

Assessing the Influence of Healthcare Service Quality on Patient Satisfaction at Dr. Soetomo General Hospital, Surabaya

(Pengaruh Kualitas Layanan Kesehatan terhadap Kepuasan Pasien di Rumah Sakit Umum Dr. Soetomo, Surabaya)

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Abstract

This study aims to provide a comprehensive understanding of the relationship between healthcare service quality and patient satisfaction, and how this can be used to improve services in hospitals. Conducted at Dr. Soetomo General Hospital, Surabaya, the study involved 393 outpatients, with the sample size determined using the Slovin formula to ensure representativeness of the total outpatient population. A quantitative approach was employed, utilizing multiple regression analysis to examine the effects of five service quality dimensions: reliability, responsiveness, assurance, empathy, and tangibles on patient satisfaction. The results reveal that all dimensions positively influence patient satisfaction, although to varying degrees. Tangibles, representing the hospital's physical facilities and equipment, had the most substantial effect, underscoring the importance of a well-maintained environment. Reliability and empathy also significantly impacted satisfaction, highlighting the value patients place on consistent service delivery and compassionate care. Surprisingly, assurance—related to patients' confidence in healthcare providers' competence—showed no significant influence, suggesting that patients may already expect a high level of professional competency from the hospital staff. These findings suggest that improving hospital facilities, ensuring service reliability, and fostering empathetic care should be prioritized in service quality improvement strategies at Dr. Soetomo General Hospital. By focusing on these dimensions, hospital management can significantly enhance patient satisfaction, thereby improving healthcare outcomes and fostering greater patient loyalty.

Keywords: Healthcare service quality, patient satisfaction, multiple regression.

Abstrak

Penelitian ini bertujuan untuk memberikan pemahaman yang komprehensif mengenai hubungan antara kualitas layanan kesehatan dan kepuasan pasien, serta bagaimana hal tersebut dapat digunakan untuk meningkatkan layanan di rumah sakit. Penelitian ini dilakukan di Rumah Sakit Umum Dr. Soetomo, Surabaya, dengan melibatkan 393 pasien rawat jalan, di mana ukuran sampel ditentukan menggunakan rumus Slovin untuk memastikan keterwakilan populasi (pasien) rawat jalan secara keseluruhan. Pendekatan kuantitatif digunakan, dengan analisis regresi berganda untuk mengkaji pengaruh lima dimensi kualitas layanan yang mencakup: keandalan, daya tanggap, jaminan, empati, dan bukti fisik terhadap kepuasan pasien. Hasil penelitian menunjukkan bahwa semua dimensi berpengaruh positif terhadap kepuasan pasien, meskipun dalam tingkat yang berbeda-beda. Bukti fisik, yang mencakup fasilitas dan peralatan fisik rumah sakit, memberikan pengaruh paling besar, menekankan pentingnya lingkungan yang terawat dengan baik. Keandalan dan empati juga berdampak signifikan, menggarisbawahi pentingnya layanan yang konsisten dan perawatan yang penuh kasih. Namun, jaminan yang berkaitan dengan keyakinan pasien terhadap kompetensi penyedia layanan kesehatan tidak menunjukkan pengaruh signifikan, hal ini mengindikasikan bahwa pasien

mungkin sudah mengharapkan tingkat kompetensi profesional yang tinggi dari staf rumah sakit. Temuan ini menyarankan bahwa peningkatan fasilitas rumah sakit, memastikan keandalan layanan, dan mendorong perawat yang empatik harus menjadi prioritas dalam strategi peningkatan kualitas layanan di Rumah Sakit Umum Dr. Soetomo. Dengan berfokus pada dimensi-dimensi ini, manajemen rumah sakit dapat secara signifikan meningkatkan kepuasan pasien, yang pada akhirnya meningkatkan hasil layanan kesehatan dan memperkuat loyalitas pasien.

Kata Kunci: kualitas layanan kesehatan, kepuasan pasien, regresi berganda,

I. Introduction

In today's rapidly evolving healthcare landscape, the quality of healthcare services has emerged as one of the most crucial determinants of patient satisfaction and overall well-being [1]. With patients becoming more informed and demanding, healthcare providers are increasingly required to focus on not only the clinical outcomes but also the quality-of-service delivery. Service quality, particularly in the healthcare sector, is a multidimensional concept that encompasses various aspects of the patient experience, including interpersonal interactions, accessibility, and the physical environment in which care is provided [2]–[5]. These factors are vital to creating a positive experience for patients, influencing their level of satisfaction and, ultimately, their trust and loyalty toward healthcare providers.

