

Comparative Analysis of Patients Satisfaction Regarding Private Vs Public Health Care Centers

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ABSTRACT

Background: Patient satisfaction is a critical indicator of healthcare quality and plays an important role in evaluating healthcare system performance and guiding policy decisions. Differences in resources, infrastructure, and service delivery between public and private hospitals may influence patients' perceptions of care. Understanding these differences is particularly important in developing countries where healthcare systems face structural and financial constraints. **Objective:** To compare patient satisfaction between public and private hospitals across three domains—paramedic staff performance, hospital environment, and doctor–patient relationship—in selected cities of Pakistan. **Methods:** A comparative cross-sectional study was conducted among 393 patients recruited from public and private hospitals in Islamabad, Mardan, Swabi, and Dera Ismail Khan using a convenience sampling technique. Data were collected through a structured questionnaire assessing three domains of patient satisfaction using a five-point Likert scale. Descriptive statistics were calculated, and inferential analyses including independent-sample t-tests and one-way ANOVA were performed using SPSS version 27 to examine differences by hospital type, gender, age group, and city. **Results:** Overall satisfaction scores were higher in private hospitals across all domains. The highest mean satisfaction was observed for hospital environment ($M = 3.64 \pm 0.65$), followed by doctor–patient relationship ($M = 3.57 \pm 0.54$) and paramedic staff ($M = 3.56 \pm 0.57$). Independent t-tests showed significant differences between private and public hospitals for all domains ($p < 0.0001$). Gender differences were significant for hospital environment ($p = 0.046$) and doctor–patient relationship ($p = 0.042$), while age showed no significant association with satisfaction ($p > 0.05$). Significant variations were observed across cities ($p < 0.05$). **Conclusion:** Patients receiving care in private hospitals reported higher satisfaction levels than those treated in public hospitals, particularly in relation to hospital environment and doctor–patient communication. Improving infrastructure, staff responsiveness, and communication practices in public hospitals may enhance patient-centered healthcare delivery. **Keywords:** Patient satisfaction, healthcare quality, public hospitals, private hospitals, doctor–patient relationship, Pakistan.

“Cite this Article” | Received: 12 September 2025; Accepted: 13 February 2026; Published: 11 March 2026.

Author Contributions: Concept: SA; Design: SA, AW; Data Collection: SA, AW; Analysis: SA, AW, OK; Drafting: SA, AW, OK. **Ethical Approval:** Ethical Approval was obtained by respective Institute. **Informed Consent:** Written informed consent was obtained from all participants; **Conflict of Interest:** The authors declare no conflict of interest; **Funding:** No external funding; **Data Availability:** Available from the corresponding author on reasonable request; **Acknowledgments:** N/A.

INTRODUCTION

Patient satisfaction has emerged as a critical indicator of healthcare quality and system performance, reflecting the extent to which healthcare services meet or exceed patients' expectations. In contemporary healthcare systems, patient-centered care has become a central principle guiding service delivery, and patient satisfaction is increasingly used as a proxy measure for evaluating the effectiveness, responsiveness, and quality of healthcare institutions. Health policymakers and healthcare administrators rely on patient satisfaction assessments to guide decisions related to resource allocation, quality improvement strategies, and healthcare planning. When patients perceive that healthcare services align with their expectations in terms of communication, environment, accessibility, and professional competence, they are more likely to adhere to treatment recommendations, maintain trust in healthcare providers, and experience improved health outcomes. Conversely, dissatisfaction may indicate structural or organizational deficiencies within healthcare institutions and can undermine public confidence in health systems (1).

Differences in healthcare delivery between developed and developing countries further highlight the importance of examining patient satisfaction in diverse health system contexts. In many developing nations, healthcare services operate under constraints related to limited resources, uneven distribution of healthcare personnel, infrastructural deficiencies, and financial barriers to access. These structural challenges often create disparities in the quality of care delivered across different healthcare sectors. Public healthcare institutions generally aim to provide affordable and accessible services to large populations but may struggle with overcrowding, longer waiting times, limited equipment, and workforce shortages. In contrast, private healthcare facilities are often perceived as offering more personalized services, shorter waiting times, and better infrastructure, although these benefits are frequently associated with higher costs. Consequently, patient experiences may differ significantly between public and private healthcare settings, making comparative evaluation of patient satisfaction an important area of health services research (2).

