An Empirical Study Of Service Quality Perceptions In Chhattisgarh's Health Sector: Public–Private Comparison Using Servqual Dimensions

Mrs. Shweta Shah[1], Dr. Ravish Kumar Soni[2]
Research Scholar, Assistant Professor,
Department of Commerce,
Hemchand Yadav Vishwavidyalaya, Durg, India
Department of Commerce, Kalyan Post Graduate College, Bhilai, India.

Abstract

This study assesses patient perceptions of service quality in selected public and private hospitals in Raipur using the SERVQUAL model and examines demographic variations across key service quality dimensions. Primary data were collected from 150 OPD patients from two public and two private hospitals. Service quality was measured across Tangibles, Reliability, Responsiveness, Assurance and Empathy. Data were analysed using descriptive statistics, independent t-tests, one-way ANOVA and Cronbach's Alpha.

Results show that private hospitals scored significantly higher across all SERVQUAL dimensions than public hospitals. Gender differences were not significant, whereas residence (urban vs. rural) influenced all dimensions. Age, education and income also had significant effects on selected service quality domains. The SERVQUAL instrument demonstrated strong internal reliability. Overall, the findings indicate that public hospitals must improve responsiveness, patient communication and infrastructure to reduce service quality gaps and enhance patient satisfaction.

Key words: SERVQUAL, Service Quality, Patient Perception, Public and Private Hospitals, Raipur, Healthcare Quality, Demographic Factors, Patient Satisfaction

Introduction

Healthcare service quality has become a critical focus in modern health management as patient expectations continue to rise (Donabedian, 2003). In India, particularly in developing states like Chhattisgarh, delivering efficient and equitable healthcare remains challenging due to socio-economic disparities and infrastructure limitations (NITI Aayog, 2021). The state's healthcare landscape includes both public hospitals, which provide essential and affordable services, and private hospitals, which typically offer advanced facilities and more personalized care (Patel & Singh, 2018). This dual structure makes it important to examine how patients perceive service quality across sectors.

Public hospitals mainly cater to rural and low-income populations but often face issues such as overcrowding, inadequate resources, and staff shortages (MoHFW, 2020). Private hospitals usually provide better amenities, shorter waiting times, and higher responsiveness, attracting patients seeking superior service (Gupta & Rokade, 2019). Identifying how these operational differences influence perceived service quality is essential for improving healthcare delivery.

The SERVQUAL model by Parasuraman, Zeithaml, and Berry (1988) offers a robust framework for assessing service quality through dimensions such as Tangibles, Reliability, Responsiveness, Assurance, and Empathy. Despite its extensive use in healthcare research, limited empirical studies exist for Chhattisgarh, highlighting a notable research gap (Sharma & Shukla, 2020). Understanding patient perceptions in this context can reveal key strengths and areas needing improvement.

Further, demographic factors such as age, gender, education, income, and residence significantly shape patient expectations and satisfaction (Andaleeb, 2001). Examining these variations supports the development of patient-centric strategies and informs policy decisions. This study aims to evaluate service quality perceptions in public and private hospitals in Chhattisgarh using the SERVQUAL framework to provide actionable insights for strengthening healthcare services.

Literature Review

Healthcare quality is widely viewed as a multidimensional concept essential to effective health systems. Donabedian's structure–process–outcome framework (1980, 1988) and Busse (2017) highlight that both technical performance and interpersonal care shape patient experiences. The SERVQUAL model by Parasuraman, Zeithaml and Berry (1985, 1988)—with its five dimensions of Tangibles, Reliability, Responsiveness, Assurance and Empathy—remains one of the most widely applied tools for evaluating healthcare service quality.

Empirical evidence supports its relevance in healthcare. In India, Chakraborty and Dube (2011) and Duggirala et al. (2013) show that service quality dimensions strongly influence patient evaluations, particularly in private hospitals. Akter et al. (2018), through a systematic review, confirm that service quality is a significant predictor of patient satisfaction across diverse settings.

Comparative studies indicate that private hospitals often outperform public facilities. Basu et al. (2012) report higher perceived quality in private systems across low- and middle-income countries, while studies in Jordan and Pakistan (Al-Rawashdeh et al., 2019; Qureshi et al., 2017) similarly find stronger performance on reliability and responsiveness. Sohail (2003) observes parallel trends in Malaysian private hospitals. Demographic variables also influence perceptions and expectations of service quality (Akter et al., 2018; Qureshi et al., 2017).

Despite extensive global evidence, limited research exists in regions like Chhattisgarh, where infrastructural and socio-economic variations may shape patient perceptions. This gap underscores the need for localized assessments comparing public and private hospitals and examining demographic differences in service quality.

Objectives of the Study

1. To compare patient satisfaction levels between public and private hospitals based on OPD experiences.
2. To evaluate the quality of healthcare services provided in the selected public (Dr. Bhimrao Ambedkar Memorial Hospital, AIIMS) and private (Shree Narayana Hospital, Shree Balaji Super Speciality Hospital) hospitals.
3. To analyse patient perceptions regarding accessibility, cleanliness, staff behaviour and waiting time in OPD services.

Research Methodology

This study adopts a descriptive and comparative research design to assess patients' perceptions of service quality in public and private hospitals in Chhattisgarh using the SERVQUAL model. The five dimensions—Tangibles, Reliability, Responsiveness, Assurance, and Empathy—form the basis of evaluation.

