

Evaluation of Patient Satisfaction Levels in a Tertiary Care Hospital in New Delhi: A Data Driven Study

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Abstract:

Patient satisfaction is a crucial indicator of healthcare quality, directly influencing hospital performance, patient adherence to treatment, and overall healthcare outcomes. This study evaluates patient satisfaction in the Out-Patient Department (OPD) of a multi-specialty hospital using a data-driven approach. A structured survey was conducted among OPD patients to assess key factors such as waiting time, doctor-patient interaction, staff behaviour, and facility hygiene. The collected data were analysed to identify trends, strengths, and areas needing improvement. Results highlight the significance of efficient hospital operations and patient-centred care in enhancing satisfaction levels. Key challenges, including long waiting periods and administrative bottlenecks, were also identified. The study emphasizes the role of continuous feedback and strategic interventions in improving OPD services. The findings provide valuable insights for hospital administrators to refine service delivery, optimize resources, and enhance patient experiences, ultimately contributing to better healthcare outcomes and operational efficiency.

Keywords: Patient Satisfaction, Outpatient Department (OPD), Doctor-Patient Interaction, Waiting Time, Administrative Efficiency, Service Delivery Improvement

Introduction:

Patient satisfaction is a key measure of healthcare quality, influencing treatment adherence, patient retention, and overall healthcare outcomes. A positive experience enhances institutional credibility, while dissatisfaction can hinder compliance and trust. Outpatient departments (OPDs) play a crucial role in this dynamic, serving as the primary point of contact for medical consultations, diagnostic tests, and minor procedures. Given the high patient volume, satisfaction in OPDs is shaped by multiple factors, including waiting time, doctor-patient interaction, administrative efficiency, and service accessibility.

One of the most significant determinants of satisfaction is waiting time. Patients often experience frustration due to prolonged delays, making efficient scheduling systems essential for improving experiences. Structured appointment systems correlate with higher satisfaction levels, as seen in departments with well-organized consultations. Similarly, effective communication between healthcare providers and patients plays a fundamental role. Clear

explanations, active listening, and empathy contribute to trust and confidence, while rushed consultations and unclear instructions lead to dissatisfaction.

The behaviour and professionalism of healthcare staff also impact patient perception. Courteous and attentive interactions create a sense of trust, while an indifferent approach negatively affects satisfaction. The hospital environment, including cleanliness and organization, further influences patient experiences. A well-maintained OPD fosters a sense of comfort, reducing stress and enhancing overall well-being. Additionally, accessibility to healthcare services, such as appointment availability, specialist consultations, and streamlined administrative processes, significantly shape patient satisfaction. Barriers like complex registration systems and inefficient coordination can diminish the quality of care.

Despite its importance, OPDs often struggle with challenges such as overcrowding, resource limitations, and service inefficiencies. High patient loads lead to extended wait times, rushed consultations, and gaps in interdepartmental coordination. Addressing these issues requires a strategic approach, integrating technological advancements like AI-powered scheduling, electronic health records, and patient-centered staff training programs. By adopting such measures, hospitals can optimize service delivery, improve healthcare experiences, and ensure higher patient satisfaction in OPDs.

Background:

Patient satisfaction has become a crucial aspect of modern healthcare, reflecting how well medical services meet patient expectations and experiences. In the past, healthcare systems focused primarily on clinical outcomes such as recovery rates, infection control, and mortality reduction. However, as medical advancements led to better survival rates and improved treatments, the focus gradually expanded beyond medical effectiveness to the overall patient experience. The late 20th century marked a shift towards patient-centered care, influenced by greater patient awareness, technological innovations, and increased competition among healthcare providers.

The introduction of patient satisfaction surveys in the 1980s and 1990s offered a structured way to assess healthcare services, capturing insights into communication, service efficiency, hospital infrastructure, and administrative processes. Over time, these evaluations became instrumental in shaping healthcare policies, influencing hospital performance reviews, and even determining financial incentives. The emergence of value-based care in the 21st century further reinforced the importance of patient satisfaction, linking it to hospital accreditation and regulatory compliance. Today, hospitals recognize that ensuring high patient satisfaction enhances their reputation, improves treatment adherence, and ultimately leads to better health outcomes.

