Research Article

Evaluating Patient Satisfaction and Quality Perceptions of Health Care Services at Balco Medical Center

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| ARTICLE INFO	ABSTRACT
	The study investigates patient satisfaction and quality perceptions of healthcare services at Balco Medical Center, Naya Raipur, over a five-year period (2018–2023). Employing a mixed-method approach, the research combined structured questionnaires, semi-structured interviews, and analysis of secondary hospital records to capture both quantitative trends and qualitative insights. The findings indicate that overall patient satisfaction was high, with notable strengths in diagnostic accuracy, treatment quality, infrastructure, and staff communication. However, challenges were identified in areas such as waiting time management, responsiveness in outpatient and emergency services, and the adequacy of supportive care including counseling and palliative services. Satisfaction levels fluctuated during the COVID-19 pandemic, with declines observed in 2020–2021 but recovery evident post-2022, reflecting the institution's resilience. Comparative analysis revealed significant variations across age groups, service departments, and socioeconomic categories, with oncology patients reporting the highest satisfaction and emergency care patients the lowest. The results underscore the multidimensional nature of patient satisfaction, highlighting both clinical excellence and gaps in holistic care delivery. Recommendations include strengthening responsiveness, enhancing supportive services, addressing socioeconomic disparities, and leveraging technology for integrated patient care. This research contributes to healthcare management by offering evidence-based insights for policy and practice improvements. **Keywords:** Patient satisfaction, healthcare quality, Balco Medical Center, service delivery, supportive care, COVID-19, resilience, India

1. INTRODUCTION

Patient satisfaction is increasingly recognized as a key indicator of health care quality, reflecting not only clinical outcomes but also patients' perceptions of service delivery. Health systems globally are turning to patient feedback to guide quality improvement and ensure services are aligned with patient expectations [1]. Satisfaction depends on multiple dimensions, including but not limited to the technical competence of medical staff, communication and interpersonal relationships, wait times, cleanliness, responsiveness, and tangibles of the facility [2][3]. Theoretical models such as Donabedian's framework classify quality of care into structure, process, and outcome, providing a useful lens through which to analyze patient satisfaction and perceptions of health care services [4]. Recent systematic reviews have found that communication with health professionals, availability and assurance, and empathy are among the strongest predictors of patient satisfaction in various settings [5]. Yet, despite this growing literature, local studies remain essential because perceptions vary by cultural, socioeconomic, and institutional contexts; what satisfies patients in one region may differ in another [6]. Evaluating patient satisfaction and quality perceptions at Balco Medical Center will contribute valuable insights specific to its population, thereby informing targeted improvements in service delivery. The primary objective of the study is to investigate patient satisfaction with healthcare services provided by Balco medical center. The specific objectives of the study are, a) To evaluate the overall satisfaction levels of patients b) To identify the various factors that contribute to patient satisfaction c) To assess the satisfaction levels of patients regarding the competence and behavior of healthcare providers.

