

Service Quality and Insurance Status as Determinants of Patient Satisfaction at Dr. Soehadi Prijonegoro Hospital, Sragen, Central Java, Indonesia

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ABSTRACT

Background: Dr. Soehadi Prijonegoro Hospital, Sragen, Central Java, Indonesia, served 127,443 outpatient visits in 2019; however, visits declined sharply during 2020–2021 and began to increase again in 2022. A decline in service quality may reduce patient visits, which represent an important asset for hospitals. This study aimed to analyze the effects of service quality, patient education, patient status, and insurance status on patient satisfaction at RSUD dr. Soehadi Prijonegoro Sragen.

Subjects and Method: This was a cross-sectional study conducted among 200 outpatients selected using purposive sampling based on inclusion and exclusion criteria. The study population comprised all outpatients at RSUD dr. Soehadi Prijonegoro Sragen. Data were collected using a Google Form questionnaire and analyzed using multiple linear regression and path analysis with Structural Equation Modeling (SEM).

Results: Service quality had a direct, positive, and significant effect on patient satisfaction ($b = 0.44$; 95% CI = 0.24–0.63; $p < 0.001$). Empathy was the dominant factor, showing the strongest indirect effect ($b = 0.77$; 95% CI = 0.69–0.86; $p < 0.001$), followed by assurance ($b = 0.69$; 95% CI = 0.59–0.78; $p < 0.001$), tangibles ($b = 0.55$; 95% CI = 0.43–0.67; $p < 0.001$), responsiveness ($b = 0.42$; 95% CI = 0.29–0.55; $p < 0.001$), and reliability ($b = 0.25$; 95% CI = 0.11–0.39; $p = 0.001$). Patient trust had a significant indirect effect on service quality ($b = 0.64$; 95% CI = 0.54–0.74; $p < 0.001$), and insurance status also showed a significant indirect effect on service quality ($b = 0.37$; 95% CI = 0.24–0.50; $p < 0.001$). The direct effect of trust on patient satisfaction was positive but not statistically significant ($b = 0.21$; 95% CI = 0.04–0.37; $p = 0.12$).

Conclusion: Service quality has a significant positive effect on patient satisfaction, with empathy as the most influential factor, followed by assurance, responsiveness, tangibles, and reliability. Patients with certain insurance coverage reported better perceptions of service quality. These findings suggest that strengthening empathy and assurance is crucial for improving patient satisfaction and loyalty in hospital settings.

Keywords: service quality, patient trust, patient satisfaction

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BACKGROUND

Regulation of the Minister of Health of the Republic of Indonesia Number 28 of 2014 concerning the Guidelines for the Implementation of the National Health Insurance Program states that, in order to improve the health status of the population, the National Health Insurance program has been implemented by the Social Security Administering Body for Health (BPJS Kesehatan). The National Health Insurance Program (JKN) aims to provide health protection in the form of health care benefits to meet basic health needs for all individuals who have paid contributions or whose contributions are covered by the government. In addition, the program seeks to enhance understanding of JKN among all relevant stakeholders so that its procedures can be implemented properly, effectively, efficiently, transparently, and accountably (Ministry of Health of the Republic of Indonesia, 2014).

In Indonesia, data from 2019 show that 70.19% of the population owned mandatory health insurance, while only 0.98% had voluntary health insurance. This study focuses on socioeconomic status, particularly income, in relation to the utilization of health services and the selection of health insurance. This focus is important because one of the indicators in the Healthy Family Index is family membership in JKN. According to the Ministry of Health regulation on minimum service standards, patient satisfaction levels below 95% indicate that health services do not meet minimum quality standards (Ministry of Health, 2016).

