



Received: 03-05-2026
Accepted: 13-06-2026

ISSN: 2583-049X

Inpatient Satisfaction and Service Quality Gap at Bireuen District General Hospital, Indonesia: A SERVQUAL Analysis

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Abstract

Patient satisfaction is one of the important indicators in evaluating the quality of hospital services. This study aimed to describe inpatient satisfaction and evaluate service quality gaps based on SERVQUAL dimensions among inpatients at Bireuen District General Hospital. This study employed a quantitative descriptive design with a cross-sectional approach. A total of 340 inpatients were selected using a consecutive sampling technique. Data collection was conducted using a SERVQUAL-based patient satisfaction questionnaire. Data analysis was performed using descriptive statistics and SERVQUAL gap analysis. The results showed Most respondents reported dissatisfaction with hospital services (67.1%), while only 32.9% were satisfied. All SERVQUAL dimensions had negative gap values, indicating that patients' expectations had not been fully met. The largest negative gap was found in the responsiveness dimension (-2.40), followed by empathy

(-1.09), tangible (-0.68), assurance (-0.51), and reliability (-0.28). These findings indicate that responsiveness and interpersonal aspects of healthcare services still need improvement. Although patient satisfaction has been widely studied in Indonesia, evidence regarding inpatient satisfaction and SERVQUAL dimensions in hospitals located in Aceh Province remains limited. Furthermore, few studies have explored the service quality gap between patient expectations and perceptions in regional referral hospitals. Therefore, this study was conducted to evaluate inpatient satisfaction and service quality gaps at Bireuen District General Hospital. This study concludes that inpatient services at Bireuen District General Hospital have not fully met patients' expectations. Hospitals are expected to improve service responsiveness, communication, and patient-centered care to enhance patient satisfaction.

Keywords: Patient Satisfaction, SERVQUAL, Inpatient Services, Hospital Service Quality

1. Introduction

Based on World Health Organization (WHO) Patient satisfaction is one of the important indicators in evaluating the quality of healthcare services in hospitals [1]. Patient satisfaction is also considered an indicator of hospital success in providing quality healthcare services that are oriented toward patient needs The WHO Global Patient Safety Action Plan also emphasizes that safe, effective, responsive, and patient-centered healthcare services are essential components in improving healthcare quality and patient experiences during hospitalization [2]. Patient satisfaction reflects the extent to which healthcare services provided are able to meet patients' expectations during treatment [3, 4]. High levels of patient satisfaction can improve treatment adherence, continuity of care, patient loyalty, and better healthcare outcomes [5]. Therefore, hospitals are required to continuously improve service quality in order to achieve patient-centered healthcare services.

Despite various quality improvement efforts, patient dissatisfaction remains a common problem in hospitals, particularly related to communication, service responsiveness, waiting time, and interpersonal interactions between healthcare providers and patients [6, 7]. The gap between patient expectations and the services received may result in negative perceptions of hospital service quality [8, 9]. The SERVQUAL model developed by Parasuraman is one of the most widely used methods to evaluate service quality through five dimensions: tangible, reliability, responsiveness, assurance, and empathy.

Several studies have shown that patient satisfaction is influenced not only by healthcare service quality but also by sociodemographic factors such as age, gender, education, occupation, income, marital status, insurance ownership, and distance from residence to healthcare facilities [10-12]. Differences in sociodemographic characteristics may influence patients'

expectations, perceptions, and experiences regarding the healthcare services received during hospitalization.

Although patient satisfaction has been widely studied in Indonesia, evidence regarding inpatient satisfaction and SERVQUAL dimensions in hospitals located in Aceh Province remains limited. Furthermore, few studies have explored the service quality gap between patient expectations and perceptions in regional referral hospitals. Therefore, this study was conducted to evaluate inpatient satisfaction and service quality gaps at Bireuen District General Hospital.

Bireuen District General Hospital is one of the referral hospitals in Aceh serving patients from diverse social and demographic backgrounds. The increasing number of patient visits and variations in patient characteristics may affect perceptions of service quality and patient satisfaction levels. However, studies regarding inpatient satisfaction based on SERVQUAL dimensions in this hospital are still limited. Therefore, this study aimed to analyze inpatient satisfaction at Bireuen District General Hospital based on SERVQUAL dimensions.

2. Objective

This study aimed to describe inpatient satisfaction and analyze service quality gaps using the SERVQUAL model at Bireuen District General Hospital, Indonesia.

3. Materials and Methods

3.1 Design

This study employed a quantitative descriptive design with a cross-sectional approach. The study was conducted to describe inpatient satisfaction and evaluate service quality gaps based on the SERVQUAL model at Bireuen District General Hospital, Aceh, Indonesia. A cross-sectional design was selected because data on patient satisfaction, expectations, and perceptions of healthcare services were collected at a single point in time. This design enabled the assessment of patients' evaluations of healthcare services received during hospitalization and the identification of service quality gaps across the five SERVQUAL dimensions: tangible, reliability, responsiveness, assurance, and empathy.

