



The Relationship Between Length of Stay (LOS) and Patient Satisfaction With Hospitality Services at Haji General Hospital Medan

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Track Record Article	Abstract
<p>Revised: 05 May 2025 Accepted: 25 June 2025 Published: 30 June 2025</p> <p>How to cite: Nasiatin, T., & Mukhlisin. (2025). The Relationship Between Length of Stay (LOS) and Patient Satisfaction With Hospitality Services at Haji General Hospital Medan. <i>Contagion: Scientific Periodical of Public Health and Coastal</i>, 7(1), 372–381.</p>	<p><i>The length of stay (LOS) or duration of hospitalization is a key indicator of hospital service quality. Prolonged LOS often signals inefficiencies and can lead to lower patient satisfaction. The core issue in this study is the high percentage of patients dissatisfied with services at the Haji General Hospital Medan citing unresponsive staff and inadequate facilities. This research aims to determine the relationship between LOS and patient satisfaction following hospitalization. A quantitative research method with a cross-sectional design was employed. The study took place at Haji General Hospital Medan, North Sumatra, from January to May 2023. The population included 60 patients treated in the Jabal Rahma and Safa wards, with a purposive sample of 35 respondents who met the inclusion criteria. Data were gathered through questionnaires and medical record observations. Patient satisfaction was measured using a validated Likert-scale questionnaire, while LOS was recorded from hospital records. Data analysis was conducted using the Chi-square test. Results revealed that 57.1% of patients had a LOS of less than five days, and 60.0% reported being very satisfied with their care. Statistical analysis showed a significant relationship between LOS and patient satisfaction ($p = 0.005 < 0.05$). Shorter LOS was correlated with higher satisfaction levels, suggesting more effective medical performance. In conclusion, patients with shorter hospital stays tended to report greater satisfaction, highlighting LOS as a crucial factor in evaluating healthcare service quality. It is recommended that hospitals strive to optimize care efficiency without compromising outcomes. Further research is suggested to explore additional factors affecting satisfaction, such as staff communication and facility adequacy, to improve service delivery</i></p> <p>Keywords: <i>Length of Stay (LOS), Patient Satisfaction, Hospitalization, Healthcare Quality.</i></p>

INTRODUCTION

Health issues are an increasingly significant concern for societies, especially as living standards rise and public expectations for high-quality healthcare services grow (Jones et al., 2020). The World Health Organization (WHO) regards patient satisfaction as a multidimensional measure—one that reflects not only physical recovery but also the overall quality of care received throughout hospitalization (WHO, 2020). In this context, the relationship between patient satisfaction and Length of Stay (LOS) has gained considerable attention in healthcare management. LOS is widely recognized as a key performance indicator, representing both the efficiency of treatment and the quality of care provided (Agil et al., 2022).

Previous studies have emphasized that hospitalization length plays a critical role in shaping patient satisfaction. Shorter stays are typically associated with quicker recovery and higher satisfaction levels, whereas extended stays may signal complications, inefficiencies, or dissatisfaction due to prolonged care (Aiken et al., 2021; Lee et al., 2020), Research by Chang

et al. (2021) found that patients discharged earlier often perceive their treatment as more efficient and effective, contributing to better satisfaction outcomes. These findings support the notion that efficient care delivery and timely interventions are fundamental drivers of patient satisfaction (Kovner et al., 2019). Nevertheless, the relationship between Length of Stay (LOS) and satisfaction is multifaceted and may be influenced by factors such as illness severity, communication quality, and the hospital environment.

Haji General Hospital Medan in North Sumatra was selected as the research site due to its high patient volume and the diverse levels of satisfaction reported by patients. Despite the hospital's efforts to maintain high-quality services, patient satisfaction remains inconsistent, particularly in relation to Length of Stay (LOS). It is therefore important to examine the specific factors at Haji General Hospital Medan that may influence satisfaction outcomes, especially given the variation in LOS across patient groups. For instance, patients with shorter stays (fewer than five days) often report higher satisfaction, whereas those with extended stays (more than five days) tend to express lower satisfaction. This disparity underscores the need to explore how dimensions of service quality—such as responsiveness, communication, and operational efficiency—contribute to patient satisfaction in the context of LOS. This study will employ the SERVQUAL model to evaluate patient satisfaction across five key dimensions: Tangibles, Reliability, Responsiveness, Assurance, and Empathy. These dimensions are instrumental in identifying gaps between patients' expectations and their perceptions of hospital performance. Widely adopted in healthcare research, the SERVQUAL method has demonstrated effectiveness in assessing service quality and pinpointing areas for improvement (Parasuraman et al., 1988; Zhu & He, 2023). By focusing on these dimensions, the study seeks to elucidate the relationship between Length of Stay (LOS) and patient satisfaction, and to explore strategies for optimizing hospital services to enhance overall patient experience.