In Indonesia, the healthcare system faces numerous challenges, ranging from limited resources to regional disparities in healthcare access and quality [6], [7]. As the fourth most populous country in the world, Indonesia has a diverse population with varying healthcare needs, and public hospitals play a critical role in meeting these needs [8]–[10]. However, ensuring a consistent level of service quality across the country's public healthcare institutions remains a significant challenge [11], [12], [13]. Among the leading public healthcare providers in Indonesia is Dr. Soetomo General Hospital, located in Surabaya, East Java. As one of the largest and most prominent hospitals in Indonesia, Dr. Soetomo serves as a referral center for specialized care and handles a high patient volume, not only from Surabaya but from across the country. The hospital's pivotal role in the Indonesian healthcare system makes it an important case for studying how service quality affects patient satisfaction.

Patient satisfaction is widely acknowledged as a key indicator of healthcare service performance and has become a central focus for healthcare institutions worldwide. It is influenced by multiple factors, ranging from the technical competence of healthcare providers to the interpersonal skills of staff and the physical conditions of the healthcare facility [14], [15]. Several theoretical models have been developed to measure patient satisfaction, many of which emphasize the importance of service quality dimensions such as reliability, responsiveness, assurance, empathy, and tangibles [16], [17], [18], [19]. These dimensions, often derived from the SERVQUAL model, have been extensively studied in various healthcare settings globally, with a consensus that improving these dimensions can lead to higher patient satisfaction. However, the impact of these factors may vary depending on the healthcare context, the cultural background of the patients, and the specific characteristics of the healthcare institution [20].

Despite the wealth of literature on healthcare service quality and patient satisfaction, there is a noticeable gap in research that focuses on public hospitals in developing countries like Indonesia. Many studies conducted in high-income countries may not fully capture the unique challenges faced by healthcare providers in resource-constrained environments. For instance, in Indonesia, public hospitals often grapple with overcrowding, understaffing, and limited financial resources, which can negatively impact the quality of care and patient satisfaction. Moreover, the cultural context of Indonesia, where patients may have different expectations and perceptions of healthcare compared to those in Western countries,

necessitates a more localized study to better understand how service quality affects patient satisfaction in this setting.

Dr. Soetomo General Hospital, given its size, reputation, and critical role in the Indonesian healthcare system, presents an ideal case study for exploring the relationship between healthcare service quality and patient satisfaction in a public hospital context. The hospital's wide range of services, including specialized treatments in cardiology, oncology, and neurology, attracts patients from various regions, creating a diverse patient population with different healthcare expectations. This diversity, combined with the hospital's limited resources, presents unique challenges for maintaining high standards of service quality. Moreover, as a public hospital, Dr. Soetomo is subject to government regulations and policies that may affect its ability to improve service quality. Therefore, understanding how patients perceive the quality of services at Dr. Soetomo and how these perceptions impact their satisfaction is crucial for identifying areas where improvements can be made.

Research on healthcare service quality in Indonesia has generally focused on private hospitals or smaller public facilities, leaving a gap in the literature regarding the country's largest public hospitals. Furthermore, existing studies have often utilized general measures of service quality without delving into the specific dimensions that are most relevant to patient satisfaction in public hospitals. This study seeks to fill this gap by assessing the influence of key service quality dimensions on patient satisfaction at Dr. Soetomo General Hospital. By doing so, it aims to provide insights that are not only applicable to Dr. Soetomo but also to other large public hospitals in Indonesia and similar settings in developing countries.

The significance of this study lies in its potential to inform hospital management and policymakers about the specific areas of service quality that require attention to enhance patient satisfaction. Given the increasing competition in the healthcare sector and the growing importance of patient-centered care, understanding the determinants of patient satisfaction is essential for maintaining the hospital's reputation and ensuring patient loyalty. Additionally, by focusing on a public hospital, this study contributes to the broader discourse on healthcare quality in resource-limited settings, where the challenges of improving service quality are often compounded by financial and infrastructural constraints.