3.2 Sample Size and Sampling Technique

The study population comprised all inpatients admitted to Bireuen District General Hospital, Aceh, Indonesia, during the study period. The minimum sample size was determined using the Lemeshow formula for cross-sectional studies with a 95% confidence level and a 5% margin of error. To improve statistical precision and compensate for potential non-response, additional participants were recruited. Consequently, a total of 340 inpatients were included in the study.

A consecutive sampling technique was employed, whereby all eligible patients meeting the inclusion criteria were recruited sequentially until the required sample size was achieved. This sampling method is widely used in hospital-based studies because it allows the inclusion of all accessible participants during the data collection period while minimizing selection bias.

Inclusion criteria were patients aged 18 years or older, hospitalized for at least 48 hours, conscious and able to communicate effectively, capable of reading and understanding the questionnaire, and willing to participate

by providing written informed consent. Patients hospitalized for at least 48 hours were considered to have sufficient exposure to hospital services to adequately evaluate service quality and satisfaction.

Exclusion criteria included patients with impaired consciousness, cognitive impairment, hearing or communication difficulties, unstable clinical conditions, emergency cases, and patients who declined participation or failed to complete the questionnaire. Patients discharged before the completion of data collection were also excluded from the study.

3.3 The Instruments for Data Collection

Data were collected using a structured questionnaire consisting of two sections. The first section assessed respondents' sociodemographic characteristics, including age, gender, marital status, educational level, occupation, monthly income, health insurance status, ward class, and distance of residence from the hospital.

The second section measured patient satisfaction using the SERVQUAL instrument developed by Parasuraman and colleagues. The instrument evaluates service quality across five dimensions: tangibles, reliability, responsiveness, assurance, and empathy. A total of 22 items were used to assess patients' expectations and perceptions of healthcare services. Respondents rated each item using a five-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

Service quality was evaluated through SERVQUAL gap analysis, calculated as the difference between patients' perception scores and expectation scores (P-E). A negative gap score indicated that the perceived quality of services was lower than patient expectations, whereas a positive gap score indicated that services exceeded patient expectations. Prior to data collection, the questionnaire was tested for validity and reliability. The instrument demonstrated acceptable psychometric properties and was considered appropriate for measuring patient satisfaction and service quality in the hospital setting. The questionnaire demonstrated good internal consistency, with a Cronbach's alpha coefficient of 0.91, indicating excellent reliability.

3.4 Data Collection Process

Data collection was conducted from [November-Desember, 2026] at Bireuen District General Hospital, Aceh, Indonesia. Prior to data collection, permission was obtained from the hospital administration and ethical approval was granted by the appropriate Research Ethics Committee.

Eligible patients were identified with the assistance of ward nurses based on the predetermined inclusion and exclusion criteria. Patients who met the study criteria were approached individually by the researcher and provided with information regarding the study objectives, procedures, benefits, risks, confidentiality, and voluntary nature of participation.

Written informed consent was obtained from all participants before questionnaire administration. The questionnaires were distributed directly to respondents during hospitalization after they had received healthcare services for at least 48 hours. This duration was considered sufficient for patients to evaluate the quality of services received during their hospital stay.

Participants completed the questionnaire independently. However, respondents who experienced difficulties reading

or writing were assisted by the researcher through structured interviews while maintaining neutrality and avoiding any influence on participants' responses. The completed questionnaires were reviewed for completeness before being collected. Any incomplete responses were clarified immediately with the participants whenever possible.

All collected data were kept confidential and used solely for research purposes. Respondents were identified using unique codes to ensure anonymity throughout the data management and analysis process.

3.5 Data Analysis

Data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 27. Prior to analysis, all completed questionnaires were checked for completeness, coded, and entered into the database. Data cleaning was performed to identify and correct any inconsistencies or missing values.

Descriptive statistical analysis was conducted to summarize respondents' sociodemographic characteristics and patient satisfaction levels. Categorical variables were presented as frequencies and percentages, whereas continuous variables were summarized using means and standard deviations.

Patient satisfaction was assessed using the SERVQUAL model by comparing patients' expectation scores with their perception scores across the five dimensions of service quality: tangibles, reliability, responsiveness, assurance, and empathy. SERVQUAL gap scores were calculated using the following formula:

$$\text{Gap Score} = \text{Perception Score (P)} - \text{Expectation Score (E)}$$

Negative gap values indicated that the quality of services received did not meet patient expectations, whereas positive gap values indicated that service performance exceeded patient expectations. The magnitude of the gap score was used to identify dimensions requiring quality improvement.