Previous studies have identified several determinants of patient satisfaction, including accessibility of services, effective communication between patients and health care providers, technical quality of medical services, respect for patient privacy, waiting

time, clarity of information, environmental cleanliness, and overall patient experience (Al-Aloola et al., 2020). Evidence from Kenya showed that only 40.4% of patients were satisfied with health services, while in Bhaktapur, India, patient satisfaction was reported at 34.4% (Sari, 2017). A study conducted in Ethiopia found that nurses play a crucial role in patient well being and satisfaction with health services, particularly nursing care (Mulugeta et al., 2019). In Indonesia, patient satisfaction levels were reported at 44.4% in West Sumatra and 42.8% in Central Maluku (Harahap et al., 2023). These figures remain far below the minimum satisfaction standard of 95% as stipulated by the Ministry of Health. Based on these findings, patient satisfaction can be categorized as moderate, indicating that patient satisfaction remains a persistent challenge in the provision of health services.

Indonesia has a population of approximately 250 million people, of whom 229,514,068 are currently registered as BPJS Health participants, representing 82.3% of the total population. In West Java, BPJS Health coverage reached 24,371,433 individuals, or approximately 81% of the provincial population (Ireine et al., 2021). Health insurance serves as a form of financial protection that enables communities to access health services. In Indonesia, two main health insurance systems exist: government managed insurance through BPJS Health and private health insurance. BPJS Health is mandatory for all Indonesian citizens and aims to ensure equitable access to health services, particularly for low income populations. Contributions are paid monthly based on participant class, and subsidies are provided by the government for those unable to pay. Starting in 2025, the BPJS class system will be replaced by the Standard Inpatient Care Class (Kelas Rawat Inap Standar, KRIS) in accordance with

Presidential Regulation Number 59 of 2024 (Sudibyo & Keni, 2025).

Health is a fundamental human right and basic need, as stated in Law Number 36 of 2009 on Health. Every individual faces the risk of illness and requires financial resources to seek medical care. Uncertainty related to illness and mortality generates concern regarding the continuity of family economic support. The 2020 Sustainable Development Goals report estimated that approximately one billion people worldwide spend at least 10% of their household budget on health care. Data from the National Socioeconomic Survey indicate that 62.67% of health expenditures in Indonesia are still financed through out of pocket payments. Such payments have the potential to push households into poverty, highlighting the importance of health insurance coverage.

Health insurance participation can be categorized into mandatory health insurance, which must be owned by all individuals regardless of income level, such as BPJS Health, and voluntary health insurance, which is purchased independently based on income, such as private insurance schemes (Rizky & Mahardika, 2023).

Outpatient visit data at RSUD dr. Soehadi Prijonegoro Sragen showed a high number of visits in 2019, totaling 127,443 patients. This condition requires the hospital to consistently provide high quality services in terms of service delivery, medical staff, and patient management. However, outpatient visits declined in 2020 and 2021 from 87,970 to 65,606 patients, before increasing again in 2022 to 75,357 patients. Patients are valuable assets for hospitals, and a decline in service quality may lead to a reduction in patient numbers.

Based on observations conducted by the researchers at RSUD dr. Soehadi Prijonegoro Sragen in October 2023, particularly in outpatient services, some patients

experienced waiting times exceeding 60 minutes, and in some cases nearly 120 minutes. This condition does not comply with government regulations stating that the waiting time from registration to entering the doctor's examination room should be less than 60 minutes. In addition, the hospital received complaints related to slow service delivery, long waiting times causing patient dissatisfaction, and physicians arriving later than scheduled.

This study is necessary due to the substantial challenges in improving hospital service quality, particularly in achieving the minimum patient satisfaction standard of 95% as required by the Ministry of Health. Furthermore, real world conditions such as prolonged waiting times and physician schedule inconsistencies indicate declining service quality. Considering the relatively high level of health insurance coverage and the important role of health insurance in reducing out of pocket expenditures, this study is expected to provide a comprehensive understanding of factors influencing patient satisfaction, including service quality and insurance status. The findings are expected to support the development of more targeted and effective strategies for quality improvement. The anticipated contribution of this study is the enhancement of hospital service quality through the development of programs focusing on key aspects such as empathy, assurance, responsiveness, and patient trust, thereby increasing patient satisfaction and loyalty while meeting government mandated minimum service standards.

