Assessing Patient Satisfaction And Service Quality In Public Hospitals

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Abstract
Health is a fundamental human right and a global societal goal, with healthcare systems playing a critical role in preserving and enhancing overall well-being. Public healthcare institutions serve as primary providers, offering accessible and affordable medical care, especially to socio-economically disadvantaged populations. This study evaluates patient satisfaction and service quality across government hospitals in the Thrissur district of Kerala, India. Utilizing a multi-stage sampling technique, primary data were collected from 188 patients across four major government hospitals: General Hospital Thrissur, General Hospital Irinjalakuda, Mental Health Centre Aranattukara, and Government Medical College Mulagunnathukavu. Data collection relied on a structured questionnaire measuring responses on a 5-point Likert scale. Statistical instruments including descriptive statistics, non-parametric tests (One-Sample Kolmogorov-Smirnov test and Kruskal-Wallis H test), and Principal Component Factor Analysis were employed. The Kolmogorov-Smirnov test revealed non-normal data distribution across service quality and satisfaction metrics. Kruskal-Wallis analysis indicated no statistically significant demographic variations across age, educational background, or monthly income regarding overall service quality and satisfaction, except for specific parameters such as cost affordability, communication, waiting time, and patient-friendly services. Factor analysis reduced 13 operational variables into five distinct factors accounting for 52.49% of total variance: Patient-Centered Care (15.45%), Expertise of Doctors (10.41%), Physical Environment (10.19%), Staff Competence (10.08%), and Staff Behavior (7.98%). The findings emphasize the necessity for targeted administrative interventions focusing on workforce optimization, infrastructural improvement, waiting time reduction, and enhanced staff-patient communication.

Keywords: Service Quality, Patient Satisfaction, Public Healthcare, Factor Analysis, Government Hospitals

1. Introduction

Health constitutes a state of functional and metabolic efficiency, acting as a foundational pillar for socio-economic development. Healthcare services—encompassing preventive, diagnostic, curative, and rehabilitative interventions—aim to sustain and elevate public health standards. In developing economies like India, the public health sector plays a pivotal role by ensuring healthcare delivery to all strata of society, regardless of economic capacity. Public hospitals are fully state-managed and financed, providing subsidized or free medical interventions to accommodate large patient volumes.

Despite the growth of private healthcare entities offering specialized and prompt services, public healthcare facilities remain the main recourse for lower- and middle-income demographics. Ensuring high service quality in public hospitals is essential to fostering patient trust, enhancing healthcare outcomes, and driving economic productivity. Service quality in healthcare incorporates both technical aspects (accuracy of diagnosis, medical interventions) and functional aspects (manner of service delivery, interpersonal care, environmental hygiene). Evaluating public healthcare service quality from a patient-centric perspective provides key insights for administrative optimization and policy formulation.

Significance Of The Study

Modern healthcare consumers possess higher awareness and higher expectations regarding medical service standards. Patient satisfaction serves as a critical indicator of organizational effectiveness, patient compliance, loyalty, and positive word-of-mouth. A substantial proportion of patients utilizing government healthcare institutions belong to rural and lower socio-economic backgrounds, relying heavily on subsidized public health infrastructure. Lower service quality in public healthcare can lead to adverse outcomes, including prolonged illnesses, increased out-of-pocket expenditure, diminished public trust, and higher disease burdens. Identifying key determinants of service quality enables hospital administrators to strategically allocate resources, streamline patient flows, and enhance service delivery mechanisms.

Literature Review

- Service Quality Determinants and Patient Intentions: Aravind (2021) highlighted that accessibility, cost-free treatments, medication availability, tangibles, and empathy drive public hospital utilization in Tirunelveli district. Singh and Dixit (2022) established a direct positive relationship between perceived service quality and the behavioral intentions of inpatients across Indian public hospitals using structural equation modeling. Amin and Nasharuddin (2013) corroborated these findings, noting that admission, discharge, medical care, and social responsibility dimensions significantly dictate satisfaction and behavioral intention.