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2. METHODOLOGY

2.1 Introduction

The methodology adopted for this study provides the structural framework for investigating patient satisfaction and quality perceptions of healthcare services at Balco Medical Center. Given that patient satisfaction is shaped by diverse factors such as interpersonal communication, service delivery efficiency, clinical quality, and infrastructural adequacy, this chapter outlines the systematic process undertaken to capture and analyze both subjective and objective indicators of healthcare quality. By adopting a mixed-method strategy, the research ensures a balance between statistical rigor and contextual depth, enabling robust evaluation of patient satisfaction over the five-year period (2018–2023).
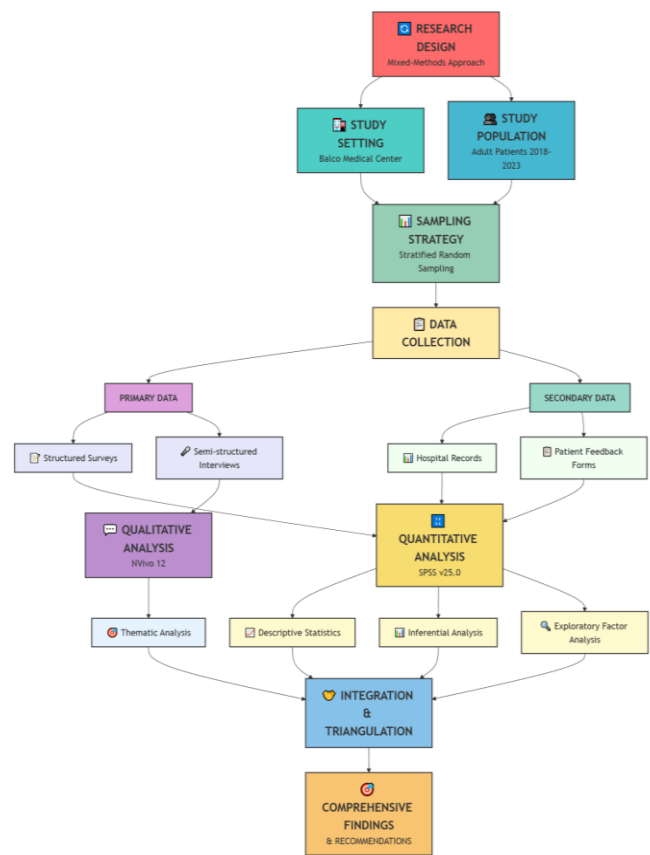
2.2 Research Design

A descriptive-analytical and cross-sectional research design was employed to evaluate satisfaction levels and perceptions of service quality. Quantitative surveys provided measurable indicators of patient satisfaction, while qualitative interviews captured nuanced insights into patients' subjective experiences. The retrospective dimension of the study was integrated through analysis of secondary data from hospital records between 2018–2023, ensuring both trend analysis and cross-sectional evaluation. This design facilitated a comprehensive understanding of how patient satisfaction evolved in response to service changes, external factors like COVID-19, and departmental variations in care.

2.3 Study Setting and Context

The study was conducted at Balco Medical Center, Naya Raipur, a tertiary care institution specializing in oncology but also offering general health services. With a capacity of 170 beds and advanced diagnostic and therapeutic facilities,

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the hospital attracts patients from across Chhattisgarh and neighboring states. Its emphasis on patient-centered care, coupled with adoption of digital health record systems, provided an ideal environment for evaluating both satisfaction and perceived quality of services.

2.4 Study Population

The study population comprised patients aged 18 and above who accessed healthcare services including inpatient, outpatient, diagnostic, surgical, and palliative care between 2018–2023. Inclusion of diverse departments and service categories allowed for comparative analysis across clinical settings. Pediatric cases were excluded to avoid caregiver-mediated responses. Repeat patients were included to identify temporal consistencies or shifts in satisfaction levels.

2.5 Sampling Method and Sample Size

Stratified random sampling was applied to ensure balanced representation across departments, years of service, and service types. Strata were defined by department (oncology, surgery, emergency, diagnostics), year (2018–2023), and type of service (inpatient/outpatient). Within each stratum, simple random sampling was conducted. During COVID-19 disruptions, purposive and convenience sampling were applied for qualitative interviews. This hybrid approach ensured both representativeness and feasibility.

2.6 Data Collection Methods

Primary data were gathered using a structured questionnaire (Likert-scale and open-ended items) administered in paper and digital formats. Trained assistants facilitated survey completion. In-depth semi-structured interviews were conducted with a purposive subsample to capture patient perceptions of service quality dimensions such as empathy, responsiveness, and trust. Secondary data included annual hospital satisfaction reports and patient feedback forms from 2018–2023.