SUBJECTS AND METHOD

1. Study Design and Setting

This study was conducted at dr. Soehadi Prijonegoro Hospital, Sragen, Central Java, Indonesia, in May 2024. A cross sectional study design was employed involving 200

outpatient respondents selected using purposive sampling based on predefined inclusion and exclusion criteria.

2. Population and Sample

The study population consisted of outpatient patients attending the ophthalmology, psychiatry, neurology, internal medicine, and pediatric clinics who met the eligibility criteria. Purposive sampling was applied to ensure that participants matched the characteristics required for the study. Inclusion criteria included willingness to participate, ability to read and write, ownership and ability to use a smartphone, and good general health condition. Exclusion criteria included patients with poor general condition, patients with mental disorders, and older adults. A total of 200 respondents were included, representing the study population adequately.

3. Research Variables

The independent variables included service quality dimensions measured through tangible aspects, reliability, responsiveness, assurance, and empathy, as well as patient insurance status. The dependent variable was patient satisfaction, which served as the primary outcome of the study.

4. Operational Definitions

Patient trust refers to the credibility, commitment, and benevolence of the hospital as expected or perceived by patients. Reliability refers to the ability to deliver promised services accurately and promptly. Responsiveness reflects the willingness to assist patients and provide timely services. Assurance refers to the knowledge, competence, and professionalism of staff that inspire confidence and trust. Empathy refers to the ability to provide individualized attention and care to patients. Tangible aspects refer to the physical appearance of facilities, equipment, information materials, and staff. Insurance status refers to the

contractual agreement between the insured and the insurer in providing coverage for health care costs.

5. Research Instrument

Data were collected using a questionnaire distributed through Google Forms. The instrument was adapted from the SERVQUAL model, which consists of five dimensions: reliability, responsiveness, assurance, empathy, and tangibles. SERVQUAL was selected because it is widely used and appropriate for measuring patient perceptions of hospital service quality comprehensively.

6. Data Analysis

Univariate analysis was conducted to describe the frequency and percentage distribution of each study variable, including service quality, insurance status, and patient trust. Bivariate analysis was used to examine the relationship between independent and dependent variables. Multivariate analysis was performed using path analysis using Stata software.

7. Ethical Considerations

This study received ethical approval from the Ethics Committee of Dr. Moewardi Hospital, Surakarta, Indonesia, with approval number 479/III/HREC/2025. Informed consent was obtained from all respondents prior to data collection. Participant anonymity was ensured by using codes instead of personal identifiers, and confidentiality of all information was strictly maintained.

RESULTS

1. Sample Characteristics

Table 1 shows that of the 200 respondents, 104 (52%) were female and 96 (48%) were male. Based on insurance status, 136 respondents (68%) had health insurance, while 64 respondents (32%) did not have health insurance.

Table 1. Results of Univariate Analysis

Variables	n	%
Health insurance ownership		
No	64	32
Yes	136	68
Sex		
Male	96	48
Female	104	52

2. Univariate analysis

Table 2 presents the univariate analysis describing the overall distribution of each study variable, including perceived service quality, reliability, responsiveness, assurance, empathy, tangibles, perceived satisfaction, and perceived trust. Among the 200 study participants, the perceived service quality variable had a mean score of 16.8 with a standard deviation of 4.00, ranging from a minimum of 0 to a maximum of 21.

The reliability dimension showed a mean of 2.61 (SD = 0.67), with scores ranging from 0 to 3. Responsiveness had a mean score of 2.43 (SD = 0.82), also with a range of 0 to 3. The assurance dimension demonstrated a mean of 3.25 (SD = 1.06),

with observed values between 0 and 4. Empathy recorded the highest mean score among the service quality dimensions (Mean= 4.93; SD= 1.63), with values ranging from 0 to 6.

The tangibles dimension had a mean score of 3.66 (SD = 1.68), with a minimum of 0 and a maximum of 5. Perceived patient satisfaction showed a mean of 4.18 with a standard deviation of 1.34, ranging from 0 to 5. Finally, perceived trust had a mean score of 6.64 (SD = 2.02), with observed values between 0 and 8.