Data were collected from four major hospitals in Raipur: two public (Dr. Bhimrao Ambedkar Memorial Hospital and AIIMS Raipur) and two private (Shri Narayana Hospital and Shree Balaji Super Speciality Hospital). These institutions were selected due to high patient flow and accessibility.

The sample consists of 150 OPD patients aged 18 and above, selected through convenience sampling, with nearly equal representation from public and private hospitals. A structured questionnaire based on the SERVQUAL scale was used, covering demographic details and statements across the five dimensions. Responses were captured on a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

Data analysis included descriptive statistics (mean, standard deviation), reliability testing using Cronbach's alpha, independent sample t-tests for comparing public and private hospitals, and one-way ANOVA to examine differences across demographic groups. Statistical analysis was performed using SPSS/MS Excel. Ethical considerations included informed consent, voluntary participation, anonymity, and use of data strictly for academic purposes.

Results and Discussion

Descriptive Statistics and Reliability

Descriptive statistics (mean, standard deviation) were calculated for all SERVQUAL dimensions to evaluate overall perceived service quality. Reliability of the scales was assessed using Cronbach's Alpha.

Table 4.1: Descriptive Statistics and Reliability of SERVQUAL Domains

Domain	Mean	SD	Cronbach's Alpha
Tangibles	3.51	1.20	0.921
Reliability	3.40	1.17	0.926
Responsiveness	3.25	1.30	0.880
Assurance	3.48	1.09	0.908
Empathy	3.34	1.33	0.890

Interpretation:

- Patients rated overall service quality as **moderate**, with Tangibles slightly higher and Responsiveness slightly lower.
- Cronbach's Alpha values (0.88–0.926) indicate **high internal consistency**, confirming that the scale is reliable.
- Higher variability (SDs) suggests differences in experiences, likely influenced by hospital type and demographic factors.

Comparison by Hospital Type

Independent samples t-tests compared perceived service quality between public and private hospitals.

Table 4.2: Public vs. Private Hospitals (Mean Scores and t-test Results)

Domain	Public Mean	Private Mean	t-value	p-value	Cohen's d
Tangibles	3.25	3.78	−3.42	0.001	0.62
Reliability	3.18	3.65	−3.10	0.002	0.57
Responsiveness	3.05	3.50	−2.95	0.004	0.55
Assurance	3.28	3.70	−3.25	0.002	0.60
Empathy	3.12	3.58	−3.05	0.003	0.56

Interpretation:

- **Private hospitals scored significantly higher** across all SERVQUAL dimensions ($p < 0.01$).
- Moderate effect sizes indicate **consistent differences** in perceived service quality.
- Public hospitals lag in infrastructure, responsiveness, and patient-centered care.

Gender and Residence Differences

Gender: Independent t-tests indicated **no significant differences** between male and female respondents across any SERVQUAL domain ($p > 0.40$).

Residence: Urban respondents reported significantly higher scores across all dimensions compared to rural respondents ($p < 0.02$), with moderate effect sizes (Cohen's $d = 0.45$–0.52), indicating that place of residence meaningfully influences perceptions of service quality.

Demographic Effects: Age, Education, and Income

One-way ANOVA assessed differences across age, education, and income groups for each SERVQUAL dimension.

Table 4.3: ANOVA Results (Significant Effects)

Domain	Factor	F-value	p-value	η^2 (Effect Size)
Tangibles	Education	3.45	0.012	0.09
Reliability	Education	2.90	0.025	0.07
Responsiveness	Age	4.10	0.009	0.11
Assurance	Income	3.85	0.015	0.10
Empathy	Age	2.75	0.041	0.06

Interpretation:
- Education significantly influenced Tangibles and Reliability.
- Age affected Responsiveness and Empathy.
- Income influenced Assurance.
- Effect sizes were small to moderate, indicating selective rather than uniform demographic effects.

Key Findings

- **Overall service quality** is moderate across all SERVQUAL dimensions.
- **Private hospitals outperform public hospitals** consistently across all dimensions.
- **Gender does not significantly affect** perceived service quality.
- **Urban patients perceive higher service quality** than rural patients across all dimensions.
- **Demographic factors (age, education, income)** selectively influence specific dimensions.
- **SERVQUAL scales are reliable**, with Cronbach's Alpha ranging from 0.88 to 0.926.

Suggestions

- **Public hospitals should improve responsiveness**, including reducing waiting times and enhancing staff availability.
- **Improve infrastructure and cleanliness** to raise Tangibles scores.
- **Train staff in communication and empathy** to enhance Assurance and Empathy dimensions.
- **Tailor services for demographic needs**, e.g., age-friendly and rural-accessible facilities.
- **Implement patient feedback mechanisms** to monitor and continuously improve service quality.
- **Adopt digital solutions** like online appointments, SMS updates, and teleconsultations to improve responsiveness.
- **Encourage public–private partnerships** to share best practices and improve public hospital quality.

Conclusion

The study concludes that patient satisfaction and service quality in Raipur's healthcare sector differ significantly between public and private hospitals. Private hospitals consistently report higher satisfaction in OPD services, performing better across dimensions such as responsiveness, reliability, assurance, and empathy. Public hospitals, in contrast, lag particularly in waiting times, staff behaviour, accessibility, and cleanliness, which are critical to patient experiences. Demographic factors—including age, education, income, and place of residence—selectively influence service quality perceptions, while gender has no significant effect. Overall, the findings underscore the need for public healthcare facilities to enhance infrastructure, reduce waiting times, improve staff–patient interactions, and strengthen cleanliness and accessibility, in order to bridge service quality gaps and ensure equitable healthcare delivery.

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