The global emphasis on equitable healthcare access was reinforced during the Alma-Ata Declaration of 1978, which introduced the concept of “Health for All” and emphasized the importance of accessible, community-based healthcare systems. Since then, health systems worldwide have attempted to improve service quality while maintaining affordability and accessibility. However, disparities between public and private healthcare sectors remain evident in many developing countries, including Pakistan. These disparities are not limited to infrastructure and resource availability but also extend to provider–patient interactions, organizational efficiency, and the overall hospital environment. Evaluating patient satisfaction across these domains provides valuable insight into how healthcare systems perform from the patient’s perspective and can help identify areas that require improvement (3).

Patient satisfaction is widely conceptualized as a multidimensional construct that encompasses structural, interpersonal, and experiential aspects of healthcare delivery. According to Donabedian’s framework for healthcare quality assessment, patient satisfaction reflects the outcomes of healthcare services and is influenced by structural components such as facilities and equipment, process components such as provider–patient communication and staff responsiveness, and patient-related expectations and perceptions. Patients are more likely to report satisfaction when healthcare services meet or exceed their expectations in terms of professionalism, communication, empathy, and environmental conditions. Conversely, dissatisfaction may arise when there is a perceived gap between expected and received care. Previous research has consistently identified several determinants of patient satisfaction, including hospital infrastructure, availability of medical equipment, staff competence, communication behavior, interpersonal skills, waiting times, and institutional reputation (4–9).

Over time, the traditional model of the doctor–patient relationship has also undergone substantial transformation. Contemporary healthcare systems increasingly emphasize shared decision-making, patient autonomy, and open communication between patients and healthcare providers. This shift toward patient-centered care highlights the importance of interpersonal aspects of healthcare delivery, such as empathy, attentiveness, and the ability of healthcare providers to explain treatment options clearly. Effective doctor–patient relationships not only enhance patient satisfaction but also contribute to improved treatment adherence and clinical outcomes. Consequently, many health services researchers consider the quality of interaction between healthcare providers and patients to be a central determinant of overall satisfaction with healthcare services (10–13).

A growing body of literature has attempted to compare patient satisfaction across public and private healthcare sectors. Several studies have reported higher levels of patient satisfaction in private healthcare facilities compared with public hospitals. For example, research conducted in Peshawar demonstrated that patients receiving treatment in private hospitals reported significantly higher satisfaction levels than those treated in public hospitals. The differences were attributed primarily to better communication, more attentive staff behavior, and improved hospital environments in private healthcare settings (14). Similarly, comparative studies conducted in other healthcare systems have also

indicated that private hospitals tend to achieve higher patient satisfaction scores due to perceived advantages in service responsiveness, staff courtesy, and organizational efficiency (15).

Evidence from South Asian healthcare settings further supports these observations. Studies comparing patient experiences in public and private hospitals have found that although private healthcare facilities generally receive higher satisfaction ratings, they also tend to impose higher financial burdens on patients. For instance, research conducted in Bangladesh demonstrated that while patient satisfaction levels were significantly higher in private hospitals, the cost of treatment was also considerably greater compared with public institutions. After adjusting for demographic and socioeconomic factors, receiving care in private hospitals remained independently associated with higher patient satisfaction (16). Similar findings have been reported in Pakistan, where patients treated in private hospitals frequently report greater satisfaction with service quality, communication with healthcare providers, and hospital facilities compared with those treated in public hospitals (17).

Despite the growing body of literature on patient satisfaction, several gaps remain. Most existing studies have been conducted in limited geographic areas or focused primarily on overall satisfaction rather than examining specific domains of healthcare service delivery. Furthermore, comparative evidence from multiple cities within Pakistan remains relatively limited, particularly studies that simultaneously evaluate key determinants of satisfaction such as paramedic staff behavior, hospital environment, and doctor–patient relationships. These domains represent critical components of healthcare quality and directly influence patients' perceptions of care. Understanding how patients evaluate these aspects across different healthcare sectors can provide important insights for healthcare policymakers and administrators seeking to improve service delivery and patient-centered care.