Recent data indicate that the average Length of Stay (LOS) in type B hospitals across Indonesia is 5.3 days, accompanied by a patient satisfaction rate of 78.2%. However, in North Sumatra Province, several hospitals report a misalignment between inpatient efficiency and patients' perceptions of service quality. While international research has explored the connection between LOS and patient satisfaction, studies focusing specifically on government general hospitals in Indonesia—particularly those employing the SERVQUAL framework—remain limited. This study aims to address that gap by examining the relationship between LOS and perceived service quality across the five SERVQUAL dimensions. At Haji General Hospital Medan, a substantial proportion of patients are enrolled in the National Health Insurance (JKN) program, making care efficiency a central priority for hospital management.

Yet, this emphasis on efficiency often presents a dilemma regarding perceived service quality, especially among patients with longer hospital stays.

The hospital also faces financial pressures stemming from BPJS financing, which further complicate the delivery of high-quality care. Patient complaints and internal survey results suggest a potential link between Length of Stay (LOS) and satisfaction, particularly among individuals with extended hospitalizations. This study seeks to examine the relationship between LOS and patient satisfaction at Haji General Hospital Medan, with a focus on how service quality dimensions, Tangibles, Reliability, Responsiveness, Assurance, and Empathy, influence satisfaction outcomes. By pursuing these objectives, the research aims to uncover key drivers of patient satisfaction and propose practical strategies for enhancing healthcare service delivery. A deeper understanding of the LOS–satisfaction relationship will enable hospital management to make informed decisions regarding service quality, develop targeted improvement interventions, and optimize cost efficiency(Li & Zhou, 2023).

METHODS

This study employed a quantitative research method with an analytical observational approach using a cross-sectional design(Carreira, 2024). The research was conducted from June 18 to July 7, 2023, at Haji General Hospital Medan, operated by the North Sumatra Provincial Government. The hospital was chosen for its high volume of inpatient cases and its notable variation in reported patient satisfaction levels. The study population comprised 60 inpatients from the Jabal Rahma and Safa rooms, from which 35 participants were selected through purposive sampling. Inclusion criteria required participants to be conscious, willing to provide informed consent, and hospitalized for a minimum of three days to ensure adequate exposure to hospital services. Furthermore, only patients aged between 17 and 88 years were included, representing a suitable range of adult individuals capable of understanding and accurately responding to the research instruments.

The sample size was calculated using Slovin's formula with a 95% confidence level and a 10% margin of error, yielding a minimum of 35 participants. This ensured a sufficient sample to detect meaningful relationships. Primary data were collected through structured questionnaires and observation sheets. The questionnaire measured patient satisfaction based on the SERVQUAL model, which comprises five core dimensions: Tangibles, Reliability, Responsiveness, Assurance, and Empathy. Each dimension was assessed using a five-point Likert scale. The SERVQUAL method quantifies service quality gaps by calculating a satisfaction coefficient, derived from subtracting the expected service score from the perceived service score ($P - E$). A positive gap indicates satisfaction, whereas a negative gap suggests

dissatisfaction. Aggregate scores were categorized as either "satisfied" (score ≥ 0) or "not satisfied" (score < 0) (Cai et al., 2025).

The SERVQUAL questionnaire was adapted from validated instruments used in previous healthcare studies and tested for internal consistency in a pilot sample, yielding a Cronbach's alpha of 0.87, which indicates good reliability. Length of Stay (LOS) data were obtained from patient medical records and categorized into two groups: short LOS (< 5 days) and long LOS (≥ 5 days). To minimize bias, data collection was carried out by trained enumerators who adhered to standardized procedures throughout the research process. These enumerators received briefings on the study objectives, questionnaire content, and relevant ethical considerations, including confidentiality and informed consent. Their training ensured consistency in administering the questionnaire and recording responses, thereby strengthening the reliability and validity of the collected data. Ethical approval for this study was granted by the Ethics Committee of Haji General Hospital Medan (Approval No: 145/KEP-RSHP/VI/2023).