Overall, these findings provide a detailed overview of respondents’ perceptions of service quality dimensions, patient satisfaction, and trust in the health care services received.

Table 2. Characteristics of Respondents Based on Continuous Variables

Independent Variables	Mean	SD	Minimum	Maximum
Quality service perception	16.8	4.00	0	21
Reliability	2.61	0.67	0	3
Responsiveness	2.43	0.82	0	3
Assurance	3.25	1.06	0	4
Empathy	4.93	1.63	0	6
Tangible	3.66	1.68	0	5
Perceived satisfaction	4.18	1.34	0	5
Perceived trust	6.64	2.02	0	8

3. Bivariate analysis

Table 3 presents the results of the simple linear regression analysis, indicating that perceived service quality has a positive and statistically significant effect on the patient satisfaction (b = 0.16; 95% CI = 0.12–0.20; p < 0.001). Furthermore, the reliability dimension showed a significant positive

association, with a coefficient of 0.43 (b = 0.43; 95% CI = 0.16–0.70; p = 0.002).

Responsiveness demonstrated a positive effect of 0.21 units (b = 0.21; 95% CI = 0.00–0.44); however, this association was marginally significant (p= 0.060). Assurance showed a strong and significant positive effect, with an increase of 0.45 units

($b = 0.45$; 95% CI = 0.28–0.61; $p < 0.001$). Similarly, empathy was positively and significantly associated with the dependent variable, contributing an increase of 0.41 units ($b = 0.41$; 95% CI= 0.31–0.51; $p < 0.001$).

The tangible dimension showed a significant positive effect, with a coefficient

of 0.25 ($b = 0.25$; 95% CI = 0.15–0.36; $p < 0.001$). Perceived trust contributed a significant positive effect of 0.33 units ($b = 0.33$; 95% CI= 0.24–0.41; $p < 0.001$). Among all variables, insurance status showed the strongest effect, with an increase of 0.83 units ($b = 0.83$; 95% CI= 0.43–1.22; $p < 0.001$).

Table 3. Bivariate analysis of perceived of health service quality, perceived of trust, and health insurance ownership on patient satisfaction

Independent variables	b	95% CI		p
		Lower limit	Upper limit	
Perceived quality	0.16	0.12	0.20	<0.001
Reliability	0.43	0.16	0.70	0.002
Responsiveness	0.21	0.00	0.44	0.060
Assurance	0.45	0.28	0.61	<0.001
Empathy	0.41	0.31	0.51	<0.001
Tangible	0.25	0.15	0.36	<0.001
Perceived of trust	0.33	0.24	0.41	<0.001
Health insurance ownership	0.83	0.43	1.22	<0.001

