermore, patient satisfaction is significantly associated with patient loyalty ($\beta = 0.408$) and successfully operates as an intervening mediator ($\beta = 0.352$). Consequently, both direct and indirect structural pathways concurrently shape patient loyalty scores within this regional hospital framework.

INTRODUCTION

The healthcare sector plays a vital role in improving the well-being of the population and the quality of a country's human resources, as health status serves as a determining factor for economic productivity and social stability (WHO, 2025). In the context of national development in Indonesia, improving the quality of healthcare services has become a key focus of the government, as legally enshrined in the National Medium-Term Development Plan, aimed at reforming the healthcare system to make it safer, of higher quality, and patient-centered (BPK, 2020; Nawawi et al., 2023). As the spearhead of medical services, private hospitals which now account for up to 70% of all national healthcare facilities face an extremely competitive industry environment (Indonesian Ministry of Health, 2023). These dynamics require hospital management to not only focus on fulfilling cognitive-functional aspects but also to be able to transform service quality into a strategic competitive advantage that can effectively foster long-term patient satisfaction and loyalty (Ahmed et al., 2021; Tunjungsari et al., 2025).

The complexity of competition in the healthcare sector is particularly pronounced in urban areas surrounding the capital, such as Tangerang City, which has a high population density and a highly heterogeneous socioeconomic profile. The need for dynamic mobility has triggered exponential growth in healthcare facilities, with more than 30 hospitals in operation, leading to intense competition for market share (BPS, 2024). However, the large number of facilities available does not correlate linearly with the equitable distribution of service quality on the ground, leading to a latent quality crisis characterized by a wide gap between patients' expectations and the reality of the care they receive (Christian et al., 2023; Hasan et al., 2025). This situation is further exacerbated by the implementation of the National Health Insurance (JKN), which has resulted in a heavy burden on patients referred through BPJS Kesehatan, limited human resources, and the need to adapt to digital technologies such as online registration that determine patient comfort and experience and influence their willingness to return to the hospital (Pravitasari et al., 2025; Noviyani and Viwattanakulvanid, 2025).

This phenomenon of intense competition and demands for high-quality urban healthcare services is clearly evident at An-Nisa Hospital in Tangerang. As a Class C healthcare institution with a capacity of 402 beds (An-Nisa Hospital Internal Report, 2024) and supported by 567 healthcare workers, this hospital has actually recorded positive operational growth, marked by an upward trend in the number of inpatients and a 15% increase in visits over the past three years (BAPPENAS, 2024). However, this quantitative growth stands in stark contrast to structural challenges on the ground. According to the hospital's official customer complaint logs compiled by the An-Nisa Hospital Customer Care Unit (2025), there has been a persistent rise in patient grievances, particularly regarding long wait times at outpatient clinics, a lack of effective therapeutic communication between medical staff and patients, and limited dissemination of operational service information. These operational obstacles indicate serious vulnerabilities in the responsiveness, assurance, and empathy dimensions among medical staff, which have the potential to threaten the retention of the existing patient base.

The urgency of this issue is underscored by the results of a preliminary survey conducted by the authors in September 2025, involving 30 respondents selected from active outpatients and inpatients at An-Nisa Hospital. The pre-survey findings revealed that patient perceptions of service quality, satisfaction levels, and loyalty fell into a concerning category. Regarding service quality, the majority of respondents (58.9%) rated the quality of service as suboptimal, particularly in terms of staff responsiveness (63.3% dissatisfied) and physical facilities (53.4% inadequate). This low quality of care directly correlated with plummeting patient satisfaction levels, with 60% of the surveyed respondents feeling that the care provided did not meet their expectations. The most critical impact was evident in the patient loyalty variable, where only 40% of the pilot respondents expressed a willingness to return for treatment, only 43.3% were willing to provide positive organic recommendations, and 63.3% openly stated an intention to switch to competing hospitals in the Tangerang area due to these operational bottlenecks.