2.7 Data Analysis

Quantitative data were processed in SPSS (v25.0). Descriptive statistics (frequencies, means, SDs) profiled satisfaction trends. Inferential analyses included t-tests, ANOVA, chi-square, and multiple regression to identify predictors of satisfaction. Exploratory Factor Analysis (EFA) validated underlying dimensions of the survey instrument. Qualitative data from interviews were analyzed using Braun & Clarke's (2006) thematic analysis framework in NVivo 12, ensuring identification of recurrent themes reflecting patient experiences. Integration of quantitative and qualitative findings enabled triangulation, strengthening the validity of results.

3. RESULT & ANALYSIS

3.1 Introduction

The present chapter is devoted to the presentation and analysis of the findings derived from the study on patient satisfaction and quality perceptions at Balco Medical Center. In alignment with the objectives of the research, this chapter seeks to provide a comprehensive account of the results obtained through quantitative and qualitative approaches, thereby offering both statistical precision and contextual understanding. The central aim of the study has been to examine the extent of patient satisfaction, to identify the determinants shaping perceptions of healthcare quality, and to explore variations across services, demographics, and time periods.

The data used for analysis were drawn from multiple sources to ensure credibility and richness. Primary data were generated through structured questionnaires administered to patients across inpatient, outpatient, diagnostic, surgical, and emergency departments. To complement these survey findings and capture experiential depth, semi-structured interviews were conducted with a purposive subsample of respondents, allowing for the exploration of nuanced perspectives and lived experiences. In addition, secondary data from hospital records, including annual patient feedback reports spanning the years 2018 to 2023, were incorporated to provide a longitudinal dimension to the analysis.

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The structure of this chapter is organized in a way that facilitates systematic interpretation of results. It begins with an overview of the demographic profile of respondents, followed by the presentation of overall satisfaction levels and perceptions of service quality across different healthcare dimensions. Subsequent sections examine comparative differences based on demographic, clinical, and departmental variables, supported by descriptive and inferential statistical analyses. Qualitative insights are then integrated to highlight the patient voice and contextualize the quantitative findings. The chapter concludes with a synthesis of trends observed over the five-year study period, thereby setting the stage for the broader discussion of implications in the subsequent chapter.

3.2 Demographic Profile of Respondents

Understanding the demographic characteristics of respondents is crucial for contextualizing their satisfaction levels with health care services at Balco Medical Center. The survey responses were collected from a diverse group of patients representing different age groups, genders, socioeconomic strata, and service utilization categories. The demographic profile also considered frequency of hospital visits to distinguish between first-time and repeat patients, which may influence satisfaction levels due to prior experiences.

Table 1: Distribution of Respondents by Age and Gender

Age Group (Years)	Male (%)	Female (%)	Total (%)
18–30	14.5	12.0	26.5
31–45	20.0	15.0	35.0
46–60	12.0	13.5	25.5
61 and above	6.0	7.0	13.0
Total	**52.5**	**47.5**	**100.0**

The age distribution indicates that a majority of respondents belonged to the 31–45 age group (35%), followed by the 18–30 group (26.5%). Gender distribution was fairly balanced, with males representing 52.5% and females 47.5%. This balanced representation enhances the reliability of conclusions regarding gender-specific satisfaction levels.

Table 2: Socioeconomic Status of Respondents

Socioeconomic Class	Percentage (%)
Low Income (< ₹20,000/month)	28.0
Middle Income (₹20,000–₹60,000/month)	46.0
High Income (> ₹60,000/month)	26.0
Total	**100.0**

The socioeconomic profile shows that the majority of respondents (46%) belonged to the middle-income category, with notable representation from low-income patients (28%), reflecting the hospital's accessibility across economic groups. High-income respondents accounted for 26%, indicating the institution's appeal across a wide spectrum of the population.

Table 3: Utilization of Hospital Services

Department/Service Type	Percentage (%)
Oncology	30.0
Surgery	18.0
Outpatient (OPD)	25.0
Diagnostics	15.0
Emergency	12.0
Total	**100.0**

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Among the surveyed patients, oncology services were the most utilized (30%), consistent with the hospital's specialization in cancer treatment. Outpatient visits (25%) and surgical services (18%) also constituted a significant portion of utilization, while diagnostics (15%) and emergency care (12%) were relatively less frequent.