In Pakistan, where both public and private healthcare sectors play significant roles in service provision, comparative analysis of patient satisfaction can help identify strengths and weaknesses within each sector. Public hospitals serve a large proportion of the population and are essential for ensuring equitable healthcare access, but they often face challenges related to high patient load and resource constraints. Private hospitals, while generally perceived to offer higher service quality, may not be accessible to all patients due to financial limitations. Assessing patient satisfaction across these sectors therefore provides an opportunity to identify areas where public healthcare institutions can improve service delivery while also highlighting aspects of private healthcare that contribute to positive patient experiences.

Given these considerations, the present study aims to conduct a comparative analysis of patient satisfaction between public and private hospitals in four cities of Pakistan—Islamabad, Mardan, Swabi, and Dera Ismail Khan. The study focuses on three key domains that are widely recognized as determinants of patient satisfaction: paramedic staff performance, hospital environment, and doctor–patient relationship. By evaluating patient perceptions across these domains, the study seeks to generate empirical evidence that can inform healthcare quality improvement strategies and guide policymakers in enhancing patient-centered healthcare services. Specifically, this study addresses the following research question: whether patients receiving care in private hospitals report higher levels of satisfaction than those receiving care in public hospitals across the domains of paramedic staff interaction, hospital environment, and doctor–patient relationship.

METHODS

This comparative cross-sectional observational study was conducted to evaluate patient satisfaction in public and private hospitals across selected urban centers in Pakistan. The design was chosen because cross-sectional surveys are widely used in health services research to capture patient perceptions of care quality at a specific point in time and to allow comparison between healthcare delivery sectors. The study was carried out in four cities—Islamabad, Mardan, Swabi, and Dera Ismail Khan—representing different urban healthcare environments within the country. Data collection was performed over a two-

month period following approval of the research protocol. Hospitals from both public and private sectors within these cities served as the primary points of patient interaction for recruitment and data collection.

Participants were adult patients who had received medical care in either public or private hospitals within the selected cities and who were able to provide informed responses regarding their experiences with healthcare services. Eligibility criteria included individuals aged 16 years and above who had recent exposure to hospital services and were capable of understanding and responding to the study questionnaire. Patients who had not received treatment in hospital settings within the defined locations, individuals with cognitive or communication limitations preventing questionnaire completion, and those unwilling to participate were excluded. Participants were selected using a non-probability convenience sampling technique, a common approach in healthcare satisfaction surveys when sampling frames are not readily available. Eligible patients were approached in outpatient waiting areas and hospital premises by trained data collectors, informed about the purpose of the study, and invited to participate voluntarily.

The recruitment process followed standardized procedures to ensure consistency across sites. Potential participants received a brief explanation regarding the study objectives, confidentiality of responses, and voluntary nature of participation. Written informed consent was obtained from all participants prior to questionnaire administration. Respondents completed the questionnaire independently; however, assistance was provided when required to ensure comprehension of questions without influencing responses. All completed questionnaires were checked for completeness at the point of collection to minimize missing data.

Data were collected using a structured self-administered questionnaire developed following a comprehensive review of prior literature on patient satisfaction and healthcare quality assessment frameworks. The instrument was designed to capture multiple dimensions of patient experience and consisted of three primary domains: paramedic staff performance, hospital environment, and doctor–patient relationship. These domains reflect widely recognized determinants of patient satisfaction described in health services research and quality-of-care models (18–20). The paramedic staff domain included seven items assessing attributes such as friendliness, responsiveness to patient needs, communication skills, empathy, and professional conduct of hospital staff. The hospital environment domain comprised six items evaluating aspects including cleanliness, waiting area comfort, accessibility, availability of equipment, and overall amenities. The doctor–patient relationship domain consisted of nine items addressing communication quality, empathy, time spent with patients, explanation of treatment options, follow-up availability, patient involvement in decision-making, and emotional support. Responses were measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). For analytical purposes, higher scores indicated stronger agreement that private hospitals performed better than public hospitals on the specified dimension of care.