- Dimensions of Healthcare Service Quality**:** Ajoud and Jouili (2021) observed that tangibility and empathy strongly drive patient satisfaction in government hospitals, while responsiveness displays lower impact. Almomani et al. (2020) validated a five-dimensional structure of healthcare quality (PubHosQual) in public institutions. Similarly, Padma et al. (2010) proposed an eight-dimensional framework, emphasizing that patients often prioritize interpersonal aspects over technical excellence.
- Provider Behavior and Operational Factors: Rehin and Kushe (2016) identified communication and team spirit among medical staff as critical determinants of inpatient satisfaction in Kerala public hospitals. Gopichandran and Chetlapalli (2013) demonstrated that doctor competence, personal connection, and perceived comfort govern patient trust. Xie and Or (2017) highlighted that actual waiting times inversely correlate with patient satisfaction, emphasizing operational efficiency.
- Urban**-**Rural and Comparative Dynamics: Pramanik (2016) demonstrated disparities in quality perceptions between rural and urban patients, citing resource and infrastructure deficits in rural regions. Mahapatra (2013) and Dhanya and Maneesh (2017) evaluated service quality gaps between public and private sectors, concluding that public facilities must continuously upgrade functional quality to meet growing expectations.

Objectives Of The Study

- To analyze the service quality of government hospitals in Thrissur district.
- To assess the level of satisfaction among patients in government hospitals.
- To identify the underlying factors influencing service quality in government hospitals.

Hypotheses

- H01: Variables related to service quality parameters follow a normal distribution.
- H02: There is no significant difference in perceived service quality across age-wise patient categories.
- H03**:** Variables related to patient satisfaction parameters follow a normal distribution.
- H04: There is no significant difference in patient satisfaction across age-wise patient categories.

Research Methodology

This study adopts a descriptive and analytical research design utilizing both primary and secondary data. Multi-stage sampling was employed to select a total sample size of 188 respondents. Primary data were gathered through a structured questionnaire utilizing a rensis likert 5-point scale to evaluate service quality, patient satisfaction, and influencing factors. Secondary data were collected from academic articles, journals, and official websites. The data analysis was conducted using spss and ms excel, applying descriptive statistics, the one-sample kolmogorov-smirnov test for normality, the kruskal-wallis h test for non-parametric group comparisons, and principal component factor analysis to identify underlying dimensions of healthcare service quality.

Data Analysis And Interpretation

Demographic Profile

Table 1 Demographic Characteristics of Respondents

Demographic Variable	Category	Frequency	Percentage (%)
Age	Below 30	61	32.4
	30 – 40	42	22.3
	40 – 50	48	25.5
	Above 50	37	19.7
Gender	Male	85	45.2
	Female	103	54.8
Education	SSLC	36	19.1
	Higher Secondary	40	21.3
	Under Graduate	60	31.9
	Others	52	27.7
Residence	Rural	71	37.8
	Urban	64	34.0
	Semi-Urban	53	28.2
Monthly Income (₹)	Below 10,000	43	22.9
	10,000 – 30,000	49	26.1
	30,000 – 50,000	59	31.4
	Above 50,000	37	19.7

Source: Primary Data
From Table 1, it is clear that, the majority of respondents are aged below 30 (32.4%), female (54.8%), undergraduates (31.9%), rural residents (37.8%), and earn between ₹30,000–₹50,000 monthly (31.4%).

Service Quality Evaluation

Table 2: Service Quality Parameters in Government Hospitals

Parameter Statements	Mean Score	Std. Deviation	Perception Level
Less expensive than private hospitals	3.45	1.34	Favorable
Proper beds and consulting rooms available	2.79	1.30	Moderate
Proper medical check-up provided	2.87	1.35	Moderate
Proper communication between staff and patients	3.05	1.33	Favorable
Well-maintained infrastructural facilities	2.61	1.31	Moderate (Lowest)
Easily accessible location	3.06	1.33	Favorable
Reduced waiting time compared to private facilities	2.65	1.33	Moderate
Prompt service delivery	2.74	1.33	Moderate
Adequate security provisions	2.63	1.28	Moderate
Quality service at reasonable cost	2.83	1.35	Moderate

Source: Primary Data

From Table 2, it is clear that (Mean 3.45) and accessibility (Mean 3.06) received the highest favorability scores, whereas infrastructure (Mean 2.61) and security (Mean 2.63) scored lowest.

Hypothesis Testing
Normality Test
The One-Sample Kolmogorov-Smirnov Test for Service Quality and Patient Satisfaction parameters returned Asymptotic Significance values of $p = 0.000$ ($p < 0.05$) across all variables. Consequently, the null hypotheses (H01 and H03) were rejected, confirming non-normal data distribution and necessitating non-parametric analytical techniques (Kruskal-Wallis H Test).
Age-Wise Kruskal-Wallis H Test

Table 3: Kruskal-Wallis Analysis of Service Quality and Satisfaction by Age Group

