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Patient Satisfaction with Dental Services in a Tertiary Hospital in Riyadh, Saudi Arabia: A Cross-Sectional Study

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Abstract

***Background**: Patient satisfaction serves as a crucial gauge of healthcare quality and influences both adherence to treatment and the overall use of services. Within Saudi Arabia, the bulk of research on satisfaction with dental services has concentrated on academic institutions and primary-care settings, leaving a dearth of evidence from tertiary-care hospitals.*

***Objective**: This investigation aimed to evaluate patient satisfaction with dental services offered at a tertiary hospital in Riyadh and to identify demographic and service-related factors that shape this satisfaction.*

***Methods**: A cross-sectional survey was executed involving 312 adult patients who underwent dental treatment between January and March 2025. Participants completed a validated, self-administered questionnaire that covered eight satisfaction domains, scored on a five-point Likert scale. Statistical analysis included descriptive statistics, independent t-tests, and ANOVA.*

***Results**: Respondents recorded high satisfaction with professionalism (mean = 4.6), technical quality (4.5), and cleanliness (4.5). Lower scores were assigned to waiting times (3.4) and administrative efficiency (3.6). Satisfaction levels were significantly linked to age group ($p = 0.032$), educational attainment ($p = 0.045$), and the specific service received ($p = 0.018$), while gender showed no significant effect ($p = 0.210$).*

***Conclusion**: Patients at this tertiary hospital reported strong satisfaction with both the clinical and interpersonal components of care, although operational shortcomings were noted. Targeted initiatives aimed at shortening waiting periods and streamlining administrative tasks could further refine the overall patient experience.*

INTRODUCTION

Oral health is essential to overall wellness, shaping the ease with which we eat, speak, and connect with others, as well as affecting our self-image and quality of life. In recent years, health systems worldwide have increasingly agreed that the value of dental care should be judged not only by clinical success but by how satisfied patients feel. Satisfaction is now regarded as a vital marker of care quality, signaling how well a service meets patient hopes and shaping their willingness to follow treatment plans, return for check-ups, and maintain good long-term oral health (Mahrous & Hifnawy, 2012).

Dental care in Saudi Arabia involves a blend of public, private, and academic clinics, with specialized hospitals acting as vital hubs for complicated cases. In these larger, interdisciplinary environments, assessing how satisfied patients feel with their care becomes especially crucial, given that cases may call for multiple specialists, sophisticated technologies, and extended treatment timelines. Recent surveys in the Kingdom have uncovered a range of satisfaction levels, with ease of access, quality of communication, success of treatment, and the personal approach of dental staff each emerging as key influences (Al Ghanem et al., 2023; Aldossary & Alahmary, 2023). Recent literature from Saudi Arabia has steadily increased, yet the bulk of evidence still centers on educational facilities and primary care clinics (Tashkandi et al., 2017; Habib et al., 2014). Accordingly, data on patient satisfaction specifically within tertiary hospital dental departments—where care for more intricate needs intersects with distinctive logistical hurdles—remain scant. Furthermore, although national studies of patient satisfaction exist, they do not dissect the variables influencing satisfaction within environments of elevated dental care complexity.

This investigation therefore centers on patient satisfaction with the dental services of a tertiary hospital in Riyadh, Saudi Arabia, and it identifies principal variables that shape satisfaction. By filling this evidence void, the work aspires to render practical recommendations for enhancing service delivery, bolstering patient-centered interactions, and elevating the quality of care in specialized dental contexts.

LITERATURE REVIEW

Patient satisfaction in dental care is increasingly seen as a vital marker of service quality, guiding compliance, treatment outcomes, and patient loyalty. In Saudi Arabia, research into this area is expanding, yet studies differ in their settings, methods, and specific interests.

Mahrous and Hifnawy (2012) surveyed attendees of Taibah University's dental college and reported that most patients were pleased with communication and clinical skills, but they expressed clear frustrations with queue lengths and the scheduling of appointments. Almost identical results surfaced in the 2012 study by Al-Refeidi and colleagues at King Khalid University: treatment outcomes earned strong scores while administrative aspects were less well-regarded.

More recent work has added nuance. Al Ghanem and co-authors (2023) surveyed several urban and rural public hospitals and found that patients appreciated relational care yet objected to long waits and less-than-ideal premises. Aldossary and Alahmary (2023) restricted their attention to Ministry of Health centres and confirmed that ease of access, effective communication, and the transparency of treatment explanations were the three strongest drivers of overall satisfaction.

Educational institutions continue to be fertile ground for satisfaction research. Tashkandi et al. (2017) explored perceptions at Umm Al-Qura University's dental teaching hospital and noted that, while patients appreciated the care's thoroughness, the duration of appointments—driven by the teaching model—raised concern. Habib et al. (2014) reached a similar conclusion at another Saudi university, citing robust satisfaction scores but persistent complaints regarding the length of treatment. Al Saffan et al. (2019) turned the focus to Riyadh Elm University's clinics, where the strength of the therapeutic alliance and trust emerged as primary factors differentiating satisfaction levels.