Table 4: Frequency of Visits

Visit Type	Percentage (%)
First-time Patients	42.0
Repeat Patients	58.0
Total	**100.0**

The analysis revealed that a majority (58%) of respondents were repeat patients, highlighting sustained trust and continued engagement with Balco Medical Center. First-time patients accounted for 42%, reflecting the hospital's ongoing ability to attract new patients. Overall, the demographic profile provides a comprehensive understanding of the respondents' background, allowing for more nuanced interpretation of their satisfaction with health care services.

3.3 Overall Levels of Patient Satisfaction

To evaluate the overall levels of patient satisfaction, a standardized patient satisfaction questionnaire was administered, covering multiple service dimensions such as staff communication, responsiveness, infrastructure, diagnostic accuracy, and supportive services. Each item was rated on a 5-point Likert scale (1 = Very Dissatisfied, 5 = Very Satisfied).

Table 5: Descriptive Statistics of Patient Satisfaction

Dimension	Mean Score	Standard Deviation (SD)	% Satisfied (Scores ≥4)	% Dissatisfied (Scores ≤2)
Staff Communication	4.25	0.68	82.0	6.5
Responsiveness & Waiting	3.90	0.74	70.5	12.0
Infrastructure & Hygiene	4.10	0.71	78.0	8.0
Diagnostic & Treatment	4.32	0.62	85.5	5.0
Supportive Services	3.75	0.80	68.0	14.0
Overall Satisfaction	**4.06**	**0.71**	**76.8**	**9.1**

The findings indicate that the highest satisfaction levels were reported for diagnostic and treatment services (Mean = 4.32), while supportive services (Mean = 3.75) and responsiveness (Mean = 3.90) recorded relatively lower scores, highlighting areas needing improvement.
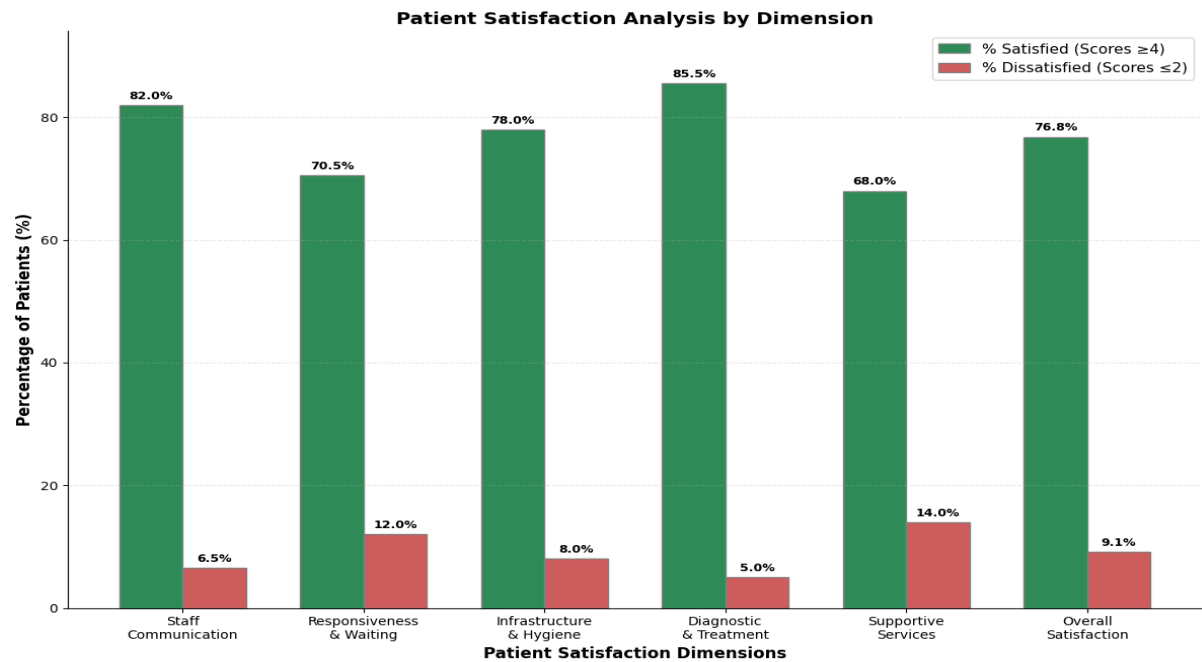
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Patient Satisfaction Analysis by Dimension