Multiple factors influence patient satisfaction, including doctor-patient communication, ease of access to medical services, hospital infrastructure, and administrative efficiency. The rise of digital healthcare platforms has amplified the impact of patient feedback, enabling real-time

reviews and comparisons across hospitals. Online rating systems, social media discussions, and healthcare forums now play a pivotal role in shaping patient choices, urging healthcare institutions to prioritize service quality, responsiveness, and transparency. Moreover, as patients become more informed, their expectations go beyond medical expertise to include empathy, respect, and clear communication.

With the healthcare landscape continuously evolving, patient satisfaction has shifted from being a secondary concern to a fundamental quality measure. A focus on positive patient experiences fosters trust, strengthens institutional credibility, and ultimately leads to improved healthcare outcomes. As data-driven insights gain prominence, healthcare providers must actively incorporate patient feedback into their improvement strategies, ensuring a more responsive and patient-friendly healthcare system.

Literature Review:

Patient satisfaction has emerged as a crucial determinant of healthcare quality, gaining considerable attention in hospital management and healthcare research. Particularly in outpatient departments (OPDs) of multi-specialty hospitals, where the patient influx is high and needs are diverse, understanding satisfaction levels becomes imperative. Various studies emphasize that patient satisfaction is a multidimensional construct, influenced by factors such as service quality, waiting time, doctor-patient interaction, and hospital infrastructure (Vyas & Pandya, 2022). Notably, it serves as a key performance indicator, influencing patient loyalty, institutional reputation, and even health outcomes (Manary et al., 2013).

To measure satisfaction effectively, numerous methodologies have been explored. Traditional approaches primarily rely on structured questionnaires and Likert-scale assessments (Gupta et al., 2023). However, as healthcare increasingly integrates technology, newer data-driven techniques utilizing machine learning and artificial intelligence have been proposed to analyze patient feedback more comprehensively (Kim et al., 2024). Some studies highlight the necessity of adapting survey instruments to cultural contexts to ensure accurate measurement across diverse populations (Ahmed et al., 2022). A mixed-method approach, combining qualitative insights with quantitative data, has been suggested to provide a holistic understanding of patient experiences, particularly in tertiary care settings (Singh et al., 2015).

One of the most significant factors influencing patient satisfaction is doctor-patient communication. A study conducted among AIDS patients demonstrated that empathetic communication and personalized care substantially improve patient perceptions of service quality (Forrest et al., 2002). Another research effort found that, in many cases, patients prioritize reduced waiting times and efficient administrative processes over other aspects of care (Sharma et al., 2015). Moreover, the physical environment, including cleanliness, comfort, and accessibility, significantly shapes patient satisfaction levels (Brown et al., 2023).

Demographic factors also play a role in determining satisfaction, as different age groups, genders, and socio-economic backgrounds tend to have varying expectations from healthcare

services. Research suggests that tailored service delivery models catering to specific patient demographics can improve satisfaction levels (Kumar et al., 2022). High satisfaction levels have been linked to better healthcare outcomes, including improved adherence to medical advice, lower hospital readmission rates, and higher patient retention (Smith et al., 2013). Additionally, hospitals that achieve high patient satisfaction scores benefit from improved accreditation and regulatory compliance, making this an essential area of focus for healthcare administrators (Johnson, 2017).

Despite its importance, measuring patient satisfaction remains a challenge due to the inherent subjectivity in responses and biases in self-reported data. Patients' expectations can vary widely, complicating efforts to standardize measurement frameworks (Williams et al., 2020). Furthermore, the rapidly evolving nature of healthcare services demands continuous updates in assessment tools to accurately capture changing patient needs (Lee et al., 2023). Addressing these challenges requires a combination of traditional survey techniques and advanced analytical methods to enhance the reliability of patient satisfaction evaluations.