Measured Dimension	Test Statistic ($\chi 2$)	Degrees of Freedom (df)	Asymp. Sig. (p-value)	Decision (p<0.05)
Service Quality Parameters				
Less Expensive	14.90	3	0.002	Reject H0
Infrastructure	5.15	3	0.161	Accept H0
Reasonable Cost	33.31	3	0.000	Reject H0
Communication	2.57	3	0.462	Accept H0
Waiting Time	1.03	3	0.794	Accept H0
Patient Satisfaction Parameters				
Doctor/Nurse Care	3.89	3	0.273	Accept H0
Discharge Process	0.515	3	0.916	Accept H0
Admission Process	4.96	3	0.175	Accept H0
Patient-Friendly Services	2.20	3	0.531	Accept H0

Source: Primary Data

From Table 3 ,it is clear that Service quality perceptions across age categories do not differ significantly for most variables, except cost affordability ($p = 0.002$) and reasonable service cost ($p = 0.000$). Patient satisfaction levels show no statistically significant difference across age groups ($p > 0.05$ across all indicators), accepting H04.

4 Factor Analysis Of Service Quality Determinants
Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy yielded **0.787**, and Bartlett's Test of Sphericity was statistically significant $X^2 = 147.089$, $df = 78$, $p = 0.000$), confirming data suitableness for Principal Component Analysis.

Table 4: Principal Component Factor Analysis Summary

Factor Name	Assigned Variables	Factor Loadings	Eigenvalue	Variance Explained (%)	Cumulative Variance (%)
Factor 1: Patient-Centered Care	Individual attention	0.536	2.00	15.45	15.45
	Patient privacy	0.450			
	Safety and comfort	0.676			
Factor 2: Doctor Expertise	Qualified doctors	0.671	1.35	10.41	25.86
	Timely treatment	0.674			
Factor 3: Physical Environment	Modern equipment	0.718	1.32	10.19	36.05
	Parking space	0.531			
	Clean environment	0.667			
Factor 4: Staff Competence	Willingness to help	0.676	1.09	10.08	46.13
	Staff knowledge	0.611			
Factor 5: Staff Behavior	Service-minded approach	0.849	1.03	7.98	52.49
	Assistance provided	0.704			
	Service information	0.706			

Source: Primary Data

Principal Component Analysis extracted five key factors driving service quality in government hospitals, cumulatively explaining 52.49% of total variance. Patient-Centered Care represents the primary determinant (15.45%), followed by Doctor Expertise (10.41%) and Physical Environment (10.19%).

Findings

- Demographics**:** Public hospital utilization in Thrissur is predominant among younger demographics (32.4% below 30 years), female patients (54.8%), and individuals belonging to rural settings (37.8%).
- Service Perceptions**:** Affordability (Mean = 3.45$) and general accessibility (Mean = 3.06) represent the main strengths of public healthcare. Conversely, infrastructural upkeep (Mea} = 2.61) and queue management/waiting times (Mean = 2.65) remain critical weaknesses.
- Satisfaction Determinants: Patients express higher satisfaction with admission procedures (Mean = 3.08) and consultation time allocation (Mean = 3.00), but report dissatisfaction regarding staff availability (Mean = 2.76$) and complex discharge processes (Mean = 2.95).
- Demographic Uniformity**:** Non-parametric evaluation indicates that patient satisfaction and service quality assessments are largely uniform across demographic groups, independent of age, income, and educational levels.
- Core Factors: Five structural dimensions dictate public hospital service quality: *Patient-Centered Care*, *Doctor Expertise*, *Physical Environment*, *Staff Competence*, and *Staff Behavior*, explaining 52.49% of system variance.

Suggestions

- Operational Optimization**:** Deploy digital appointment scheduling and queue management systems to reduce outpatient waiting times and streamline discharge procedures.
- Infrastructural Upgradation**:** Upgrade basic hospital facilities, expand parking infrastructure, modernize medical equipment, and implement continuous sanitation protocols to ensure environmental hygiene.
- Capacity Building**:** Conduct periodic soft-skills training and communication workshops for nursing and administrative personnel to enhance patient-staff interactions and responsiveness.
- Institutional Feedback Mechanisms**:** Implement structured patient feedback mechanisms to continuously track service bottlenecks and enforce accountability.

Conclusion

Government hospitals perform a vital public welfare function by delivering accessible healthcare to diverse populations. While public institutions in Thrissur excel in cost affordability and consultation accessibility, operational bottlenecks in physical infrastructure, waiting durations, and staffing ratios impede optimal patient satisfaction. By focusing on patient-centered care, upgrading physical environments, and upgrading staff responsiveness, public healthcare systems can significantly enhance service quality, build institutional trust, and fulfill national public health objectives.

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