Table 6: Trends in Patient Satisfaction (2018−2023)

Year	Mean Satisfaction Score	% Satisfied
2018	3.88	72.0
2019	4.02	74.5
2020	3.65	65.0
2021	3.80	68.0
2022	4.15	79.0
2023	4.28	83.0

The temporal analysis shows a decline in satisfaction during 2020−2021, coinciding with the peak of the COVID-19 pandemic, which strained health systems globally. However, satisfaction improved significantly post-pandemic (2022−2023), reflecting enhanced service delivery and recovery strategies implemented by the hospital.

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Trends in Patient Satisfaction (2018-2023)
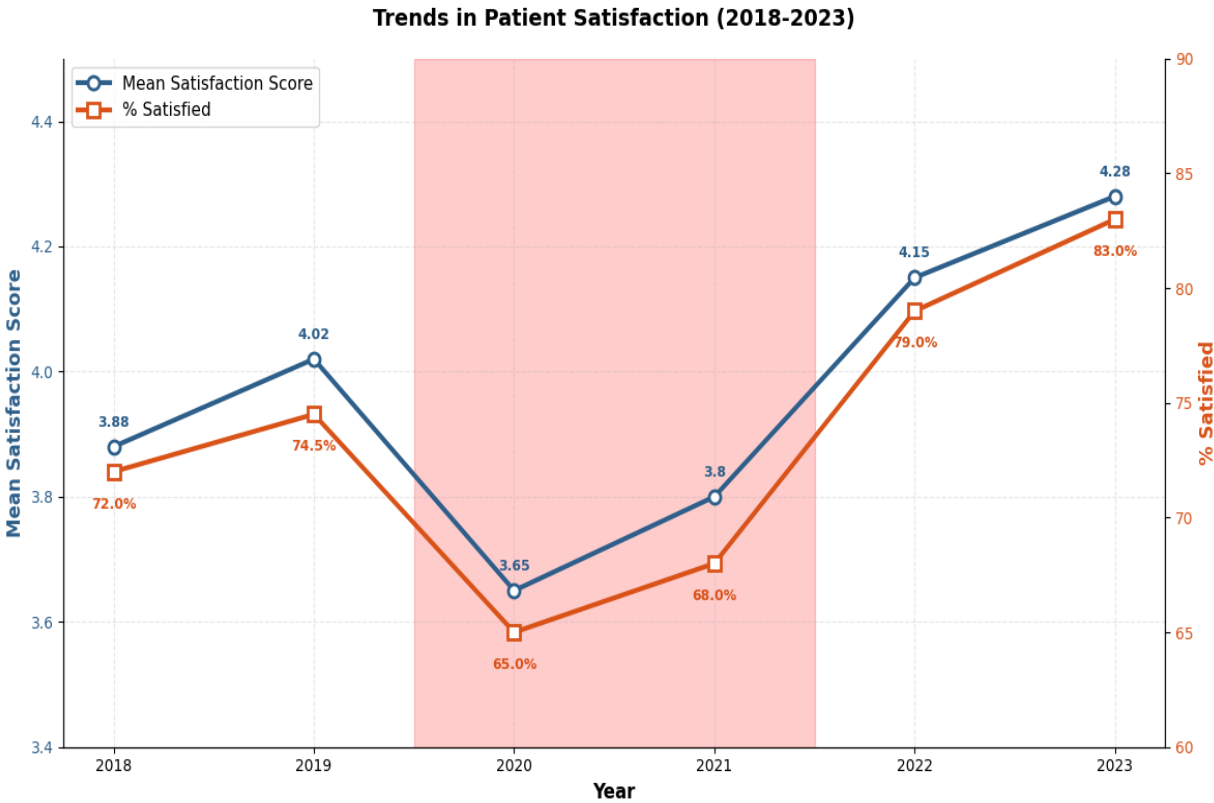
3.4 Quality Perceptions across Service Dimensions