In addition, Importance-Performance Analysis (IPA) was performed using a Cartesian diagram to classify the five SERVQUAL dimensions into four quadrants: main priority (Quadrant I), maintain performance (Quadrant II), low priority (Quadrant III), and possible overkill (Quadrant IV). This analysis was used to determine priority areas for service quality improvement at Bireuen District General Hospital.

The findings were presented in tables, charts, and narrative descriptions to facilitate interpretation of patient satisfaction and service quality performance.

3.6 Ethical Consideration

This research has received research permission from the Faculty of Nursing, Syiah Kuala University and obtained ethical approval from the Faculty of Nursing, Syiah Kuala University with Ethical Registration No. 112026081025.

4. Results

This study involved 340 inpatients at Bireuen District General Hospital, Aceh, Indonesia. The results are presented based on the research objectives, namely to describe the sociodemographic characteristics of the respondents, the distribution of patient satisfaction levels, and the service

quality gaps based on the SERVQUAL dimensions.

4.1 Respondent Characteristics

The sociodemographic characteristics of the respondents are presented in Table 1. Most respondents were aged 36–55 years (39.7%), male (60.3%), married (59.1%), had a bachelor's degree (27.1%), and worked as farmers/livestock breeders (27.6%). More than half of the respondents had incomes below the regional minimum wage (51.5%) and were covered by BPJS health insurance (81.8%). Most respondents were hospitalized in Class III wards (48.8%) and lived within 5–10 km of the hospital (39.4%).

Table 1: Distribution of respondent characteristics

No	Characteristics	Categories	f	%
1	Age	Early (18–35)	95	27.9
		Middle (36–55)	135	39.7
		Elderly (>56)	110	32.4
2	Gender	Male	205	60.3
		Female	135	39.7
3	Marital Status	Unmarried	66	19.4
		Married	201	59.1
		Divorced/Widowed	73	21.5
4	Education	Elementary School	30	8.8
		Junior High School	57	16.8
		Senior High School	89	26.2
		Diploma (D1–D3)	61	17.9
		Bachelor's Degree	92	27.1
		Master's/Doctoral Degree	11	3.2
5	Occupation	Unemployed	30	8.8
		Private Employee	35	10.3
		Civil Servant	80	23.5
		Fanner/Livestock Breeder	94	27.6
		Entrepreneur	51	15.0
		Other	50	14.7
6	Income	>Regional Minimum Wage	175	51.5
		<Regional Minimum Wage	165	48.5
7	Insurance	BPJS	278	81.8
		Private Insurance	44	12.9
		None	18	5.3
8	Ward Class	VIP	70	20.6
		Class I	69	20.3
		Class II	35	10.3
		Class III	166	48.8
9	Distance from Residence	1–5 km	117	34.4
		5–10 km	134	39.4
		>10 km	89	26.2

4.2 Distribution of Patient Satisfaction

The distribution of patient satisfaction is presented in Table 2. The findings showed that most respondents were dissatisfied with the healthcare services provided by the hospital, accounting for 228 respondents (67.1%), while 112 respondents (32.9%) reported being satisfied. These findings indicate that the services provided had not fully met patients' expectations.

Table 2: Distribution of Patient Satisfaction

No	Patient Satisfaction	f	%
1	Satisfaction	112	32,9
2	Dissatisfaction	228	67,1
	Total	340	100%

SERVQUAL Gap Analysis

The SERVQUAL gap analysis is presented in Table 3. The results showed negative gap values across all service quality dimensions, indicating that patients' perceptions of the services received were lower than their expectations. The largest negative gap was observed in the responsiveness dimension (-2.40), followed by empathy (-1.09), tangible (-0.68), assurance (-0.51), and reliability (-0.28). The overall SERVQUAL gap score was -4.96, suggesting that the quality of healthcare services provided by the hospital had not fully met patient expectations.

No	Dimensi SERVQUAL	Mean Harapan (E)	Mean Persepsi (P)	GAP (P-E)
1	Tangible	18.67	17.99	-0.68
2	Reliability	23.59	23.31	-0.28
3	Responsiveness	18.44	16.04	-2.40
4	Assurance	18.81	18.30	-0.51
5	Empathy	23.43	22.33	-1.09
6	Total	102.94	97.98	-4.96

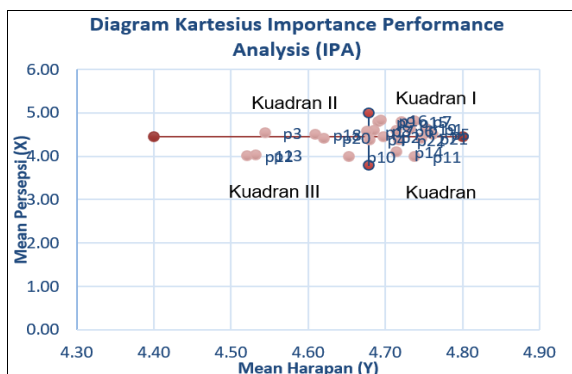
Importance-Performance Analysis (IPA)

The Importance-Performance Analysis (IPA) revealed that most service attributes were located in Quadrant I (Keep Up the Good Work), indicating that hospital performance was generally consistent with patients' expectations. These attributes mainly represented the dimensions of tangibles, reliability, assurance, and empathy, suggesting that these aspects of service quality should be maintained.