Demographic and contextual variables were also collected to characterize the study population and to enable subgroup analyses. These included age, gender, city of residence, and the type of hospital in which the participant received treatment. Age was categorized into predefined ranges to facilitate comparison across different life stages. Hospital type was operationalized as a binary variable representing either public or private healthcare institutions. Composite satisfaction scores were calculated by averaging responses across items within each domain, allowing domain-level comparisons of perceived healthcare quality.

Several methodological steps were implemented to minimize bias and improve the internal validity of the study. Standardized instructions were provided to all participants to reduce interviewer influence and information bias. Questionnaires were designed with clear, concise wording to minimize misinterpretation of items. Data collectors received prior training to ensure uniform recruitment procedures and consistent explanation of study objectives. Selection bias was partially addressed by recruiting participants from multiple hospitals across four geographically distinct cities, thereby

increasing variability in patient experiences. Potential confounding effects of demographic factors were considered during analysis through subgroup comparisons based on gender, age categories, and city of residence.

The sample size for the study was determined using the Raosoft sample size calculator with a confidence level of 95% and an acceptable margin of error commonly applied in healthcare survey research. The minimum required sample size was estimated to be 384 participants. To enhance statistical power and account for potential incomplete responses, data were ultimately collected from 393 respondents. This sample size was considered adequate to detect meaningful differences in satisfaction scores between groups and across study domains.

Data were coded and entered into Statistical Package for the Social Sciences (SPSS) version 27 for analysis. Descriptive statistics were computed to summarize demographic characteristics and questionnaire responses. Continuous variables were expressed as means and standard deviations, while categorical variables were presented as frequencies and percentages. Composite mean scores were calculated for each satisfaction domain to represent overall patient perceptions. Inferential statistical tests were applied to evaluate differences between groups. Independent-sample t-tests were used to compare mean satisfaction scores between two-category variables, specifically gender and type of hospital. One-way analysis of variance (ANOVA) was employed to examine differences in satisfaction across multiple categories, including age groups and cities. A p-value of less than 0.05 was considered statistically significant. Prior to conducting parametric analyses, assumptions of normality and homogeneity of variance were assessed using standard diagnostic procedures. Cases with incomplete responses were excluded from specific analyses involving missing variables to ensure accuracy of statistical estimates.

Ethical considerations were addressed in accordance with internationally accepted research standards. The study protocol received approval from the relevant institutional academic authority prior to data collection. Participation was voluntary, and respondents were informed that they could withdraw from the study at any time without consequence. All responses were anonymized to protect participant confidentiality, and no identifying personal information was collected. Data were stored securely and used exclusively for research purposes. To ensure reproducibility and data integrity, standardized data entry procedures were followed, double-checking of coded variables was performed, and statistical analysis scripts were documented to allow verification and replication of analytical procedures by independent researchers.

RESULTS

The study included 393 respondents, whose demographic characteristics are summarized in Table 1. Among the participants, 202 (51.4%) were male and 191 (48.6%) were female, indicating a relatively balanced gender distribution. The largest proportion of respondents fell within the 26–35 year age group ($n = 131$, 33.3%), followed by 16–25 years ($n = 103$, 26.2%), 36–45 years ($n = 78$, 19.8%), 46–55 years ($n = 51$, 13.0%), and 56–65 years ($n = 30$, 7.6%). With respect to geographic distribution, participants were recruited from four cities: Mardan contributed the largest proportion ($n = 108$, 27.5%), followed by Islamabad ($n = 102$, 26.0%), Swabi ($n = 95$, 24.2%), and Dera Ismail Khan ($n = 88$, 22.4%). In terms of treatment setting, 201 respondents (51.1%) reported receiving care in public hospitals, while 192 respondents (48.9%) had received treatment in private hospitals, providing nearly equal representation from both healthcare sectors.

Overall patient satisfaction was evaluated across three domains: paramedic staff performance, hospital environment, and doctor–patient relationship. As presented in Table 2, the mean satisfaction scores across all domains exceeded the predefined neutral cutoff value of 3.0 on the five-point Likert scale, indicating general agreement that private hospitals provided better services compared with public hospitals. Among the domains, hospital environment recorded the highest mean score ($M = 3.64$, $SD =$

0.65; 95% CI: 3.57–3.71). This was followed by doctor–patient relationship ($M = 3.57$, $SD = 0.54$; 95% CI: 3.51–3.63) and paramedic staff satisfaction ($M = 3.56$, $SD = 0.57$; 95% CI: 3.50–3.62). The slightly higher standard deviation observed for the hospital environment domain indicates relatively greater variability in patient responses regarding environmental and infrastructural conditions.