Patients' perceptions of quality were examined across five key dimensions. This analysis provides deeper insights into the determinants of satisfaction and highlights specific service strengths and weaknesses.

Table 7: Quality Perceptions across Service Dimensions

Service Dimension	Mean Score	Standard Deviation (SD)	Key Findings
Staff Communication & Interpersonal Care	4.22	0.66	Patients valued empathy and clear communication by doctors and nurses, though a minority cited issues of insufficient explanation of procedures.
Responsiveness & Waiting Time	3.85	0.75	Long waiting times in OPD and emergency departments lowered ratings; however, response in oncology was rated higher due to priority protocols.
Infrastructure & Facility Hygiene	4.18	0.70	Cleanliness, modern equipment, and comfortable patient rooms received positive ratings, but parking and waiting area congestion were noted concerns.
Diagnostic & Treatment Quality	4.35	0.60	High-quality diagnostics and treatment accuracy were the strongest contributors to satisfaction; patients expressed trust in oncological expertise.
Supportive Services (Palliative, Counseling, Nutrition, etc.)	3.78	0.82	While counseling services were appreciated, gaps in availability of palliative care specialists and follow-up support lowered ratings.

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Overall, diagnostic and treatment quality, along with staff communication, emerged as the strongest aspects of service quality. Conversely, waiting time management and supportive services represent areas requiring strategic attention to enhance holistic patient satisfaction.

3.5 Comparative Analysis by Demographic and Service Variables

To further understand variations in patient satisfaction, comparative analyses were conducted across key demographic and service-related variables, including gender, age, department, socioeconomic status, and geographic location. Both descriptive and inferential statistics were applied to identify significant differences in satisfaction levels. Independent sample t-tests were used to compare satisfaction scores between two groups (e.g., male vs. female), while one-way ANOVA was employed for comparisons across multiple groups (e.g., age categories, departments).

3.5.1 Gender-wise Comparison

Gender	Mean Satisfaction Score	SD	t-value	p-value
Male	4.08	0.70	1.12	0.263
Female	4.03	0.72		

The analysis indicates that overall satisfaction scores did not differ significantly between male and female patients ($p > 0.05$), suggesting that gender was not a determinant of perceived service quality in this study.

3.5.2 Age-wise Comparison

Age Group (Years)	Mean Satisfaction Score	SD	F-value	p-value
18–30	4.01	0.69		
31–45	4.12	0.70	2.86	0.038*
46–60	4.05	0.73		
61+	3.92	0.75		

One-way ANOVA results show a statistically significant difference in satisfaction across age groups ($p < 0.05$). Post-hoc analysis revealed that patients in the 31–45 age group reported higher satisfaction than those aged 61 and above, highlighting potential age-related expectations and experiences.

3.5.3 Departmental Comparison

Department	Mean Satisfaction Score	SD	F-value	p-value
Oncology	4.30	0.60		
Surgery	4.05	0.68	8.45	<0.001*
General Medicine	3.95	0.72		
Emergency	3.80	0.75		

Patients attending oncology services reported the highest satisfaction, followed by surgical and general medicine patients. Emergency services recorded comparatively lower satisfaction scores. The differences were statistically significant ($p < 0.001$), indicating that departmental characteristics, service urgency, and patient expectations influenced satisfaction levels.