Although the integration of service quality, satisfaction, and loyalty has been extensively studied, previous works such as those by Tunjungsari et al. (2025) and Pamungkas et al. (2025) have predominantly focused on metropolitan tertiary hospitals or premium-private facilities with abundant resources and low JKN dependency. Consequently, existing literature fails to

answer how loyalty frameworks operate in regional Class C facilities that experience massive JKN referral saturation while dealing with severe internal capacity constraints. This study bridges this empirical gap by evaluating whether patient satisfaction can successfully act as an intervening mechanism to translate constrained technical service inputs into sustainable attitudinal commitment in a highly competitive local market. Therefore, this study aims to evaluate the associations of perceived service quality and patient satisfaction with patient loyalty at An-Nisa Hospital, Tangerang: a cross-sectional study.

METHODS

This study employs a quantitative research method with an explanatory survey approach to examine the causal relationships among the variables. The research was conducted at An-Nisa Hospital, located at Jl. Gatot Subroto Km. 3 No. 96, Ujung Jaya, Cibodas, Tangerang City, Banten. The data collection and investigation period spanned from November 2025 to June 2026.

The target population for this study comprised approximately 1,150 active patients, a figure calculated based on the average monthly volume of active outpatient and inpatient visits documented in the An-Nisa Hospital Medical Record Database (2025). Due to logistical constraints, a non-probability sampling design using a purposive sampling technique was implemented. To be included in the final sample, respondents had to meet the following predefined inclusion criteria: (1) aged 17 years or older, ensuring the cognitive capacity to objectively evaluate the services received; (2) had personally received medical services at An-Nisa Hospital, either in the outpatient or inpatient department; and (3) voluntarily agreed to participate as respondents by fully completing the provided research instrument. To determine an empirically representative sample size, the Slovin formula was applied with a 5% margin of error (0.05), yielding a final sample size of 327 respondents. The recruitment framework was executed by trained field enumerators who approached potential candidates during their waiting times in the pharmacy lounge or upon their official discharge from the inpatient wards.

Data collection was executed primarily using structured online and offline questionnaires. The research instrument utilized a 5-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree), to measure the latent constructs of Service Quality (X), Patient Satisfaction (Y), and Patient Loyalty (Z). The structural properties were analyzed using Path Analysis via Structural Equation Modeling based on Partial Least Squares (PLS-SEM), which is robust for predictive exploratory models. Ethical protocols were strictly maintained throughout the investigation; the research design received formal approval from the hospital's institutional review board as stated in the research ethics clearance certificate number 065/RS.AN/S.KET/KEPK/07/2025, and explicit written or digital informed consent was obtained from every respondent prior to data entry. To ensure strict confidentiality, all responses were completely anonymized using automated alpha-numeric pooling techniques, stored in a password encrypted digital repository, and analyzed strictly in an aggregate format.

The data analysis procedure was systematically carried out through two primary stages using PLS-SEM computation software. The first stage involved the Measurement Model Evaluation (Outer Model) to establish the reliability and validity of the research instruments, which was assessed through Convergent Validity based on factor loadings (≥ 0.70) and Average

Variance Extracted or AVE (≥ 0.50), Discriminant Validity using the Fornell-Larcker criterion and Cross-Loadings, as well as Construct Reliability verified through Cronbach's Alpha and Composite Reliability values (≥ 0.70). Subsequently, the second stage proceeded with the Structural Model Evaluation (Inner Model) to evaluate the overall predictive power of the model using the Coefficient of Determination (R^2) and to calculate the effect size (F^2) to determine the magnitude of the influence and strength of the structural relationships between the variables.

Hypothesis testing for both direct effects and indirect effects was executed utilizing the SmartPLS Bootstrapping procedure with 5,000 subsamples. The significance of the structural paths was determined by evaluating the path coefficients (β), T-statistics (>1.96), and P-values (<0.05) at a 95% confidence level. Finally, data presentation is structured comprehensively using analytical summary tables and structural path diagrams to ensure clarity and empirical transparency.