Gender-based comparisons of satisfaction scores are shown in Table 3. For the paramedic staff domain, male participants reported a mean score of 3.52 ± 0.58 , whereas female participants reported 3.59 ± 0.56 , yielding a mean difference of -0.064 (95% CI: -0.176 to 0.048). This difference was not statistically significant ($t = -1.12$, $p = 0.262$), indicating similar perceptions between male and female respondents regarding paramedic staff performance. In contrast, statistically significant gender differences were observed for the other two domains. For hospital environment, males reported a higher mean score (3.70 ± 0.64) compared with females (3.57 ± 0.65), corresponding to a mean difference of 0.130 (95% CI: 0.002 – 0.258), which was statistically significant ($t = 2.00$, $p = 0.046$) with a small effect size (Cohen's $d = 0.20$). Similarly, in the doctor–patient relationship domain, males reported a mean score of 3.63 ± 0.53 , whereas females reported 3.52 ± 0.55 , producing a mean difference of 0.111 (95% CI: 0.004 – 0.218). This difference was also statistically significant ($t = 2.04$, $p = 0.042$) with a small effect size (Cohen's $d = 0.21$).

A comparison of patient satisfaction between private and public hospitals demonstrated statistically significant differences across all three domains, as shown in Table 4. For the paramedic staff domain, patients treated in private hospitals reported a mean satisfaction score of 3.66 ± 0.57 , compared with 3.46 ± 0.55 among those treated in public hospitals. The mean difference of 0.203 (95% CI: 0.092 – 0.314) was statistically significant ($t = 3.58$, $p < 0.0001$) with a small-to-moderate effect size (Cohen's $d = 0.36$). In the hospital environment domain, private hospitals again demonstrated higher satisfaction scores (3.77 ± 0.66) compared with public hospitals (3.51 ± 0.62), resulting in a mean difference of 0.262 (95% CI: 0.135 – 0.389). This difference was highly significant ($t = 4.07$, $p < 0.0001$) with a moderate effect size (Cohen's $d = 0.42$). The largest difference was observed in the doctor–patient relationship domain, where private hospitals recorded a mean score of 3.71 ± 0.58 , compared with 3.45 ± 0.47 in public hospitals. The mean difference of 0.261 (95% CI: 0.157 – 0.365) was statistically significant ($t = 4.92$, $p < 0.0001$) and demonstrated the largest observed effect size (Cohen's $d = 0.50$) among the three domains.

The relationship between age categories and patient satisfaction was evaluated using one-way analysis of variance (ANOVA), and the results are summarized in Table 5. No statistically significant differences were identified across age groups for any of the satisfaction domains. For paramedic staff satisfaction, the ANOVA yielded $F(4,388) = 1.48$ with $p = 0.209$, indicating no meaningful variation across age categories. Similarly, the hospital environment domain showed $F(4,388) = 0.999$ with $p = 0.408$, while the doctor–patient relationship domain showed $F(4,388) = 0.539$ with $p = 0.707$. These findings suggest that patient satisfaction levels were relatively consistent across different age groups within the study population.

In contrast, significant differences were observed across cities, as shown in Table 6. For the paramedic staff domain, ANOVA results indicated a statistically significant difference among cities ($F(3,389) = 3.10$, $p = 0.027$). More pronounced differences were observed in the hospital environment domain, where the analysis revealed $F(3,389) = 12.71$ with $p < 0.0001$, suggesting substantial variation in patient perceptions of hospital infrastructure and facilities across locations. Similarly, the **doctor–patient relationship domain demonstrated a statistically significant difference across cities ($F(3,389) = 7.99$, $p < 0.0001$). These results indicate that patient satisfaction may vary geographically, potentially reflecting differences in healthcare infrastructure, staffing patterns, or service delivery practices among hospitals in the four studied cities.