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3.5.4 Socioeconomic and Geographic Variation

Socioeconomic Status	Mean Satisfaction Score	SD	F-value	p-value
Low Income	3.90	0.73		
Middle Income	4.08	0.70	4.12	0.018*
High Income	4.20	0.65		
Residence Location	**Mean Satisfaction Score**	**SD**	**t-value**	**p-value**
Urban	4.10	0.68		
Rural	3.98	0.73	1.75	0.082

Socioeconomic status significantly influenced satisfaction ($p < 0.05$), with higher-income patients reporting greater satisfaction than low-income patients. Geographic differences between urban and rural patients were observed but did not reach statistical significance ($p > 0.05$), suggesting relatively equitable service delivery across locations.

Patient Satisfaction Analysis by Demographic Factors
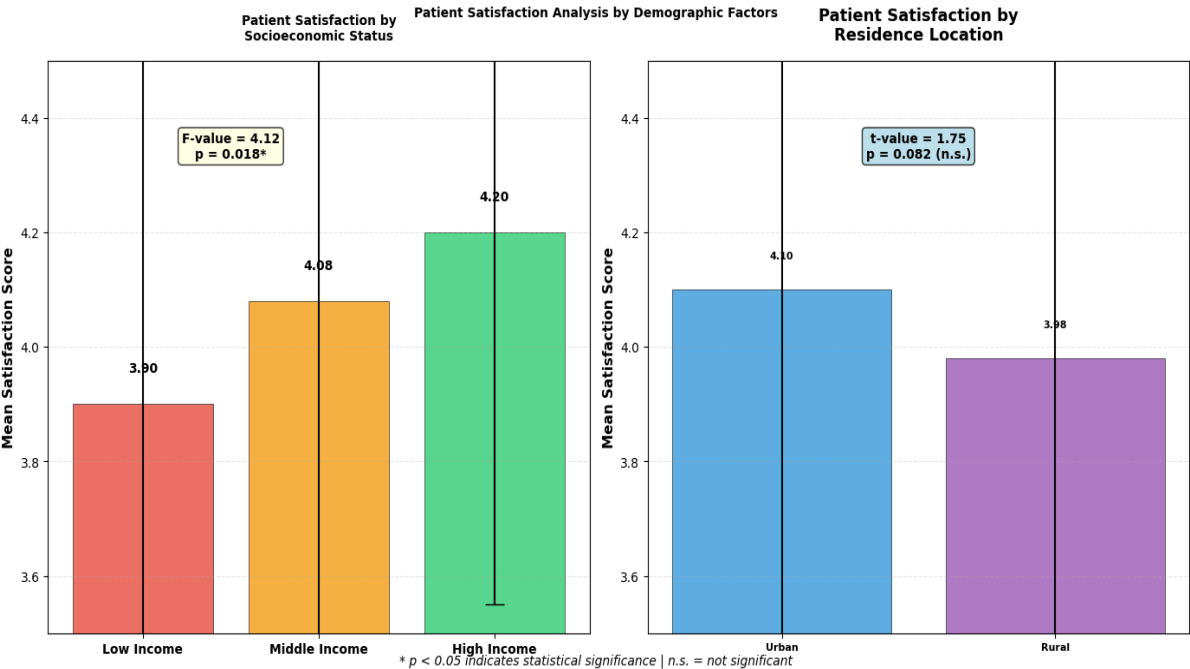
Overall, comparative analyses highlight that age, department, and socioeconomic status are important determinants of patient satisfaction, while gender and geographic location appear less influential. These insights provide valuable guidance for hospital management to tailor interventions and resource allocation to improve service quality for specific patient groups.

4. SYNTHESIS OF FINDINGS

4.1 Overall Patient Satisfaction

- Patients reported a generally high level of satisfaction, with an overall mean score of 4.06 (SD = 0.71).