Broadening the lens to major hospital settings, Subait et al. (2016) gathered views from a prominent health center and reported a high overall satisfaction average. Nonetheless, they singled out recurrent operational shortcomings, such as corridor congestion and system redundancies, as impediments to a seamless experience. More recently, Alzubaidi et al. (2024) surveyed Taif University Dental Hospital, confirming that professionalism, effective communication, and attention to comfort consistently underpinned favorable ratings.

From this accumulating evidence, three persistent patterns can be distilled:

- Technical competence is taken for granted—patients express trust in the clinical skills demonstrated.
- Communication strength—both in clarity and empathy—serves as a decisive factor in shaping the satisfaction trajectory.
- Operational shortcomings—lengthy waits, postponed appointments, and bureaucratic rigidity—remain the predominant sources of grievance.
- Underrepresentation of tertiary hospital settings – Many existing studies have concentrated on academic training clinics or community health centres, which means we still lack a clear picture of how satisfied patients feel within the intricate environment of specialised tertiary care.

This leaves a valuable opening to investigate patient satisfaction within a dedicated dental department of a tertiary hospital in Riyadh, where the demands of patients, their specific expectations, and the layered complexities of the care provided are likely to diverge sharply from what is typically encountered in both primary care and in training clinics.

METHODOLOGY

Study Design and Setting

To evaluate patient satisfaction with dental care at a Riyadh tertiary hospital, a descriptive, cross-sectional design was employed. The institution serves as a principal referral hub, delivering integrated dental services spanning oral surgery, prosthodontics, periodontics, orthodontics, and pediatric dentistry, thereby accommodating a diverse patient base.

Study Population and Sampling

Patients aged 18 and older who underwent dental care at the hospital from January through March 2025 constituted the target population. Utilizing a consecutive sampling strategy, individuals receiving services at outpatient clinics were recruited. Eligibility hinged on participants completing either a comprehensive treatment regimen or a series of appointments within the designated timeframe. Individuals with cognitive impairments, as well as those unable to complete the survey in Arabic or English, were not included.

Out of 350 patients approached, 312 provided informed consent, resulting in a participation rate of 89.1%.

Data Collection Tool

Data were obtained through a self-completed, structured questionnaire adapted from existing validated patient satisfaction instruments previously used in Saudi Arabia (Mahrous & Hifnawy, 2012; Al Ghanem et al., 2023). The questionnaire contained three sections: 1) Demographic details—age, gender, educational qualification, and type of dental service received; 2) Service-related aspects—accessibility, length of waiting time, cleanliness of the facilities, and efficiency of administrative processes; 3) Interpersonal and clinical care—communication skills, professionalism, technical proficiency, and overall satisfaction. Responses were captured using a five-point Likert scale from 1 ("very dissatisfied") to 5 ("very satisfied").

Pilot Testing

The instrument was pretested with 20 patients at the same hospital to evaluate clarity, reliability, and cultural relevance. Minor wording adjustments were made for enhanced understanding. The final version achieved a Chronbach's alpha of 0.89, demonstrating high internal consistency.

Data Collection Procedure

Trained research assistants handed the questionnaires to patients waiting for their treatment, immediately following their dental appointments. Participation was entirely voluntary, and written informed consent was secured from each respondent. Completed surveys were gathered on the spot to prevent any loss of data.

Ethical Considerations

The hospital's ethics committee approved the study. Participants were assured that their responses would remain confidential, and no personally identifiable data were recorded.For the analysis, all data were input using IBM SPSS Statistics, release 26. Initial descriptive statistics—encompassing means, standard deviations, and frequency distributions—provided a summary of both patient demographics and satisfaction ratings. Subsequent independent t-tests and a one-way ANOVA were applied to investigate the relationships between satisfaction scores and selected demographic or service-oriented characteristics. Statistical significance was indicated by a p-value threshold of less than 0.05.

FINDINGS

Participant Demographics

The study included 312 participants. Of these, 51.9% identified as female. The age group 30 to 49 years comprised the largest segment, making up 43.6% of the sample. A college or university degree was held by 61.5% of respondents, and 62.2% of the group reported having received specialist care during the visit documented in the study (see Table 1 for details).

Table 1. Demographic Characteristics of Participants

Variable	Category
Gender	Male (n=150, 48.1%), Female (n=162, 51.9%)
Age group	18–29 years (n=102, 32.7%), 30–49 years (n=136, 43.6%), ≥50 years (n=74, 23.7%)
Education Level	Primary/Secondary (n=78, 25.0%), College/University (n=192, 61.5%), Postgraduate (n=42, 13.5%)
Type of Service Received	General dentistry (n=118, 37.8%), Specialist care (n=194, 62.2%)

Satisfaction Scores by Domain

Survey respondents expressed strong satisfaction overall, averaging ratings above 4.0 out of 5 across nearly all categories (see Table 2). Professional demeanor of staff received the highest rating (mean = 4.6), closely followed by the perceived quality of technical care (mean = 4.5). Facility cleanliness was rated equally well, also at a mean of 4.5. In contrast, the longest faces could be seen when it came to waiting times, which got a mean score of 3.4; the efficiency of administrative steps came next, at a mean of 3.6.