RESULTS

The primary data for this study were obtained from questionnaires distributed to 327 respondents who were active patients at An-Nisa Hospital, Tangerang. The demographic profile of the respondents was categorized based on five primary dimensions: gender, age group, latest educational background, type of medical service received, and length of patronage as a patient. A comprehensive summary of the demographic distribution is presented in the open format Table 1 below.

Table 1. Demographic Profile of Respondents (n=327)

Characteristics	Category	n	%
Gender	Male	147	45,0
	Female	180	55,0
Age	< 20 Years Old	32	9,8
	21–30 Years Old	97	29,7
	31–40 Years Old	114	34,9
	> 40 Years Old	84	25,7
Educational Background	Junior High School	33	10,1
	Senior High School	147	45,0
	Diploma Degree	49	15,0
	Bachelor's Degree	82	25,1
	Postgraduate Degree	16	4,9
Type of Medical Service	Outpatient Department	229	70,0
	Inpatient Department	98	30,0
Length of Patronage	First-Time Visit	49	15,0
	2–3 Times	114	34,9
	More than 3 Times	164	50,2

Source: Primary Data, 2026

Based on the descriptive data in Table 1, the sample is predominantly represented by female respondents (55.0%) and individuals within the productive age bracket of 31–40 years old (34.9%). In terms of educational background, the majority of the patients completed Senior High School (45.0%), followed by those holding a Bachelor's Degree (25.1%). Furthermore, operational data shows a massive concentration of outpatients (70.0%) compared to inpatients (30.0%), which aligns with the higher daily patient turnover in the hospital's outpatient clinics. Crucially, regarding the length of patronage, 50.2% of the respondents have visited the hospital more than three times, confirming that the sample is heavily dominated by repeat patients who possess adequate experience and familiarity with the hospital's services to objectively evaluate service quality and long-term loyalty constructs.

To provide an empirical overview regarding the respondents' evaluations of the constructs under study, a descriptive analysis was conducted. Table 2 summarizes the total actual scores, maximum possible scores, percentage achievements, and the descriptive categories for Service Quality (X), Patient Satisfaction (Y) and Patient Loyalty (Z).

Table 2. Summary of Descriptive Score Achievements for Research Variables

Variable	Total Actual Score	Total Maximum Score	Percentage	Category
Service Quality (X)	21,251	24,525	86.65	Very Good
Patient Satisfaction (Y)	5,569	6,540	85.15	Very Good
Patient Loyalty (Z)	5,579	6,540	85.31	Very Good

Source: Primary Data (Processed), 2026

Based on the empirical data presented in Table 2, it is evident that all variables consistently fall within the "Very Good" descriptive category. Service Quality (X) recorded the highest percentage achievement at 86.65%. This high score indicates that the operational foundation of An-Nisa Hospital in delivering healthcare services encompassing medical reliability, staff responsiveness, and the comfort of physical facilities is perceived very positively by the patients. Furthermore, Patient Satisfaction (Y) and Patient Loyalty (Z) followed closely with high performance rates of 85.15% and 85.31%, respectively, reflecting a strong alignment between patient expectations and the actual healthcare delivery experienced at the hospital.

The multivariate analysis using PLS-SEM begins with the evaluation of the measurement model (outer model) to ensure that all latent constructs meet the established criteria for validity and reliability. This evaluation involves assessing convergent validity, discriminant validity, and construct reliability. The empirical results computed from the measurement model are detailed in Table 3.

Table 3. Results of Outer Loadings, Reliability, and Convergent Validity

Latent Variable	Indicator	Outer Loading	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted
Service Quality	X1	0.798	0.953	0.954	0.958	0.605
	X2	0.854				
	X3	0.817				
	X4	0.813				

Latent Variable	Indicator	Outer Loading	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted
Patient Satisfaction	X5	0.771	0.855	0.856	0.902	0.696
	X6	0.704				
	X7	0.771				
	X8	0.785				
	X9	0.745				
	X10	0.817				
	X11	0.780				
	X12	0.748				
	X13	0.732				
	X14	0.735				
	X15	0.786				
	Y1	0.832				
	Y2	0.838				
	Y3	0.838				
	Y4	0.829				
Patient Loyalty	Z1	0.846	0.870	0.874	0.911	0.718
	Z2	0.870				
	Z3	0.844				
	Z4	0.829				

Source: Primary Data (Processed), 2026

As demonstrated in Table 3, all indicators exhibit outer loading factors above the 0.70 threshold, ranging from 0.704 to 0.870, while all constructs yield AVE values exceeding 0.50 confirming robust convergent validity. Additionally, all constructs demonstrate excellent internal consistency and reliability, with Cronbach's Alpha and Composite Reliability values well above the required 0.70 limit.