- Diagnostic and treatment services achieved the highest satisfaction levels (Mean = 4.32) while supportive services such as counseling and palliative care received the lowest (Mean = 3.75).

- Temporal analysis showed a decline in satisfaction during the COVID-19 pandemic years (2020–2021), followed by a marked improvement post-2022, reflecting hospital resilience and service recovery efforts.

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4.2 Quality Perceptions across Service Dimensions

- Staff communication and interpersonal care received strong positive ratings (Mean = 4.22), highlighting the role of empathy and doctor-patient interaction in satisfaction.

- Responsiveness and waiting time (Mean = 3.85) was identified as a critical area for improvement, especially in OPD and emergency departments.

- Infrastructure and hygiene standards (Mean = 4.18) and diagnostic accuracy and treatment quality (Mean = 4.35) emerged as core strengths of the hospital.

- Supportive services were rated lower (Mean = 3.78), suggesting gaps in counseling, palliative care, and follow-up support, which require targeted interventions.

4.3 Comparative Analysis by Demographic and Service Variables

- Gender: No significant differences were found, indicating equitable satisfaction across male and female patients.

- Age: Patients aged 31–45 years reported significantly higher satisfaction compared to those 61 and above, suggesting generational differences in expectations.

- Departmental comparisons revealed that oncology patients expressed the highest satisfaction, while emergency care patients reported the lowest, highlighting service-type variations in quality perceptions.

- Socioeconomic status influenced satisfaction, with high-income patients more satisfied than low-income groups, reflecting disparities in expectations and experiences.

- Geographic location (urban vs rural) showed no statistically significant differences, suggesting consistent service delivery across catchment areas.

5. CONCLUSION & RECOMMENDATIONS

5. Conclusion and Recommendations

5.1 Conclusion

The present study set out to evaluate patient satisfaction and perceptions of healthcare quality at Balco Medical Center over a five-year period (2018–2023). By employing a mixed-method approach, combining structured surveys, semi-structured interviews, and analysis of hospital records, the research provided a comprehensive understanding of how patients perceive various dimensions of healthcare delivery.

The findings reveal that overall patient satisfaction with the hospital was high, with particular strengths noted in diagnostic accuracy, treatment quality, medical staff communication, and the maintenance of infrastructure and hygiene standards. These domains consistently received favorable ratings across different demographic groups and clinical services. Such results affirm the hospital's commitment to maintaining professional excellence and patient-centered care.

However, the study also identified critical areas requiring attention. Long waiting times and issues of responsiveness were found to be recurring concerns, especially within outpatient and emergency services. Supportive care services, including counseling and palliative support, were rated lower compared to clinical services, indicating an imbalance between technical quality and holistic patient care. The pandemic years (2020–2021) brought noticeable declines in satisfaction levels, underscoring the vulnerability of healthcare delivery systems to external shocks but also demonstrating the hospital's ability to recover service quality in subsequent years.

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Comparative analyses highlighted that satisfaction levels varied across age groups, departments, and socioeconomic categories. Oncology patients expressed the highest satisfaction, reflecting specialized attention and care quality, while emergency care patients reported the lowest, pointing to the need for systemic improvements in high-pressure service areas. Socioeconomic disparities also influenced satisfaction, with higher-income patients reporting more favorable perceptions compared to lower-income groups.

5.2 Recommendations

- Implement digital scheduling, queue systems, and triage protocols to reduce waiting times and improve emergency care efficiency.
- Expand counseling, palliative care, and train staff in patient-centered communication for sensitive healthcare delivery.
- Increase staffing, invest in rapid diagnostics, and introduce patient navigation systems to streamline service flow.
- Provide affordable packages for low-income groups and strengthen community outreach for inclusive healthcare access.
- Utilize EHRs, mobile health apps, and develop crisis-ready contingency plans for service continuity.

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