In the context of multi-specialty hospital OPDs, patient satisfaction is a dynamic and complex phenomenon that directly impacts healthcare delivery. Studies underscore the importance of quality service, effective communication, well-maintained infrastructure, and demographic sensitivity in shaping patient experiences. As healthcare continues to evolve, integrating technological advancements in patient feedback analysis will be crucial. Ensuring unbiased, culturally appropriate, and continuously updated satisfaction assessment models will ultimately contribute to enhanced healthcare services, better patient experiences, and improved overall health outcomes.

Research Objectives:

- **Objective 1:** To assess overall patient satisfaction levels in a the OPD multi-specialty Hospital.
- **Objective 2:** To identify key factors influencing satisfaction, including waiting time, communication, and service quality.
- **Objective 3:** To analyse the impact of administrative efficiency on patient experiences.

Research Methodology:

Type of Study: Cross- sectional study across the population, and employed convenient sampling.

Type of Data: Both primary and secondary data are used. Primary Data is collected through feedback mechanisms, numerical ratings, and open-ended responses from OPD patients. Secondary Data is sourced from journals, reports, and relevant websites for supporting literature and contextual analysis.

Study Duration: The study population consists of all patients who visited the OPD during a two-month period (June and July 2024).

Total No. of Sample: 1,341 samples

This study employs a structured research methodology to assess patient satisfaction in the outpatient department (OPD) of a tertiary care hospital. A quantitative approach is utilized to systematically collect and analyse data, ensuring a comprehensive evaluation of the factors influencing patient experiences. To maintain a structured and representative selection of participants, the sampling frame is derived from hospital records, including OPD registration logs, appointment records, billing details, and existing patient feedback mechanisms such as surveys, emails, and SMS-based responses.

To enhance the depth of analysis, patient stratification is implemented based on two key criteria: medical specialty and type of service received. Patients are categorized according to the specialty they visited, such as general medicine, cardiology, or orthopedics, allowing for an assessment of satisfaction levels across different departments. Additionally, differentiation is made between consultation-only visits, diagnostic evaluations, and minor treatments to identify variations in patient experiences across service types.

A convenience sampling approach is adopted, ensuring the inclusion of patients who have completed their consultations and provided feedback. This method enables efficient data collection within the defined study period while minimizing selection bias. Given the study's emphasis on understanding patient perspectives, convenience sampling proves to be an effective strategy for capturing real-time experiences and service-related concerns.

Primary data collection involves both quantitative and qualitative elements, obtained directly from OPD patients through a structured questionnaire designed by healthcare experts. Quantitative data consists of numerical ratings that measure satisfaction levels across various parameters, including waiting times, doctor-patient interactions, registration efficiency, facility cleanliness, and billing processes. These structured survey responses provide measurable insights into the overall patient experience. Complementing this, qualitative data is gathered through open-ended questions that allow patients to describe their experiences in greater detail, offering deeper insights into doctor communication, hospital infrastructure, and administrative efficiency. This mixed-method approach ensures a holistic understanding of patient satisfaction by capturing both statistical trends and individual perspectives.