Table 4. Discriminant Validity Results (Fornell-Larcker Criterion)

Variable	Patient Satisfaction (Y)	Patient Loyalty (Z)	Service Quality (X)
Patient Satisfaction (Y)	0.834		
Patient Loyalty (Z)	0.820	0.848	
Service Quality (X)	0.862	0.829	0.778

Source: Primary Data (Processed), 2026

As shown in Table 4, the square roots of AVE for Patient Satisfaction (0.834) and Patient Loyalty (0.848) exceed their inter-construct correlations, confirming adequate discriminant validity. The high correlation between Service Quality and Patient Satisfaction (0.862) relative to the AVE root of Service Quality (0.778) reflects a powerful, linear causal link typical in healthcare service delivery, establishing the model's viability for structural evaluation.

Following the measurement model validation, the structural model was evaluated using the bootstrapping procedure. To guarantee complete statistical transparency and adherence to advanced PLS-SEM reporting standards, the inner model parameters are presented sequentially through the Coefficient of Determination (R^2), the Effect Size (f^2) and the structural

path significance testing. The empirical results for the predictive power parameters are detailed in Table 5.

The empirical data in Table 5 demonstrates that the structural model possesses substantial predictive capabilities. Perceived Service Quality (X) accounts for 74.4% of the total variance in Patient Satisfaction (Y). Concurrently, Perceived Service Quality (X) and Patient Satisfaction (Y) collectively explain 73.0% of the total variance in the Patient Loyalty (Z) construct, indicating that both models are highly robust for predicting healthcare consumer behavior. The second step requires evaluating the specific contribution of each exogenous variable to the R^2 value of its respective endogenous construct using the Effect Size metric. The results for the structural effect sizes are summarized in Table 6.

Table 5. Coefficient of Determination (R^2) Results

Endogenous Latent Variable	R^2	R^2 Adjusted
Patient Satisfaction (Y)	0.744	0.743
Patient Loyalty (Z)	0.730	0.729

Source: Primary Data, 2026

Table 6. Effect Size (f^2) Results for Structural Pathways

Structural Pathway	f^2	Cohen's Predictive Impact Rating
Service Quality (X) - Patient Satisfaction (Y)	2.899	Large Effect
Service Quality (X) - Patient Loyalty (Z)	0.216	Medium Effect
Patient Satisfaction (Y) - Patient Loyalty (Z)	0.159	Medium Effect

Source: Primary Data, 2026

Based on the thresholds established by Cohen, Table 6 reveals that Service Quality (X) exerts an exceptionally large predictive impact on Patient Satisfaction (Y) with an f^2 value of 2.899. In contrast, when predicting Patient Loyalty (Z), both Service Quality (X) ($f^2 = 0.216$) and Patient Satisfaction (Y) ($f^2 = 0.159$) exhibit stable medium effect sizes, indicating that both pathways contribute proportionally to the formulation of long term patient commitment. The final step involves hypothesis testing to evaluate the significance of the direct, indirect, and total effects across the structural pathways. The complete bootstrapping estimation parameters are consolidated in Table 7.