This research aims to answer the following key questions:

- (1) To what extent do the various dimensions of service quality—reliability, responsiveness, assurance, empathy, and tangibles—affect patient satisfaction at Dr. Soetomo General Hospital?
- (2) Are there specific dimensions that are more influential in determining patient satisfaction in this context?
- (3) How can the findings be used to develop strategies for improving service quality at Dr. Soetomo and similar institutions?

By addressing these questions, the study seeks to provide practical recommendations that can help healthcare providers and policymakers enhance the quality of care in public hospitals, ultimately leading to better health outcomes and higher patient satisfaction.

II. Method

This research applied a quantitative approach to assess the relationship between healthcare service quality and patient satisfaction at Dr. Soetomo General Hospital, Surabaya. The quantitative method was chosen because it enables the measurement and analysis of numerical data, facilitating the identification of patterns and relationships between variables [21], [22]. It is suitable for studies like this, which aim to quantify the effects of service quality dimensions on patient satisfaction.

2.1. Data Collection

Primary data was collected through a structured questionnaire distributed to the outpatients who participated in the study. The questionnaire consisted of items designed to measure the five dimensions of healthcare service quality:

- Reliability
- Responsiveness
- Assurance
- Empathy
- Tangibles

Patient satisfaction was also measured using the questionnaire. Responses were collected using a Likert scale, where respondents rated their agreement with statements related to these dimensions and their satisfaction levels.

2.2. Data Analysis

The data was analyzed using the following techniques:

1. **Descriptive Statistics:** To summarize the characteristics of the respondents and provide an overview of their perceptions of service quality and satisfaction.
2. **Correlation Analysis:** To explore the strength and direction of the relationships between each dimension of healthcare service quality and patient satisfaction.
3. **Regression Analysis:** To identify the specific effects of each service quality dimension on patient satisfaction. Standardized coefficients (**Beta**) were used to quantify the influence of each dimension, helping to determine which factors most strongly affect satisfaction levels.

III. Findings and Discussion

3.1. Respondent Characteristics

This study involved 393 outpatients at Dr. Soetomo General Hospital, Surabaya. The sample size was determined using the Slovin formula, which was applied to ensure the sample was representative of the total population of 21,294 outpatient visitors. The Slovin formula was chosen because it provides a practical way to determine an appropriate sample size when the total population is known, and the desired margin of error is set, in this case, 5% ($e = 5\%$).

Table 1. Respondent Characteristics by Gender, Occupation, and Frequently Used Outpatient Services

Characteristics	Category	Number (n)	Percentage (%)
Gender	Male	183	46.6
	Female	210	53.4
Occupation	Private Sector Employee	130	33.1
	Housewife	95	24.2
	Civil Servant	70	17.8
	Entrepreneur	60	15.3
	Student	19	4.8
	Retired	19	4.8
	Outpatient Services	Internal Medicine Clinic	149
Surgery Clinic		100	25.4
Pediatric Clinic		80	20.4
Ophthalmology Clinic		32	8.1
ENT Clinic		32	8.1

The data shows that the majority of respondents were female, with 210 respondents (53.4%), while male respondents accounted for 183 (46.6%). In terms of occupation, the largest group consisted of private sector employees, totaling 130 respondents (33.1%), followed by housewives at 95 respondents (24.2%) and civil servants at 70 respondents (17.8%). Other respondents included entrepreneurs (15.3%), students (4.8%), and retirees (4.8%). In terms of frequently used outpatient services, the Internal Medicine Clinic was the most visited, with 37.9% of respondents accessing it, followed by the Surgery Clinic (25.4%) and Pediatric Clinic (20.4%). The Ophthalmology and ENT Clinics were each used by 8.1% of respondents.

3.2. Analysis of the Relationship Between Variables.

The analysis of the relationship between healthcare service quality and patient satisfaction in this study was conducted using descriptive statistics, correlation analysis, and regression analysis. The aim of this analysis is to understand how different dimensions of healthcare service quality influence patient satisfaction at Dr. Soetomo General Hospital, Surabaya.