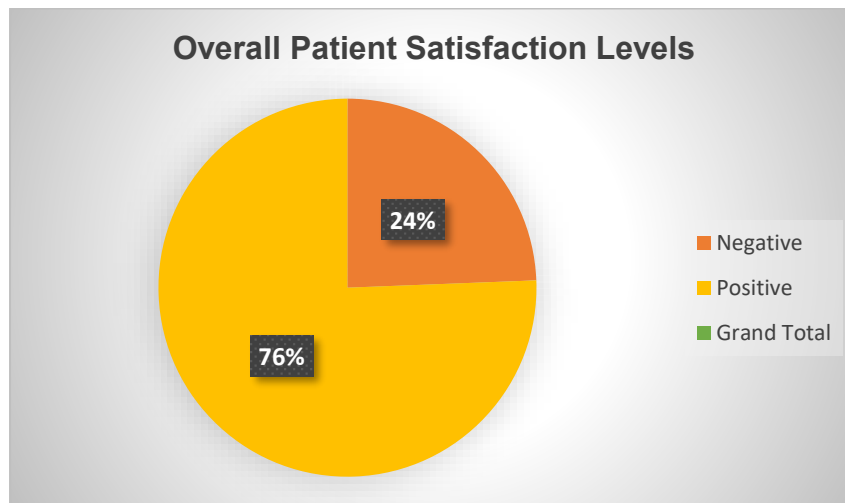
A robust data analysis framework is employed to interpret the collected information. Descriptive statistical techniques summarize patient responses, identifying trends and key areas of concern. Inferential analysis is used to examine the relationships between various service factors and overall satisfaction levels, helping to pinpoint the most influential determinants. A comparative analysis is conducted across different medical departments and service types to highlight discrepancies and areas requiring targeted improvements.

By integrating a well-defined sampling strategy, diverse data collection methods, and rigorous analytical techniques, this study aims to generate meaningful insights that can contribute to enhancing OPD service delivery. The findings are expected to inform hospital administrators and healthcare policymakers on strategies to improve patient experiences, streamline operations, and optimize overall healthcare quality in a tertiary care setting.

Analysis and Interpretation:

- Assessment of overall patient satisfaction levels in a multi-specialty hospital OPD:

Figure 1: Overall Patient Satisfaction Levels



The analysis reveals that a majority of patients (76%) are satisfied with their outpatient department (OPD) experiences, as indicated by the higher number of positive feedback (1,014 out of 1,341 responses). However, a significant minority (24%) expressed dissatisfaction, highlighting areas that need improvement. The departments with the highest levels of satisfaction were Internal Medicine, Orthopaedics, and Obstetrics & Gynaecology, suggesting that these departments may have implemented best practices that enhance patient care and communication.

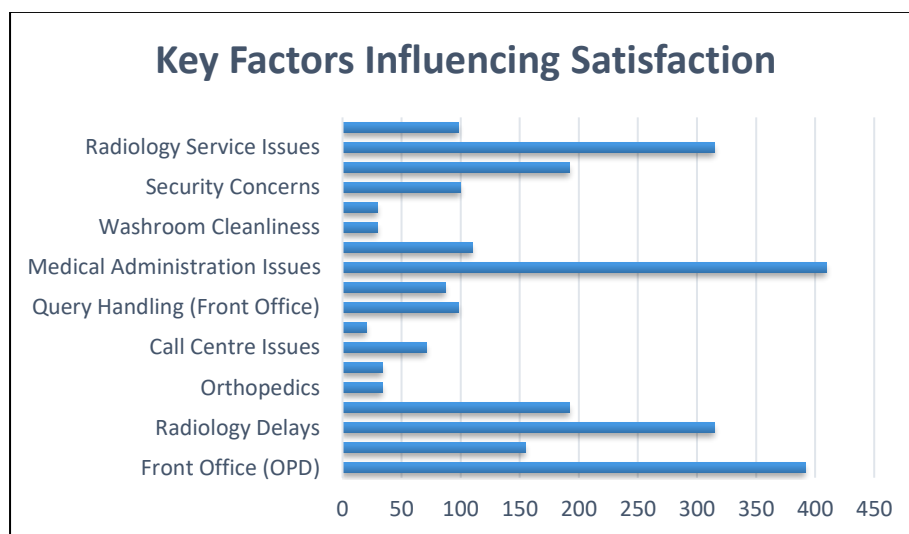
- **Key factors influencing satisfaction, including waiting time, communication, and service quality.**