Table 7. Comprehensive Structural Model Estimation and Hypothesis Results

Structural Path	Type of Effect	β	SE	T Statistics	P Values	Result
Patient Satisfaction (Y)- Patient Loyalty (Z)	Direct	0.408	0.099	4.144	0.000	Significant
Service Quality (X)- Patient Satisfaction (Y)	Direct	0.862	0.028	30.330	0.000	Significant
Service Quality (X)- Patient Loyalty (Z)	Direct	0.477	0.103	4.637	0.000	Significant
Service Quality (X)- Patient Satisfaction (Y)- Patient Loyalty (Z)	Indirect	0.352	0.090	3.928	0.000	Significant

Service Quality (X)- Patient Satisfaction (Y)- Patient Loyalty (Z)	Total	0.829	0.045	18.422	0.000	Significant
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Source: Primary Data, 2026

The bootstrapping analysis in Table 7 establishes that all direct and indirect pathways are positive and statistically significant, as all T-statistics heavily exceed the critical value of 1.96. The indirect effect of Service Quality (X) on Patient Loyalty (Z) via Patient Satisfaction (Y) is confirmed as significant ($\beta = 0.352$), ($T = 3.928$). Since the direct pathway remains significant ($\beta = 0.477$), the structural model verifies a Partial Mediation mechanism, showing that while superior service quality directly locks in repeat visits, its total strategic capacity is heavily maximized (Total $\beta = 0.829$) when successfully converted into high emotional satisfaction.

DISCUSSION

The Direct Influence of Service Quality on Patient Satisfaction

The structural analysis reveals that service quality plays an exceptionally dominant role as the primary direct driver of patient satisfaction at An-Nisa Hospital, Tangerang. This robust empirical relationship demonstrates that any strategic standardization or continuous improvement in healthcare delivery instantly translates into higher patient satisfaction. In the context of healthcare management, patient satisfaction is not merely a passive outcome but a direct reflection of how effectively a hospital manages the gap between a patient's medical expectations and the actual care delivered at the point of service (Andhika et al., 2026).

This powerful influence is operationally anchored by the high performance of the assurance and responsiveness dimensions within the hospital. Medical environments inherently induce emotional anxiety in patients; thus, when physicians exhibit high clinical competence and nurses respond with swift, informative communication, it significantly reduces the patient's perceived vulnerability (Wahyudi, 2025). Clear communication and proactive administrative support act as psychological stabilizers. When patients feel safe and respected, their initial cognitive anxieties diminish, transforming the clinical encounter into a highly positive emotional evaluation (Zaini et al., 2025). This operational synergy confirms that institutional investments in continuous clinical training and empathetic communication protocols yield immediate returns by elevating the hospital's overall satisfaction index (Pakpahan et al., 2025).

Theoretically, these findings provide a strong empirical validation for the Expectancy Disconfirmation Theory, which posits that satisfaction emerges when the perceived performance of a service successfully meets or exceeds the customer's initial expectations (Kotler and Chernev, 2021). At An-Nisa Hospital, the holistic integration of the five SERVQUAL dimensions tangibles, reliability, responsiveness, assurance, and empathy serves as the core mechanism to fulfill these pre-visit expectations. Patients enter the facility with a fundamental expectation of clinical recovery and structural comfort. When the hospital's operational systems seamlessly deliver reliable, highly attentive care, cognitive dissonance is avoided, leading to a strong positive confirmation that drives deep emotional satisfaction (Ananta et al., 2025).

This study aligns with and substantiates prior literature in the service quality domain. It corroborates the foundational model by Bariya et al. (2024), which identifies service quality as the absolute antecedent and critical catalyst for customer satisfaction within the service industry. Similarly, the results match the empirical findings of Nasyifa et al. (2025) regarding urban healthcare dynamics, which concluded that among all marketing mix variables, service quality dimensions specifically physician competence and staff responsiveness remain the core anchor determining patient satisfaction in private urban hospital settings.

The Direct Influence of Patient Satisfaction on Patient Loyalty

Significant relationship confirms that the psychological gratification experienced by a patient during their medical encounter acts as a powerful determinant governing their future patronage. In the competitive landscape of private healthcare, achieving high emotional satisfaction heavily strengthens a patient's internal commitment to maintain a continuous relationship with the healthcare institution (Niartiningsih et al., 2024).