Table 1. Descriptive Statistics

	Mean	Std. Deviation	N
Satisfaction	22.09	3.931	393
Reliability	16.55	3.024	393
Responsiveness	16.66	2.935	393
Assurance	16.54	2.756	393
Empathy	16.45	2.711	393
Tangibles	16.59	2.942	393

The descriptive statistics in the table 1. show that patient satisfaction has a mean score of 22.09 with a standard deviation of 3.931, indicating a relatively high level of satisfaction with some variation in responses. Among the dimensions of service quality, responsiveness has the highest mean score (16.66), followed closely by tangibles (16.59), reliability (16.55), assurance (16.54), and empathy (16.45). The standard deviations for these dimensions are all relatively small, ranging from 2.711 to 3.024, indicating that respondents' perceptions of these service quality dimensions are fairly consistent across the sample of 393 patients. These findings suggest that the various aspects of healthcare service quality are generally well-rated, contributing positively to overall patient satisfaction.

Table 2. Correlations

	Satisfaction	Reliability	Responsiveness	Assurance	Empathy	Tangibles
Pearson Correlation	1.000	.743	.742	.647	.738	.912
	.743	1.000	.701	.636	.899	.840
	.742	.701	1.000	.746	.712	.735
	.647	.636	.746	1.000	.703	.644
	.738	.899	.712	.703	1.000	.753
	.912	.840	.735	.644	.753	1.000

The correlation table indicates strong positive relationships between each dimension of service quality (Reliability, Responsiveness, Assurance, Empathy, and Tangibles) and patient satisfaction. Among these dimensions, Tangibles shows the highest correlation with

satisfaction ($r = 0.912$), suggesting that the physical aspects of the service, such as facilities and equipment, are the most strongly related to patient satisfaction. Reliability ($r = 0.743$), Responsiveness ($r = 0.742$), and Empathy ($r = 0.738$) also show high correlations, indicating that consistent, timely service and the hospital staff's ability to provide caring, personalized attention significantly influence patient satisfaction. Assurance, though slightly lower, still demonstrates a strong relationship ($r = 0.647$), showing that patient confidence in the competence and trustworthiness of the healthcare providers plays an important role in satisfaction. Overall, all service quality dimensions positively correlate with satisfaction, confirming the importance of service quality in determining patient experiences.

Table 3. Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.070	.495		.142	.887
	Reliability	.530	.068	.408	7.796	.000
	Responsiveness	.169	.044	.126	3.847	.000
	Assurance	.018	.043	.013	.421	.674
	Empathy	.476	.068	.329	7.011	.000
	Tangibles	1.233	.050	.923	24.511	.000

a. Dependent Variable: Satisfaction

The regression analysis results in Table 3 show that several dimensions of service quality significantly influence patient satisfaction. Reliability has a positive and significant effect, with a standardized coefficient (Beta) of 0.408, indicating that it plays an important role in increasing satisfaction. Responsiveness also positively contributes to satisfaction, though its effect is smaller, with a Beta of 0.126. Empathy shows a strong positive impact, with a Beta of 0.329, suggesting that patients highly value the emotional support and care provided by healthcare staff. Tangibles, representing the physical environment and facilities, have the most substantial influence on satisfaction, with a Beta of 0.923, highlighting the critical role of hospital facilities in shaping patient perceptions. In contrast, Assurance has no significant impact on patient satisfaction, as its Beta is only 0.013, indicating that patients may not prioritize this dimension when evaluating their overall satisfaction with healthcare services. Overall, the dimensions of Reliability, Responsiveness, Empathy, and Tangibles significantly affect patient satisfaction, while Assurance does not.

3.3. Discussion

The findings from this study highlight the substantial influence of various dimensions of healthcare service quality—reliability, responsiveness, assurance, empathy, and tangibles—on patient satisfaction at Dr. Soetomo General Hospital. Among these dimensions, tangibles emerged as the most influential factor, with a strong positive correlation ($r = 0.912$) and a significant regression coefficient (Beta = 0.923). This indicates that the physical environment, including the hospital's facilities, equipment, and overall infrastructure, plays a critical role in shaping patient perceptions of quality and satisfaction. Given the hospital's status as a major public healthcare provider, the emphasis on tangible aspects reflects the importance of maintaining well-equipped, clean, and accessible facilities to meet patient expectations and needs.