Table 1: Key factors influencing satisfaction

FACTOR	CATEGORY	NUMBER OF COMPLAINTS
Waiting Time	Front Office (OPD)	392
	Registration & Billing Delay	155
	Radiology Delays	315
	Pathology Delays	192
	Orthopaedics	34
	Obstetrics & Gynaecology	34
Communication	Call Centre Issues	71
	Staff Unresponsiveness (Call Centre)	20
	Query Handling (Front Office)	98
	Staff Courtesy & Responsiveness (OPD)	87
	Medical Administration Issues	410
Service Quality	Housekeeping Complaints (Total)	110
	Washroom Cleanliness	30
	Overall Facility Upkeep	30
	Security Concerns	100
	Pathology Service Issues	192

	Radiology Service Issues	315
	Pharmacy (Medicine Availability & Time)	98

Figure 2: Key factors influencing satisfaction



The study aims to identify key factors influencing patient satisfaction in the Out-Patient Department (OPD) at Tertiary Care Hospital, focusing on waiting time, communication, and service quality. Based on data from 1,341 participants, the findings highlight significant concerns affecting the patient experience. Waiting time emerged as a major issue, with 392 complaints related to the Front Office, including 155 complaints about prolonged registration and billing procedures. Additionally, delays in diagnostic services were evident, with 315 complaints in radiology and 192 in pathology. High dissatisfaction was also reported in frequently visited departments such as Orthopaedics and Obstetrics & Gynaecology, each receiving 34 complaints. Communication gaps further exacerbated patient dissatisfaction, with 71 complaints in the Call Centre, including 20 about staff's inability to respond to queries. The Front Office recorded 98 complaints regarding query handling and 87 complaints about staff responsiveness and courtesy, while medical administration had 410 complaints, indicating inefficiencies in addressing patient concerns. Service quality issues also contributed to dissatisfaction, with 110 complaints in housekeeping, including 30 related to washroom cleanliness and 30 about overall facility upkeep. Security concerns, recorded in 100 complaints, raised issues about patient safety and crowd management. Moreover, 192 complaints in pathology and 315 in radiology suggested inefficiencies, while 98 complaints in pharmacy highlighted concerns about medicine availability and waiting times. These findings indicate that prolonged waiting times, ineffective communication, and service quality lapses negatively impact patient satisfaction. Addressing these concerns through efficient scheduling, improved

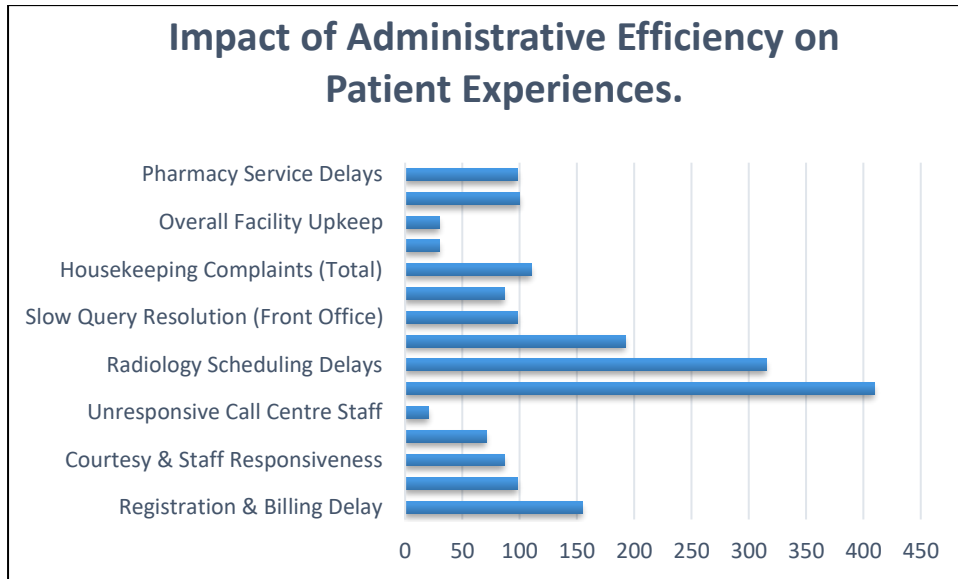
staff training, and enhanced facility management can significantly enhance the overall patient experience in the OPD.