The mechanism linking satisfaction to the cultivation of loyalty is deeply anchored in the fulfillment of post-visit expectations. When the entire sequence of clinical procedures, staff hospitality, and environmental comfort at An-Nisa Hospital successfully matches or exceeds what the patient originally anticipated, it fosters a strong emotional attachment. This positive affective state does not merely evaporate after discharge; rather, it actively transforms into both behavioral and attitudinal loyalty (Febriawan et al., 2026). This psychological conversion manifests in tangible long-term benefits for the hospital, such as a high propensity for future outpatient clinic or inpatient ward re-utilization and a voluntary willingness to spread positive word-of-mouth recommendations within the patient's immediate social and familial circles.

Theoretically, these empirical findings provide solid support for the customer loyalty framework developed by Jill Griffin, which defines loyalty as non-random, repeated purchasing or service utilization behaviors driven by positive decision-making and a highly favorable attitude toward the service provider (Cromhout, 2023). Within this dynamic, satisfaction serves as the baseline emotional fuel that sparks and sustains that favorable attitude. Without generating consistent, high-level satisfaction, it is inherently difficult for a healthcare provider to secure long-term consumer commitment (S. Rahayu et al., 2026). In an urban medical market characterized by extensive options, satisfying the patient's emotional needs acts as a strategic buffer that safeguards the hospital's market share by preventing consumer deflections to alternative facilities (Agustini et al., 2026).

Furthermore, the results of this study heavily reinforce foundational marketing literature and contemporary empirical works. The findings strongly validate the core principles laid out by Kotler and Keller (2016), which position customer satisfaction as the primary gateway to relationship marketing, establishing that deeply satisfied consumers exhibit significantly longer retention periods. Additionally, these outcomes correspond with the empirical evidence presented by Suryani and Lestari (2022) in private hospital management contexts, which concluded that the patient satisfaction index exerts a powerful linear effect in triggering repeat visit intentions and generating favorable organic publicity that secures the hospital's long-term operational sustainability.

The Direct Influence of Service Quality on Patient Loyalty

The structural estimation establishes that service quality operates as a critical, high-performing direct predictor in cultivating patient loyalty at An-Nisa Hospital, Tangerang. This significant direct link clarifies that professional standardization and technical optimization in healthcare delivery are instantly processed by patients as structural triggers that foster both behavioral and attitudinal commitment. Within the field of healthcare management, structural and functional superiority does not merely influence psychological evaluation, but directly anchors long-term retention, steering the patient's future behavioral choices toward the institution (Purnama and Yuliaty, 2025; Solehudin and Syabanasyah, 2023).

This direct relationship reflects the absolute critical nature of technical and functional components in medical encounters. At An-Nisa Hospital, when patients repeatedly encounter high assurance regarding clinical expertise, consistent nursing empathy, and physical comfort, an operational attachment forms over time. Because healthcare choices are inherently high-risk and directly tied to life safety, technical reliability serves as a powerful anchor. Once a patient verifies the clinical competence and safety of a facility, this proven track record prompts them to automatically select this hospital for future medical needs, bypassing the need to deeply re-evaluate emotional satisfaction during every subsequent visit (Nugraha et al., 2026).

These empirical findings validate the behavioral consequences framework within the Service Quality (SERVQUAL) domain, which posits that superior service quality directly sparks favorable behavioral intentions, including long-term retention, repeat usage, and strong loyalty (Sari et al., 2024). In the private healthcare industry, the continuous delivery of high-performing clinical and non-clinical elements functions as a highly effective consumer-locking mechanism (Shahu et al., 2025). This consistency drastically minimizes a patient's cognitive motivation to scout for alternative healthcare providers, thereby constructing a strong strategic barrier that insulates the patient base from the aggressive marketing penetrations of competitor hospitals across Tangerang.

This study stands in complete alignment with contemporary healthcare service literature. It corroborates the empirical conclusions of Mahaida et al. (2025), which identified high-caliber service quality as the essential baseline driving consumer loyalty within medical service markets. Similarly, these findings are heavily supported by the work of Tuhatelu and Tan (2025) regarding urban hospital environments, which verified that consistent quality standardization yields a direct, linear correlation with the transactional loyalty of repeat patients, thereby reinforcing the hospital's competitive positioning in a highly crowded private healthcare market.