RESULTS

Table 1. Sociodemographic Characteristics of Respondents (n = 35)

Variable	Category	n	%
Gender	Male	17	48.6
	Female	18	51.4
Age Group (years)	18–32	6	17.1
	33–47	16	45.7
	48–62	10	28.6
	63–77	3	8.6
Education Level	Elementary School	10	28.6
	Junior High School	8	22.9
	Senior High School	10	28.6
	Bachelor's Degree (S1)	7	20.0
Occupation	Self-employed	10	28.5
	Housewife	8	22.9
	Civil Servant	6	17.1
	Unemployed	5	14.3
	Employee	4	11.4
	Teacher	1	2.9
	Farmer	1	2.9

Table 2. Clinical Characteristics of Respondents (n = 35)

Variable	Category	n	%
Primary Diagnosis	Abdominal Colic	8	22.9
	Typhoid Fever	4	11.4

Variable	Category	n	%
Disease Severity Level	Anemia + Diarrhea	4	11.4
	Chronic Kidney Disease	2	5.7
	Hypertension	2	5.7
	Other Diagnoses ¹	15	42.9
	Mild (No Complications)	17	48.6
	Moderate (Minor Complications)	14	40.0
	Severe (Major Complications)	4	11.4

Other diagnoses include eye tumor, chronic sinusitis, COPD+TB, electrolyte imbalance, CA mammae, and febrile conditions. *Severity classification follows INA-CBGs national standards for inpatient cases.*

Table 3. Length of Stay and Patient Satisfaction (n = 35)

Variable	Category	n	%
Length of Stay (LOS)	< 5 Days (Fast)	20	57.1%
	≥ 5 Days (Long)	15	42.9%
Patient Satisfaction	Quite Satisfied	14	40.0%
	Very Satisfied	21	60.0%

*LOS was dichotomized based on Ministry of Health efficiency benchmarks (standard LOS = 6–9 days). Patient satisfaction was categorized using a validated Likert-scale instrument.

Based on the results presented in Table 4, it was found that among the 15 patients with a length of stay (LOS) of ≥ 5 days, 66.7% reported being quite satisfied, while 33.3% indicated they were very satisfied. In contrast, among the 20 patients with an LOS of < 5 days, only 20.0% were quite satisfied, whereas a significantly higher proportion, 80.0%, reported being very satisfied. Overall, out of 35 respondents, 40.0% expressed being quite satisfied, and 60.0% expressed being very satisfied with the care received. The statistical analysis revealed a significant association between length of stay and patient satisfaction ($p = 0.005$), indicating that shorter hospitalization durations were generally associated with higher levels of satisfaction.

Table 4. Crosstabulation of LOS and Patient Satisfaction

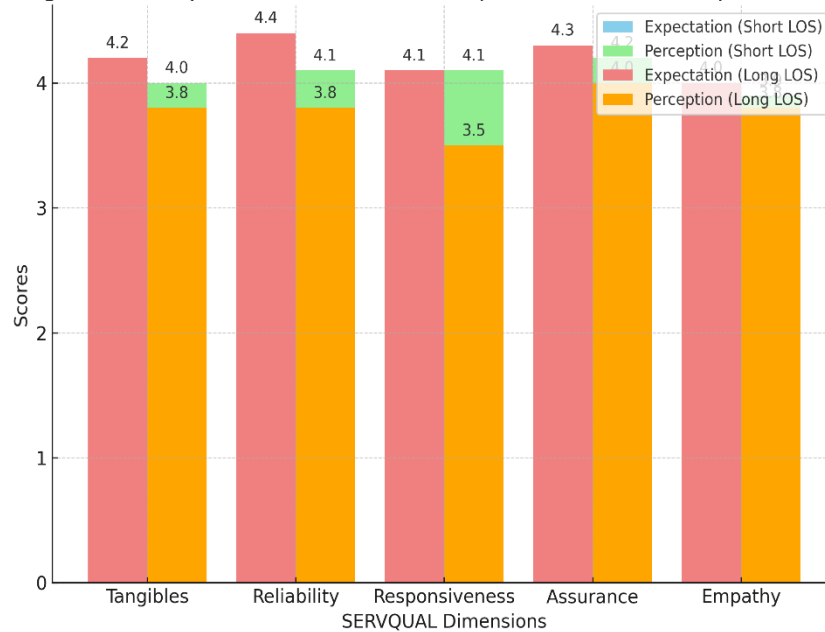
LOS Category	Quite Satisfied		Very Satisfied		Total		p-value
	n	%	n	%	n	%	
≥ 5 Days	10	66.7	5	33.3	15	42.9	0.005
< 5 Days	4	20.0	16	80.0	20	57.1	
Total	14	40.0	21	60.0	35	100	