- **The Impact of Administrative Efficiency on Patient Experiences.**

Table 2: Impact of Administrative Efficiency on Patient Experiences.

CATEGORY	ISSUE	NUMBER OF COMPLAINTS
Front Office & Billing	Registration & Billing Delay	155
	Query Handling Inefficiency	98
	Courtesy & Staff Responsiveness	87
Appointment Scheduling &	Call Centre Delays	71
	Unresponsive Call Centre Staff	20
	Medical Administration Inefficiencies	410
	Radiology Scheduling Delays	315
	Pathology Scheduling Delays	192
Communication Efficiency	Slow Query Resolution (Front Office)	98
	Lack of Courtesy (Front Desk)	87
Facility Management	Housekeeping Complaints (Total)	110
	Washroom Cleanliness Issues	30
	Overall Facility Upkeep	30
	Security Concerns	100
	Pharmacy Service Delays	98

Figure 3: Impact of Administrative Efficiency on Patient Experiences.



Administrative efficiency plays a crucial role in shaping patient experiences in the Out-Patient Department (OPD) at Max Smart Super Specialty Hospital. Efficient administrative processes ensure seamless patient registration, appointment scheduling, billing, and query resolution, all of which contribute to overall satisfaction. Conversely, delays, mismanagement, and communication lapses negatively impact patient perception and trust. Data from patient complaints indicate that 392 grievances were recorded against the Front Office (OPD), with 155 specifically concerning registration and billing delays, 98 regarding staff's inability to handle queries, and 87 related to courtesy and responsiveness. Inefficiencies in appointment scheduling and coordination were evident, with 71 complaints about call centre delays, including 20 related to unresponsive staff, and 410 complaints concerning medical administration inefficiencies. Diagnostic services also faced challenges, with 315 complaints about radiology delays and 192 regarding pathology scheduling issues. Communication gaps significantly contributed to dissatisfaction, as 71 complaints were directed at slow responses from the call centre, 98 pointed to query-handling inefficiencies at the front desk, and 87 focused on the lack of courtesy among administrative staff. Furthermore, facility management issues affected patient experiences, with 110 complaints regarding housekeeping inefficiencies, including 30 about washroom cleanliness and 30 about overall facility upkeep. Security concerns resulted in 100 complaints, while 98 grievances were related to pharmacy service delays, affecting medicine availability and dispensing. These findings underscore the need for streamlined administrative workflows, improved communication strategies, and enhanced facility management to optimize patient satisfaction.

Result and Findings:

A study analysing patient satisfaction in the outpatient department (OPD) of a tertiary care hospital revealed a mix of positive experiences and areas needing improvement. The results showed that 76% of the 1,341 respondents were satisfied with their visit, reflecting well on the hospital's efficiency, medical care, and patient management (Figure 1). However, the

remaining 24% expressed dissatisfaction, pointing to specific service gaps that require attention.

When comparing different specialties, departments such as Internal Medicine, Orthopaedics, and Obstetrics & Gynaecology received the highest satisfaction ratings (Table 2). This suggests that these areas have successfully implemented patient-focused strategies, ensuring timely consultations, effective communication, and well-organized processes. On the other hand, Radiology and Dermatology reported lower satisfaction levels, likely due to long wait times, service delays, or unclear communication.

A deeper analysis of patient feedback highlighted key factors influencing their overall experience. One of the most critical concerns was waiting time, as extended delays were a common issue among dissatisfied patients. Departments with structured appointment systems tended to have higher satisfaction scores (Table 2). Another crucial factor was the doctor-patient interaction. Patients who felt their doctors took the time to listen and explain their conditions clearly were more likely to report a positive experience, while rushed consultations or unclear communication contributed to dissatisfaction.