n observation=200
Adj R-Squared= 0.01
 $p < 0.001$

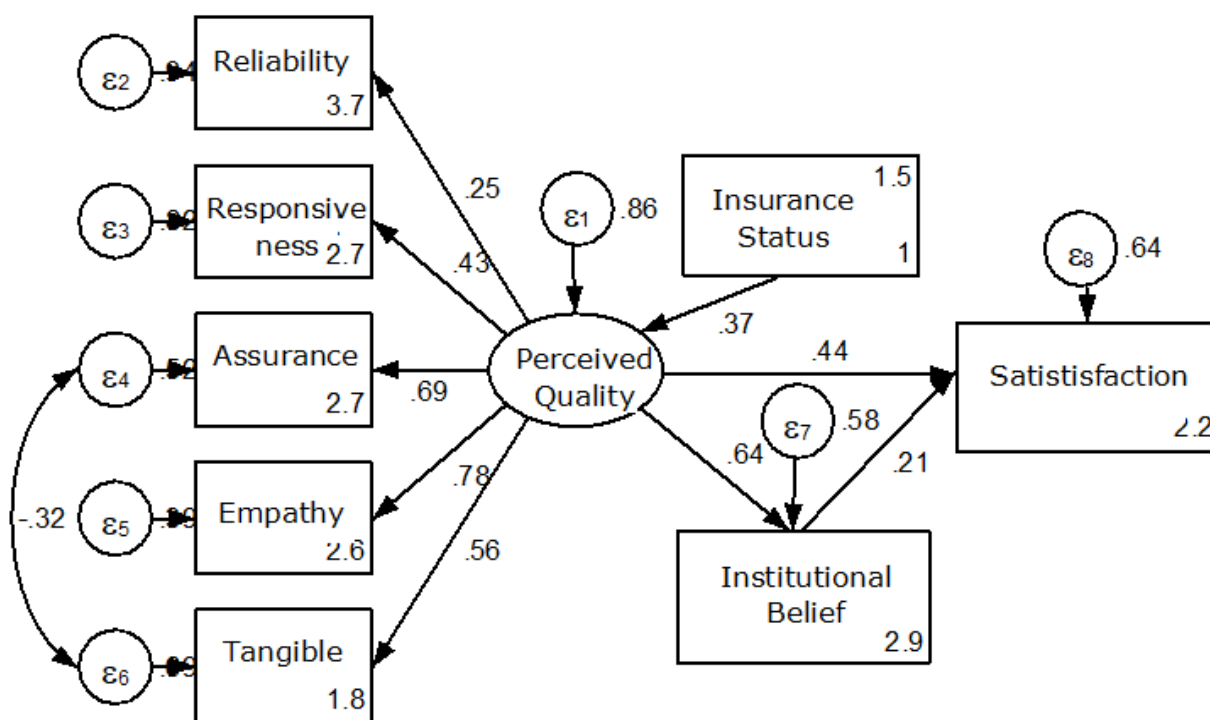


Figure 1. Structural Model of Path Analysis With Estimates to Describe Service Quality and Insurance Status as Determinants of Patient Satisfaction

4. Multivariate analysis

Figure 3 illustrates the structural model developed by the researchers based on theoretical assumptions and tested using STATA version 13. The results of the path analysis indicate that the model showed an adequate goodness of fit. This is evidenced by a Chi square p value of 0.056, which exceeds the recommended threshold of 0.05. Additional fit indices also support model adequacy, including an RMSEA value of 0.072, which is below the acceptable limit of 0.08, a Comparative Fit Index (CFI) of 0.945, and a Tucker Lewis Index (TLI) of 0.915, both exceeding the recommended cutoff of 0.90. Furthermore, the Standardized Root Mean Square Residual (SRMR) was 0.042, below the threshold of 0.05, and the Coefficient of Determination (CD) reached 14%. Collectively, these indices suggest that the proposed model is valid and sufficiently explains the relationships among the study variables.

Table 4 showed that there is a direct effect of patient trust on patient satisfaction, with an estimated increase of 0.21 units ($b = 0.21$; 95% CI = 0.04 to 0.37). Service quality demonstrated a significant direct effect on patient satisfaction, with an estimated

increase of 0.44 units ($b = 0.44$; 95% CI = 0.24 to 0.63; $p < 0.001$). Trust also exerted a significant indirect effect on perceived service quality, with an estimated coefficient of 0.64 ($b = 0.64$; 95% CI = 0.54 to 0.74; $p < 0.001$). Insurance status showed a significant indirect effect of 0.37 units ($b = 0.37$; 95% CI = 0.24 to 0.50; $p < 0.001$).

Among the service quality dimensions, reliability showed a significant indirect effect of 0.25 units ($b = 0.25$; 95% CI = 0.11 to 0.39; $p < 0.001$), highlighting the importance of timely and consistent service delivery in shaping quality perceptions. Responsiveness also showed a substantial indirect effect of 0.42 units ($b = 0.42$; 95% CI = 0.29 to 0.55; $p < 0.001$).