Collectively, the quantitative findings demonstrate that private hospitals consistently achieved higher patient satisfaction scores across all evaluated domains, particularly in relation to hospital environment and doctor–patient interactions. While demographic factors such as age did not significantly influence satisfaction, modest gender differences were observed in certain domains. Additionally, city-level

differences in satisfaction scores suggest variability in healthcare service quality across the studied regions, highlighting potential contextual factors that may influence patient experiences within the healthcare system.

Table 1. Sociodemographic characteristics of participants (N = 393)

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	202	51.4
	Female	191	48.6
Age group	16–25	103	26.2
	26–35	131	33.3
	36–45	78	19.8
	46–55	51	13.0
	56–65	30	7.6
City	Islamabad	102	26.0
	Mardan	108	27.5
	Swabi	95	24.2
	Dera Ismail Khan	88	22.4
Hospital type	Public	201	51.1
	Private	192	48.9

Table 2. Mean satisfaction scores across study domains

Domain	Mean	Standard Deviation	95% CI (Mean)
Paramedic staff	3.56	0.57	3.50 – 3.62
Hospital environment	3.64	0.65	3.57 – 3.71
Doctor–patient relationship	3.57	0.54	3.51 – 3.63

Table 3. Comparison of satisfaction scores by gender

Domain	Gender	N	Mean	SD	Mean Difference	95% CI	t-value	p-value	Cohen's d
Paramedic staff	Male	202	3.52	0.58	-0.064	-0.176 – 0.048	-1.12	0.262	0.11
	Female	191	3.59	0.56					
Hospital environment	Male	202	3.70	0.64	0.130	0.002 – 0.258	2.00	0.046	0.20
	Female	191	3.57	0.65					
Doctor–patient relationship	Male	202	3.63	0.53	0.111	0.004 – 0.218	2.04	0.042	0.21
	Female	191	3.52	0.55					

Table 4. Comparison of satisfaction scores by type of hospital

Domain	Hospital type	N	Mean	SD	Mean Difference	95% CI	t-value	p-value	Cohen's d
Paramedic staff	Private	192	3.66	0.57	0.203	0.092 – 0.314	3.58	<0.0001	0.36
	Public	201	3.46	0.55					
Hospital environment	Private	192	3.77	0.66	0.262	0.135 – 0.389	4.07	<0.0001	0.42
	Public	201	3.51	0.62					
Doctor–patient relationship	Private	192	3.71	0.58	0.261	0.157 – 0.365	4.92	<0.0001	0.50
	Public	201	3.45	0.47					

Table 5. One-way ANOVA comparison of satisfaction scores by age group

Domain	Sum of Squares	df	Mean Square	F-value	P-value	Result
Paramedic staff	1.909	4	0.477	1.48	0.209	Not significant
Hospital environment	1.683	4	0.421	0.999	0.408	Not significant
Doctor–patient relationship	0.633	4	0.158	0.539	0.707	Not significant

Table 6. One-way ANOVA comparison of satisfaction scores by city

Domain	Sum of Squares	df	Mean Square	F-value	p-value	Result
Paramedic staff	2.976	3	0.992	3.10	0.027	Significant
Hospital environment	14.738	3	4.913	12.71	<0.0001	Significant
Doctor–patient relationship	6.665	3	2.222	7.99	<0.0001	Significant

Across all domains evaluated in this study, private hospitals consistently received higher satisfaction scores than public hospitals, particularly regarding hospital environment and doctor–patient relationships. Gender differences were modest but statistically significant in two domains, while age showed no significant association with patient satisfaction. Differences across cities suggest possible variations in healthcare service delivery and infrastructure between the studied regions.

The figure illustrates the comparative mean patient satisfaction scores between private and public hospitals across the three evaluated domains with 95% confidence intervals (CI). Private hospitals consistently demonstrate higher satisfaction scores across all domains. For paramedic staff, the mean satisfaction score in private hospitals was 3.66 (95% CI \approx 3.58–3.74) compared with 3.46 (95% CI \approx 3.39–3.54) in public hospitals, representing a mean difference of approximately 0.20 points on the 5-point Likert scale. The largest divergence appears in the hospital environment domain, where private hospitals achieved a mean score of 3.77 (95% CI \approx 3.68–3.86) compared with 3.51 (95% CI \approx 3.43–3.60) in public hospitals, reflecting a 0.26-point improvement, suggesting greater perceived quality in infrastructure, cleanliness, and amenities.