Attributes P10 (clarity of service information) and P13 (promptness of staff response) were positioned in Quadrant II (Concentrate Here), indicating high patient expectations but relatively lower performance. These findings highlight the responsiveness dimension as the primary area requiring improvement.

Meanwhile, attributes P12 (willingness to help patients) and P18 (individualized attention) were located in Quadrant III (Low Priority), reflecting relatively low levels of both expectation and performance. No attribute was clearly positioned in Quadrant IV (Possible Overkill).

Overall, the IPA findings indicate that hospital service quality was generally satisfactory. However, improvements in responsiveness, particularly regarding timely information and prompt staff responses, are needed to better meet patient expectations and enhance overall patient satisfaction.



5. Discussion

The findings of this study showed that most inpatients were dissatisfied with the healthcare services provided by Bireuen District General Hospital. More than two-thirds of respondents reported dissatisfaction, indicating that the services received had not fully met their expectations. Patient satisfaction is an important indicator of healthcare quality because it reflects patients' experiences and perceptions of the services received. Previous studies have similarly reported that service quality, communication, and responsiveness of healthcare providers are key factors influencing patient satisfaction in healthcare settings [8, 10].

The SERVQUAL gap analysis revealed negative gap scores across all five service quality dimensions, indicating that patients' expectations were higher than their perceptions of actual service performance. The largest negative gap was observed in the responsiveness dimension, suggesting that patients perceived delays in service delivery and insufficient responsiveness from healthcare providers. In contrast, the reliability dimension showed the smallest gap, indicating relatively better performance in providing consistent and dependable services. Similar findings have been reported in previous studies, which identified responsiveness as one of the most important determinants of patient satisfaction and healthcare quality [14-16].

The Importance-Performance Analysis (IPA) further demonstrated that most service attributes were located in Quadrant I, indicating that hospital performance was generally aligned with patient expectations. However, attributes related to the responsiveness dimension, particularly the clarity of service information and promptness of staff responses, were positioned in Quadrant II, suggesting that these aspects require immediate improvement. Timely communication and prompt responses are essential components of patient-centered care and have been consistently associated with higher levels of patient satisfaction [6, 17, 18].

These findings highlight the need for hospital management to prioritize improvements in service responsiveness while maintaining strengths in the dimensions of reliability, assurance, empathy, and tangibles. Strategies such as enhancing staff communication skills, improving response times, and providing clear information regarding healthcare services may contribute to improving patient satisfaction and overall service quality. Continuous monitoring of patient feedback is also necessary to ensure that healthcare services remain responsive to patient needs and expectations.

6. Conclusion

This study revealed that the majority of inpatients at Bireuen District General Hospital were dissatisfied with the healthcare services provided. SERVQUAL analysis demonstrated negative gap scores across all service quality dimensions, indicating that patients' expectations exceeded their perceptions of actual service performance. Among the five SERVQUAL dimensions, responsiveness showed the largest negative gap, suggesting that timely service delivery, prompt responses to patient needs, and effective communication remain major challenges in hospital service quality. Furthermore, the Importance-Performance Analysis (IPA) indicated that most service attributes were performing satisfactorily and should be maintained, while several attributes within the responsiveness dimension require

priority improvement.

7. Recommendations

Based on these findings, hospital management should prioritize efforts to improve the responsiveness dimension by enhancing the promptness of healthcare services, strengthening communication between healthcare providers and patients, and ensuring clear information regarding service procedures and schedules. Regular monitoring of patient satisfaction and periodic evaluation of service quality should be conducted to identify areas requiring improvement. In addition, continuous training programs focusing on communication skills, patient-centered care, and service responsiveness are recommended to improve patient experiences and overall healthcare service quality. Future studies are encouraged to examine the determinants of patient satisfaction using multivariate analyses to provide a more comprehensive understanding of factors influencing patient satisfaction in hospital settings.

8. Acknowledgement

The authors would like to express their gratitude to the Faculty of Nursing, Syiah Kuala University for academic assistance, as well as to all the teachers involved in this research and who have contributed.

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