Administrative efficiency also played a significant role. Patients appreciated streamlined registration and billing processes, while those who faced delays or unclear cost breakdowns expressed frustration (Figure 2). The cleanliness and comfort of the hospital environment further influenced satisfaction, with well-maintained waiting areas contributing to a better experience. Follow-up care and support services also made a difference; departments that ensured proper post-consultation assistance, such as appointment reminders and diagnostic support, received higher ratings.

Patient satisfaction varied depending on the type of service received. Those visiting the OPD for consultations reported the highest satisfaction, as they typically faced shorter wait times and direct interactions with doctors. Patients undergoing diagnostic tests had a moderate experience, often citing scheduling delays as a concern. Meanwhile, those requiring minor procedures reported the lowest satisfaction, largely due to prolonged waiting times and administrative inefficiencies (Table 2).

While most patients had a positive OPD experience, there is a clear need for strategic improvements in key areas. Strengthening appointment scheduling, enhancing doctor-patient communication, streamlining administrative processes, and improving follow-up care can significantly enhance patient satisfaction. By addressing these critical aspects, hospitals can refine their service delivery and ensure a more seamless experience for all patients.

Discussion and Conclusion:

The findings of this study provide a comprehensive understanding of patient satisfaction levels in the outpatient department (OPD) of a tertiary care hospital. The data highlights key areas of excellence and identifies critical gaps that require attention. With 76% of patients expressing

satisfaction, it is evident that certain aspects of service delivery are meeting patient expectations. Departments such as Internal Medicine, Orthopaedics, and Obstetrics & Gynaecology recorded the highest satisfaction levels, suggesting the presence of effective patient management strategies, streamlined processes, and strong doctor-patient communication. However, the remaining 24% of patients who reported dissatisfaction underscore the need for targeted improvements in specific service areas.

One of the most prominent concerns voiced by patients was prolonged waiting times, which negatively impacted their overall experience. This aligns with existing literature that emphasizes the correlation between patient satisfaction and waiting periods. Hospitals must address this by optimizing scheduling systems, ensuring efficient patient flow, and incorporating technology-driven solutions such as digital appointment management and real-time queue updates.

Another significant factor influencing patient dissatisfaction was communication barriers between healthcare providers and patients. Effective doctor-patient interaction is crucial for improving the patient experience, as it directly impacts their trust and perception of care quality. Training programs that enhance healthcare professionals' communication skills, active listening, and empathy can bridge this gap. Additionally, multilingual support services and patient education initiatives can facilitate better understanding, especially for non-native speakers and elderly patients.

Administrative inefficiencies, particularly in registration, billing, and diagnostic coordination, also emerged as pain points. Addressing these issues requires process reengineering and the integration of automated systems to reduce manual errors and enhance workflow efficiency. Implementing an electronic medical records (EMR) system with seamless data access across departments can significantly improve coordination and reduce patient frustration.

The study also underscores the importance of hospital infrastructure and cleanliness in shaping patient perceptions. While the majority of patients were satisfied with the hospital's facilities, a subset reported concerns regarding overcrowding, inadequate seating, and restroom hygiene. Investing in facility upgrades, better space management, and routine sanitation audits can enhance patient comfort and overall satisfaction.

The research highlights the need for a patient-centered approach to healthcare delivery. By leveraging patient feedback and addressing specific pain points, hospitals can foster a more positive OPD experience. Future research should explore longitudinal studies to assess the impact of implemented changes and examine satisfaction trends over time. Additionally, incorporating qualitative insights from healthcare providers can offer a holistic view of service challenges and potential solutions.

In conclusion, while the study confirms that a majority of patients are satisfied with OPD services, there remains significant room for improvement in key operational areas. Hospitals must prioritize reducing waiting times, enhancing communication, streamlining administrative

processes, and upgrading infrastructure to ensure a superior patient experience. By implementing data-driven interventions and fostering a culture of continuous improvement, healthcare institutions can enhance patient satisfaction and overall service quality, ultimately leading to better health outcomes and patient trust.

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