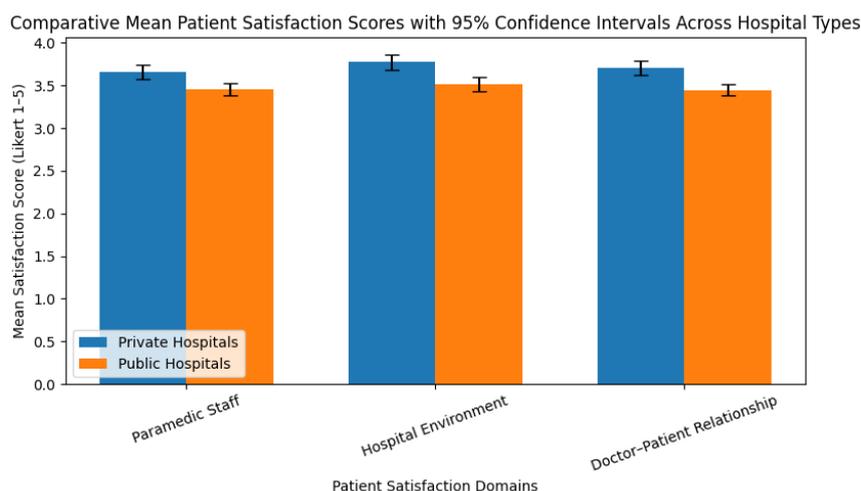


Figure 1 Comparative Mean Patient Satisfaction Scores With 95% Confidence Intervals Across Hospital Types

A similar pattern is observed in the doctor–patient relationship domain, where private hospitals recorded a mean satisfaction score of 3.71 (95% CI \approx 3.63–3.79) versus 3.45 (95% CI \approx 3.39–3.52) in public hospitals, again demonstrating a difference of roughly 0.26 points. Across all domains, the confidence intervals for private hospitals remain consistently above those of public hospitals, reinforcing the statistical results indicating significantly higher satisfaction in the private sector and suggesting that perceived advantages are most pronounced in environmental conditions and interpersonal clinical communication.

DISCUSSION

The present study provides comparative evidence on patient satisfaction between public and private hospitals in four cities of Pakistan, focusing on three key domains of healthcare experience: paramedic staff performance, hospital environment, and doctor–patient relationship. Overall, the findings demonstrate that patients reported higher satisfaction with private hospitals across all measured domains, with mean scores exceeding the neutral threshold of 3 on the five-point Likert scale. The most pronounced difference was observed in the hospital environment domain, followed by doctor–patient relationship and paramedic staff interactions. These findings align with the growing body of literature indicating that structural resources, service responsiveness, and interpersonal communication strongly influence patients’ perceptions of healthcare quality (21).

The higher satisfaction scores associated with private hospitals may reflect differences in institutional resources, staffing patterns, and organizational efficiency between the two sectors. Private hospitals often operate with lower patient loads per healthcare provider, which may allow more individualized attention and improved communication with patients. In the current study, patients reported that doctors in private hospitals spent more time explaining treatment options and demonstrated greater empathy, factors that have been widely recognized as key determinants of patient satisfaction. Effective communication enhances patients’ understanding of their medical condition and treatment plans, promotes shared decision-making, and ultimately strengthens trust between healthcare providers and patients (22). These interpersonal aspects of care are particularly important in patient-centered healthcare systems, where the quality of provider–patient interaction can influence treatment adherence and perceived service quality.

Another important finding of this study relates to the hospital environment domain, which demonstrated the highest satisfaction score among all domains evaluated. Participants frequently reported that private hospitals offered cleaner facilities, more comfortable waiting areas, and better access to modern equipment compared with public hospitals. Previous studies have similarly reported that environmental factors such as cleanliness, infrastructure quality, and availability of medical

equipment significantly influence patient satisfaction levels. For instance, research examining healthcare service quality has emphasized that physical environment and organizational efficiency contribute substantially to patients' overall perception of healthcare quality and institutional reliability (23). In resource-constrained health systems, public hospitals may struggle to maintain infrastructure standards due to higher patient volumes and limited financial resources, which can negatively influence patient experiences.