Reliability, which refers to the hospital's ability to consistently deliver accurate and dependable services, also demonstrated a significant positive effect on patient satisfaction. With a Beta value of 0.408, reliability underscores the importance of consistent care delivery,

which reassures patients that they can trust the hospital to manage their health concerns effectively. In a high-volume hospital like Dr. Soetomo, where many patients come from various regions, maintaining reliability in service provision is crucial for fostering patient confidence and long-term satisfaction.

Empathy, which encompasses the personalized attention and emotional support provided by healthcare staff, was also found to be a strong predictor of patient satisfaction, with a Beta value of 0.329. This result aligns with previous studies indicating that patients highly value healthcare providers who demonstrate genuine care and understanding of their emotional and psychological needs. In a hospital setting where patients often face stressful medical situations, empathy becomes a key factor in creating a positive experience. Healthcare practitioners and management at Dr. Soetomo should focus on training and encouraging staff to provide empathetic care, as it significantly contributes to patient well-being and satisfaction.

While responsiveness—the promptness and attentiveness of healthcare providers—showed a positive relationship with satisfaction ($r = 0.742$), its regression coefficient was relatively smaller (Beta = 0.126) compared to other dimensions. This suggests that although responsiveness is valued, it may not be the most critical factor influencing satisfaction in this context. Nevertheless, maintaining a culture of responsiveness is essential to ensure timely care and minimize patient wait times, which can contribute to a better overall patient experience.

Interestingly, assurance, which reflects patients' confidence in the competence, credibility, and trustworthiness of healthcare providers, was not found to significantly impact patient satisfaction in this study (Beta = 0.013). This result may indicate that patients at Dr. Soetomo already assume a high level of competence and professionalism from the hospital's staff, given its status as a well-known public hospital. Thus, assurance may be less of a differentiating factor in their overall evaluation of service quality. However, this does not diminish the importance of maintaining high clinical standards, as any erosion in trust could have negative long-term effects on patient satisfaction and loyalty.

From a strategic perspective, the findings of this study suggest that Dr. Soetomo General Hospital and similar institutions can focus on improving the physical aspects of their services, such as enhancing facilities and ensuring that medical equipment is up-to-date and readily available, to boost patient satisfaction. Additionally, empathy and reliability should remain central to the hospital's service quality improvement efforts. Ensuring that healthcare providers offer personalized, compassionate care and that services are delivered consistently can create a more favorable patient experience, encouraging repeat visits and positive word-of-mouth recommendations.

Given the relatively lower importance of responsiveness and assurance in this context, hospital management may choose to allocate resources more efficiently, focusing on areas like infrastructure upgrades, staff training in empathy, and improving service reliability. However, efforts to ensure timely service and maintain patient confidence should not be neglected, as these factors still contribute to the overall quality of care. In doing so, Dr. Soetomo can continue to meet the needs of its diverse patient base and improve patient satisfaction across all service dimensions.

IV. Conclusion

This study has demonstrated that all dimensions of healthcare service quality: reliability, responsiveness, assurance, empathy, and tangibles positively affect patient satisfaction at Dr. Soetomo General Hospital, with varying degrees of influence. Among these, tangibles, representing the hospital's physical facilities and equipment, had the most

significant impact on patient satisfaction, highlighting the critical role of a well-maintained environment in shaping positive patient perceptions. Reliability and empathy also played strong roles, indicating that consistent service delivery and personalized, compassionate care are essential for improving patient experiences. In contrast, assurance, which relates to patient confidence in the competence of healthcare providers, had no significant effect in this context, suggesting that patients may already expect a high level of professional competence from the hospital's staff.

The study further reveals that tangibles are the most influential dimension in determining patient satisfaction, followed closely by reliability and empathy. This suggests that patients place a premium on the physical infrastructure and emotional care they receive, while responsiveness and assurance, although important, are less central in shaping their overall satisfaction. The findings provide clear guidance for improving service quality at Dr. Soetomo General Hospital and similar institutions. Strategies should prioritize enhancing hospital facilities, ensuring consistent service reliability, and fostering a culture of empathetic care among staff. By focusing on these key areas, hospital management can significantly improve patient satisfaction, contributing to better healthcare outcomes and patient loyalty in the long term.

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