Table 2. Mean Satisfaction Scores by Domain

Domain	Mean Score (SD)
Accessibility	4.1
Waiting Time	3.4
Cleanliness	4.5

Domain	Mean Score (SD)
Administrative Process	3.6
Communication	4.3
Professionalism	4.6
Technical Quality	4.5
Overall Satisfaction	4.4

Associations Between Demographics and Satisfaction

Bivariate analysis showed that satisfaction scores were meaningfully linked to age group ($p = 0.032$), education level ($p = 0.045$), and type of service received ($p = 0.018$) (see Table 3). Patients between 30 and 49 years, those with a university degree or higher, and those receiving specialist care gave significantly higher satisfaction scores. By contrast, gender showed no significant relationship with satisfaction ($p = 0.210$).

Table 3. Associations Between Demographics and Satisfaction Scores

Variable	p-value	Significant
Gender	0.210	No
Age Group	0.032	Yes*
Education Level	0.045	Yes*
Type of Service	0.018	Yes*

*Statistically significant at $p < 0.05$.

DISCUSSION

This research investigated patient satisfaction with dental services delivered at a tertiary hospital in Riyadh, Saudi Arabia, contributing new data from a complex-care environment that prior literature has mainly overlooked. Overall, respondents expressed positive evaluations, with the highest scores recorded for staff professionalism, the caliber of clinical procedures, and the cleanliness of dental spaces. These results correspond closely with earlier Saudi studies, which found that patients tend to trust the competence and professionalism of dental teams (Mahrous & Hifnawy, 2012; Alzubaidi et al., 2024).

That said, and echoing findings from both educational institutions and non-specialized public clinics, the timeliness of appointments was the dimension rated lowest by respondents (Al Ghanem et al., 2023; Tashkandi et al., 2017). Patients repeatedly highlighted delays in the start of treatment and the length of subsequent appointments as principal causes of dissatisfaction, a problem that is especially acute in dental departments that serve large populations. In a tertiary setting, the issue is often aggravated by intricate referral procedures, the limited availability of specialist practitioners, and the competing demands of a constrained resources environment.

The observation that demographic factors—age, education, and the type of dental service—covary with patient satisfaction implies that expectations and lived experiences of care vary meaningfully among groups. Specifically, the 30- to 49-year cohort indicated elevated satisfaction, perhaps because their increased experience with the healthcare system fosters tempered expectations and adaptive navigation skills. Meanwhile, patients with more formal education shared similar levels of contentment, contradicting literature that associates education with escalating expectations (Al Saffan et al., 2019). This inconsistency could stem from the tertiary care environment, which reviews highly specialized interventions that meet the sophisticated preferences of educated patients.

Also of note, those treated in specialty clinics rated their experience more positively than peers who accessed general dental services. This difference likely arises from perceived levels of clinical expertise, tailored care, and resource availability that specialty centers can offer. Commensurate tendencies have been recorded in other academic medical centers throughout the Kingdom (Subait et al., 2016).

Uniformly elevated ratings for communication and professionalism highlight the critical weight of the dentist-patient relationship—an observation that recurs in the Saudi oral health literature (Aldossary & Alahmary, 2023). Effective interpersonal communication may soften the fallout from ancillary concerns, such as lengthy queues,

and act as a stabilizing influence that preserves satisfaction even when other service dimensions are less than ideal.

Implications for Practice

Since operational delays—especially in wait times and administrative workflows—emerged as major challenges, hospital leaders ought to prioritize process improvement initiatives. Enhanced appointment scheduling algorithms, peak-period staff augmentation, and simplified referral pathways could collectively reduce bottlenecks. In parallel, focused enhancement programs for general dentistry—where patient satisfaction lagged behind specialist services—would foster a more uniform and positive experience for all patients.

Strengths and Limitations

This analysis benefits from a concentration on a tertiary dental facility, a context seldom examined in Saudi research, in addition to a relatively sizeable participant group. Nonetheless, results from a single site may not extrapolate to all Kingdom tertiary centers. Moreover, the cross-sectional design limits understanding of satisfaction trends during protracted treatment regimens.

Future Research

To enrich the evidence base, large-scale, multi-center investigations spanning the Kingdom's diverse regions are essential for mapping satisfaction across tertiary dental services. Complementary qualitative inquiries would further elucidate the precise determinants behind positive and negative patient evaluations in these specialized environments.

CONCLUSION

Patients attending the dental department at the tertiary hospital in Riyadh expressed overall high satisfaction in professionalism, technical quality, cleanliness, and communication, underscoring the department's solid clinical and interpersonal benchmarks. Nonetheless, the analysis highlighted waiting times and administrative processes as persistent operational bottlenecks. Demographic factors—specifically age, education, and service type—shaped satisfaction levels; middle-aged patients, those with higher education, and individuals undergoing specialist treatment tended to score the department more favorably. Streamlining workflows and improving the experience for general dentistry patients present clear pathways for enhancing overall service. This evidence offers actionable guidance to hospital leaders and policymakers dedicated to advancing patient-centered dental care in complex, high-capacity settings.

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