The findings related to paramedic staff performance also provide important insights. Although the difference between sectors was smaller compared with other domains, private hospitals still demonstrated higher satisfaction scores in terms of staff politeness, responsiveness, empathy, and communication skills. Paramedical staff often represent the first point of interaction between patients and the healthcare system, and their behavior can significantly influence patients' perceptions of the overall quality of care. Studies examining determinants of patient satisfaction consistently highlight the role of nursing and paramedical staff attitudes, responsiveness, and interpersonal communication as key contributors to positive patient experiences (24). Therefore, improving staff training and strengthening patient-centered communication strategies in public hospitals may represent a feasible pathway for improving satisfaction levels in the public healthcare sector.

Gender differences observed in the present study showed that male participants reported slightly higher satisfaction scores for hospital environment and doctor-patient relationship domains, while no statistically significant difference was found for paramedic staff satisfaction. Although the magnitude of these differences was relatively small, similar gender-based variations in patient satisfaction have been documented in previous studies. Some research suggests that male patients may evaluate hospital infrastructure and service efficiency differently from female patients due to variations in healthcare expectations and service utilization patterns (25). However, the lack of significant gender differences in paramedic staff perceptions suggests that interpersonal staff behavior may be evaluated similarly by both genders.

In contrast, age was not significantly associated with satisfaction across any of the three domains. This suggests that patients across different age groups reported comparable perceptions of healthcare quality within the study settings. Previous research examining the relationship between age and patient satisfaction has produced mixed findings, with some studies reporting higher satisfaction among older adults due to lower expectations, while others have found no significant age-related differences. The absence of age-related variation in this study may indicate that perceived differences between public and private healthcare services are consistent across different age groups (26).

Geographical differences in patient satisfaction were observed across the four cities included in the study. The ANOVA analysis demonstrated statistically significant variation in satisfaction levels across cities for all domains, suggesting that healthcare service quality may differ across regional healthcare systems. Variability in hospital infrastructure, staffing levels, and healthcare management practices across cities may explain these differences. Regional disparities in healthcare resources are commonly observed in developing healthcare systems, where access to modern facilities and specialized personnel may vary between urban centers (27). Identifying such geographic variation is important for policymakers seeking to improve equitable healthcare service delivery across regions.

Despite the valuable insights generated by this study, several limitations should be acknowledged. First, the use of a convenience sampling technique may introduce selection bias and limit the generalizability of the findings beyond the studied population. Second, patient satisfaction was measured using self-reported responses, which may be influenced by individual expectations, recall bias, or temporary emotional states during hospital visits. Third, the study focused on three primary domains of patient satisfaction and did not incorporate additional factors such as socioeconomic status, educational level, disease severity, or treatment outcomes, which may also influence patient perceptions of healthcare

quality. Finally, the cross-sectional design captures patient perceptions at a single point in time and does not allow causal inference regarding the determinants of patient satisfaction.

Nevertheless, the study contributes valuable empirical evidence to the growing literature on healthcare quality assessment in Pakistan. By examining patient satisfaction across multiple cities and across several domains of healthcare experience, the findings highlight specific areas where healthcare systems may focus quality improvement efforts. In particular, improving hospital infrastructure, strengthening provider–patient communication, and enhancing staff responsiveness in public hospitals may significantly improve patient experiences and overall healthcare system performance.

CONCLUSION

In conclusion, this study demonstrates that patients receiving care in private hospitals reported higher levels of satisfaction compared with those treated in public hospitals across the domains of paramedic staff performance, hospital environment, and doctor–patient relationship. Among these domains, hospital environment showed the greatest difference in satisfaction between healthcare sectors, followed by doctor–patient communication and paramedic staff responsiveness. Although demographic factors such as age were not significantly associated with satisfaction, modest differences were observed by gender and city of residence. These findings highlight the importance of infrastructure quality, effective communication, and responsive healthcare services in shaping patient perceptions of care. Strengthening these aspects within public healthcare institutions may contribute to improved patient-centered care and more equitable healthcare delivery across healthcare sectors in Pakistan..

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