Assurance exhibited a strong indirect effect of 0.69 units ($b = 0.69$; 95% CI = 0.59 to 0.78; $p < 0.001$), indicating that patients' sense of safety and confidence in the competence of health care providers plays a key role in perceived service quality. Empathy emerged as the strongest indirect predictor, with an estimated effect of 0.77 units ($b = 0.77$; 95% CI = 0.69 to 0.86; $p < 0.001$). Tangible aspects demonstrated a significant indirect effect of 0.55 units ($b = 0.55$; 95% CI = 0.43 to 0.67; $p < 0.001$).

Table 4. Results of Path Analysis of Factors Influencing Outpatient Patient Satisfaction

Study variables	Path coef. (b)	95% CI		p
		Lower limit	Upper limit	
Direct effect				
Patient satisfaction ← Trust	0.21	0.04	0.37	0.120
Patient satisfaction ← Health service quality	0.44	0.24	0.63	<0.001
Indirect effect				
Trust ← Health service quality	0.64	0.54	0.74	<0.001
Health service quality ← Health insurance ownership	0.37	0.24	0.50	<0.001
Health service quality ← Reliability	0.25	0.11	0.39	0.001
Health service quality ← Responsiveness	0.42	0.29	0.55	<0.001
Health service quality ← Assurance	0.69	0.59	0.78	<0.001
Health service quality ← Empathy	0.77	0.69	0.86	<0.001
Health care service quality ← Tangible	0.55	0.43	0.67	<0.001

DISCUSSION

1. Relationship Between Patient Satisfaction and Patient Trust

Based on the results presented in Table 4, the direct effect of patient trust on patient satisfaction showed a positive coefficient of 0.21. However, this association was not statistically significant. Despite the lack of statistical significance, contemporary literature consistently emphasizes that trust remains a critical factor in promoting patient satisfaction and loyalty. From a psychological and social perspective, trust fosters a sense of security and confidence in both health care professionals and health care institutions, thereby enhancing positive perceptions and overall patient satisfaction (Purwiningsih et al., 2023).

A study conducted at Sadananya community health center further reported that service quality and trust simultaneously exert a positive and significant influence on patient satisfaction, reinforcing the role of trust as a fundamental foundation for satisfaction formation (Purwiningsih et al., 2023). Moreover, trust functions as a mediating factor that strengthens the relationship between service quality and patient satisfaction. Patients who trust health care providers are more likely to accept, value, and appreciate the services received, which ultimately enhances satisfaction. Although statistical significance was not achieved in this context, the consistently positive effect of trust on patient satisfaction should be understood through deeper psychological and social mechanisms, particularly in efforts to improve the quality of health care services.

2. Relationship Between Patient Satisfaction and Service Quality

The analysis presented in Table 4 indicates that service quality has a positive and statistically significant direct effect on patient satisfaction, with a coefficient of 0.44. This

finding confirms that higher perceived service quality is associated with increased levels of patient satisfaction at dr. Soehadi Prijonegoro Hospital, Sragen, Indonesia. These results are consistent with numerous studies conducted across health care facilities in Indonesia between 2015 and 2025, which consistently report a significant relationship between service quality dimensions, including reliability, responsiveness, assurance, empathy, and tangibles, and patient satisfaction (Meilinawati, 2023).

High quality service not only meets patients' technical expectations but also generates positive emotional experiences and a sense of being valued, which fosters satisfaction and loyalty. For instance, reliable services enhance feelings of safety and predictability, responsive staff improve perceptions of attentiveness to patient needs, and empathetic interactions help patients feel personally cared for. Therefore, strengthening service quality across all dimensions is essential to achieving optimal patient satisfaction and improving the hospital's overall performance and reputation.

3. Relationship Between Patient Trust and Service Quality

The findings also reveal that patient trust has a significant indirect effect on service quality, with a path coefficient of 0.64. This result indicates that patients with higher levels of trust tend to perceive service quality more positively. In the context of health care, trust encompasses the belief that health care providers and institutions will deliver services in a professional, honest, and responsible manner (Gracia et al., 2023).