Visualization of Results

To provide a clearer understanding of the data, we present a series of visualizations:

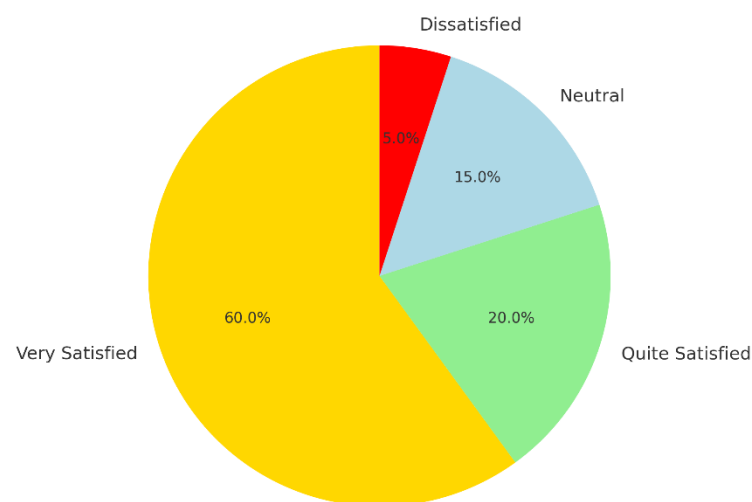
Bar Chart: Comparison of SERVQUAL

Figure 2: Comparison of SERVQUAL Expectations vs. Perception Score

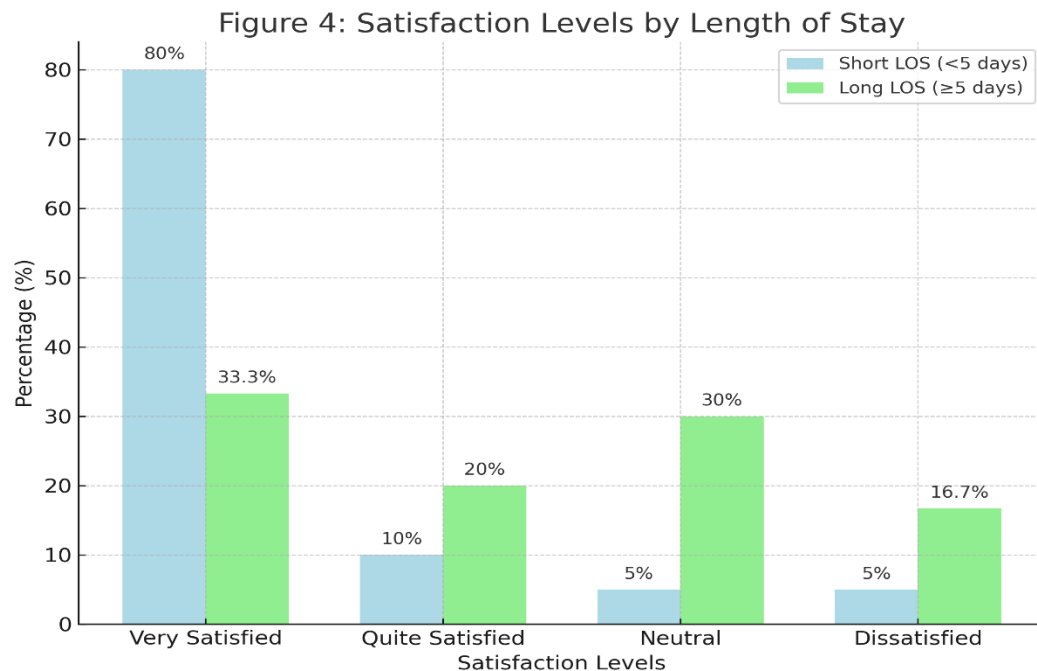


Pie Chart: Distribution of satisfaction categories

Figure 3: Patient Satisfaction Distribution



Cluster Bar Chart: Comparison of satisfaction levels for patients with short LOS



DISCUSSION

This study demonstrated a statistically significant relationship between Length of Stay (LOS) and patient satisfaction. Specifically, 80% of patients with hospital stays shorter than five days reported being "very satisfied," compared to only 33.3% among those hospitalized for more than five days. The chi-square test confirmed this association ($\chi^2 = 7.778$; $p = 0.005$), indicating that shorter LOS is positively correlated with higher satisfaction levels. These findings align with growing international evidence suggesting that efficient, well-coordinated inpatient care enhances not only clinical outcomes but also patients' perceptions of service quality.