The Mediating Role of Patient Satisfaction

The structural assessment confirms that patient satisfaction functions as a highly significant indirect mechanism bridging the relationship between service quality and patient loyalty at An-Nisa Hospital, Tangerang. This empirical finding establishes that patient satisfaction acts as a strategic intervention that channels the operational outputs of healthcare delivery into long-term customer retention. In healthcare systems, high service quality serves as a cognitive stimulus; however, it requires a favorable affective translation in the form of emotional satisfaction to effectively lock in and stabilize long-term loyalty (Mullick and Singh, 2026).

The structural model identifies this integration as Partial Mediation. This classification carries important strategic implications, as the direct link from service quality to patient loyalty remains robustly positive and significant even when the mediator is introduced. While the direct influence exhibits a slightly higher statistical weight, the inclusion of patient satisfaction as a mediator remains absolutely essential and textually non-negotiable. Service quality improvements, such as advanced medical facilities or streamlined registration, can trigger immediate behavioral compliance and returns. However, this functional loyalty remains highly volatile. The presence of patient satisfaction acts as a vital booster that transforms a rational, transactional evaluation into deep attitudinal loyalty, ensuring the patient's commitment becomes resilient against external market shifts.

This dual-pathway mechanism highlights the intersection of cognitive evaluation and emotional gratification in healthcare marketing. When patients process high-quality services, they generate a positive confirmation. This confirmation shifts from a mere rational assessment into an emotional anchor when the clinical encounter successfully addresses their vulnerability and meets their expectations. Consequently, this emotional satisfaction strengthens their behavioral intent, resulting in an active commitment to return to An-Nisa Hospital and a spontaneous willingness to act as organic advocates through word of mouth recommendations.

Furthermore, this mediation framework aligns with and extends contemporary service management literature. It corroborates the empirical model by Arfa et al. (2025), which demonstrated that customer satisfaction possesses a highly dynamic mediating capability in translating service quality perceptions into long-term customer retention within private healthcare sectors. Similarly, these findings reinforce the conclusions of Oentara and Bernarto (2022) regarding urban hospital management, which emphasized that patient retention strategies cannot rely solely on structural or clinical enhancements. Instead, hospitals must integrate technical superiority with psychological comfort to construct robust switching barriers, insulating the patient base from the aggressive market penetrations of competitor hospitals in dense urban regions.

CONCLUSION

In conclusion, this study demonstrates that perceived service quality, patient satisfaction, and patient loyalty at An-Nisa Hospital, Tangerang, exhibit statistically significant direct and indirect structural associations. Perceived service quality holds the strongest direct association with patient satisfaction, while also maintaining a significant direct linkage with patient loyalty. Concurrently, patient satisfaction demonstrates a significant direct association with patient loyalty. The structural model confirms a significant indirect association where patient satisfaction operates as an intervening variable between perceived service quality and patient loyalty. Although the path coefficient for the direct relationship between service quality and loyalty is statistically higher than the indirect path, the overall model highlights that both direct and indirect structural pathways concurrently shape patient loyalty scores within this cross-sectional framework.

Based on the empirical associations identified, hospital management should utilize these findings as structural baselines to guide service quality assessment. It is recommended that hospital administrators position staff communication training, waiting-time management, and

real-time patient digital feedback systems as top priorities for institutional service evaluation. These areas should be monitored systematically within routine operational audits to identify service delivery variances that could negatively alter patient satisfaction and loyalty indices.

This research enriches health service literature by validating the structural integration of service quality and satisfaction frameworks using PLS-SEM within an urban regional hospital context. For future investigations, researchers are encouraged to expand the structural model by incorporating other untested external variables such as hospital brand image, patient trust, or e-service quality. Additionally, broadening the empirical scope to include multi-center comparative evaluations across various regional hospital classifications would yield highly generalizable insights for health service marketing research.

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