This psychological mechanism explains why trust is not only an outcome of positive service experiences but also a reinforcing factor that strengthens patients' perceptions of service quality. Supporting

evidence from other studies suggests that trust and service quality simultaneously exert significant effects on patient satisfaction (Sinaga et al., 2025). Consequently, building and maintaining patient trust is a key strategic approach to enhancing perceived service quality and overall patient satisfaction.

4. Relationship Between Service Quality and Insurance Status

The relationship between service quality and insurance status represents an important factor influencing patients' perceptions of health care quality. Our study found that health insurance ownership has a significant indirect effect on perceived health service quality. This suggests that patients with specific types of health insurance tend to perceive higher service quality compared with uninsured patients.

Health insurance ownership facilitates easier access to health services and a more optimal care experience, leading patients to perceive services as higher in quality. This phenomenon is supported by recent studies demonstrating that health insurance plays a significant role in improving access to and utilization of health services, which subsequently influences perceptions of service quality. The substantial increase in the proportion of Indonesia's population covered by health insurance, reaching 72.38% in 2023, reflects growing public awareness of the importance of insurance in managing financial risks related to health care.

A study by Wulandari et al. (2025) found that insurance ownership effectively increases hospital utilization, particularly among urban poor populations in Indonesia. The use of health insurance significantly increases both outpatient and inpatient visits, indirectly enhancing patient experiences related to service quality. Other studies also confirm that service quality

dimensions such as reliability, responsiveness, and assurance have a significant impact on satisfaction among insured patients (Azizah et al., 2023; Harahap, 2024). Psychologically and socially, insured patients tend to feel more secure and confident that their health care needs will be adequately addressed, resulting in greater feelings of appreciation and satisfaction. Therefore, insurance status not only improves access to care but also strengthens positive perceptions of overall service quality.

5. Relationship Between Service Quality and Its Dimensions

Service quality is a multidimensional construct comprising five main dimensions: reliability, responsiveness, assurance, empathy, and tangibles. Collectively, these dimensions shape patients' perceptions of service quality within health care facilities. The relationship between service quality and reliability showed a significant positive effect, with a path coefficient of 0.25 ($p < 0.001$), indicating that timeliness, accuracy, and consistency of services are essential in forming positive patient perceptions.

Responsiveness demonstrated a strong indirect effect with a coefficient of 0.42 ($p < 0.001$), highlighting the importance of promptness and readiness of staff in responding to patient needs (Santosa et al., 2024). Assurance exhibited an even stronger effect, with a coefficient of 0.69 ($p < 0.001$), underscoring that patients' sense of safety and confidence in the competence and professionalism of health care providers is crucial in shaping positive service perceptions. Empathy emerged as the strongest indirect influence, with a coefficient of 0.77 ($p < 0.001$), emphasizing that individualized attention and genuine concern from health care personnel are dominant factors in shaping service quality perceptions.

The tangible dimension, which includes physical facilities and staff appearance, also contributed significantly, with a coefficient of 0.55 ($p < 0.001$). This finding highlights the importance of a professional physical environment and well presented staff in reinforcing positive patient impressions of service quality. These results align with a study conducted at Royal Prima General Hospital in Medan, which reported that all five service quality dimensions significantly influenced satisfaction among both BPJS and non BPJS patients. Among these variables, reliability was identified as the most dominant factor affecting patient satisfaction (Siagian et al., 2025).

Service quality represents the integrated outcome of these five dimensions operating simultaneously. From a practical perspective, health care providers must address and develop all dimensions concurrently to achieve optimal service quality and enhance patient satisfaction. Nevertheless, this study has several limitations, including a relatively small sample size, the use of purposive sampling which may introduce selection bias, and reliance on subjective patient perceptions that may be influenced by personal and situational factors. Future research is recommended to employ more representative sampling methods and incorporate external variables such as facility conditions and health care workforce availability to obtain a more comprehensive and valid understanding.

AUTHOR CONTRIBUTIONS

All authors made substantial contributions to data analysis and the preparation of the final manuscript.

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CONFLICT OF INTEREST

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