Research by Alyasin & Liu (2025) reinforces this conclusion, showing that in a large Chinese tertiary hospital, patients hospitalized between three and ten days reported significantly lower satisfaction in key SERVQUAL dimensions—particularly tangibles, reliability, assurance, and empathy. This aligns with our findings, in which dissatisfaction among long-stay patients was frequently associated with delays, communication gaps, and inconsistent care delivery—issues commonly experienced during extended hospitalizations. In contrast, shorter stays were linked to quicker recovery and more streamlined care, likely enhancing patients' perceptions of responsiveness and provider competency (Martínez-González et al., 2021).

Supporting evidence from a U.S.-based study by Glickman & Boulding (2024) indicates that hospitals implementing LOS optimization programs not only reduced average stay durations but also enhanced overall patient experience scores, without compromising care

quality. Similar findings were reported by RAND Corporation (2022), which emphasized that delays in discharge, inconsistent communication, and unclear instructions significantly diminished patient satisfaction. These challenges are particularly pertinent for individuals with longer hospitalizations, who are more likely to encounter such inefficiencies.

Moreover, Chatterjee & Patel (2023) demonstrated through India's "Project Sarathi" initiative that redesigning hospital workflows and reducing wait times led to measurable improvements in patient satisfaction. Their study emphasized that excessive waiting, poor communication, and fragmented care processes tend to erode trust in healthcare services. Interestingly, while some studies, such as that of Alyasin & Liu (2025) reported a slight increase in satisfaction among patients hospitalized for more than 11 days, particularly in the dimensions of empathy and assurance, our study did not observe a similar rebound effect. This divergence may be attributed to our smaller sample size and narrower LOS range, which may not have captured the full variability in prolonged inpatient experiences.

These findings yield several practical implications. First, streamlining patient flow through improved discharge planning and the application of predictive analytics may help prevent unnecessarily prolonged hospital stays. Zhao et al., (2021) demonstrated that machine learning models can effectively forecast Length of Stay (LOS) and support more efficient care pathways. Second, hospitals must ensure consistent care quality throughout the patient journey – particularly by standardizing communication protocols and prioritizing compassionate interactions, which have been shown to positively influence satisfaction during longer admissions (Sharma & Singh, 2022; Wang et al., 2023). Third, implementing satisfaction monitoring tools such as PSQ-18 or the HCAHPS survey could enable providers to identify and address dissatisfaction prior to discharge (CMS, 2024; Mohan & Khan, 2021).

This study is not without limitations. The sample was restricted to a single hospital and included only 35 patients, which limits the generalizability of the findings. Furthermore, the cross-sectional design provides only a snapshot of patient perceptions at the point of discharge, without capturing potential changes in satisfaction over time (Saeed & Mehmood, 2022). To address these limitations, future research should employ a multicenter approach and incorporate longitudinal tracking to better understand the dynamic relationship between Length of Stay (LOS) and patient satisfaction across diverse populations and clinical contexts (Nguyen & Le, 2023; Santos & Almeida, 2019).

In conclusion, this study reinforces the view that Length of Stay (LOS) is not merely an administrative metric - it serves as meaningful indicator of perceived care quality. Hospitals that emphasize coordinated care, efficient patient flow, and strong provider-patient

communication are more likely to cultivate positive patient experiences. Optimizing LOS, while upholding high standards of clinical and interpersonal care represents a critical step toward delivering holistic, patient-centered healthcare.

CONCLUSION

Based on the findings of this study, it can be concluded that there is a significant relationship between the Length of Stay (LOS) and patient satisfaction among inpatients at Haji General Hospital Medan in 2023. Patients who experienced shorter hospital stays, specifically fewer than five days, reported significantly higher satisfaction levels compared to those with longer admissions. This suggests that LOS functions not only as a clinical performance metric but also a key determinant of how patients perceive the quality of care. Shorter LOS may indicate more efficient medical services, improved coordination among healthcare teams, and faster recovery, all of which contribute to a more positive patient experience. In contrast, longer hospitalizations, often linked to delays or complications, tend to reduce satisfaction, possibly due to increased exposure to hospital inefficiencies, communication challenges, or unmet expectations. These findings underscore the importance of optimizing inpatient care pathways, strengthening discharge planning, and maintaining consistent service quality throughout the hospital stay. Hospitals that aim to reduce unnecessary LOS while upholding high standards of clinical and interpersonal care are more likely to enhance patient satisfaction and overall healthcare outcomes.

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