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Assessment of Patient's Satisfaction Towards Dental Care Provided by Dental Hospital in Patna - A Cross-Sectional Study

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ABSTRACT

Introduction

Oral health is vital to overall health and well-being. Patient satisfaction is crucial in this transition, as it provides insights into the quality of dental care services and highlights areas for improvement. Assessments of patient satisfaction help identify best practices and set benchmarks for quality care, promoting standardization globally.

Objective

This study aims to evaluate patient satisfaction at a dental hospital.

Methodology

A cross-sectional survey was conducted among patients visiting a dental hospital over two months. The Dental Satisfaction Questionnaire, developed by Davies & Ware (1982), was used to assess subscales of pain management, technical skill, interpersonal interaction, accessibility, and patient demographics. RESULTS: A total of 381 patients (206 males and 175 females) answered the DSQ. The overall dental satisfaction index (DSI) was high (3.87), with the highest satisfaction occurring for access (4.65), while the lowest satisfaction was continuity (2.47). There

was no significant difference between the genders except for the accessibility and pain management parameters, as $p < 0.05$. We observed a negative correlation between age and the cost and quality parameters of the hospital's treatment.

Conclusion

Overall patient satisfaction was good, but implementing suggestions from respondents can address areas needing improvement. Patient satisfaction is a pivotal tool in transitioning from national to global oral health standards, expanding the horizon for improved dental care and better health outcomes worldwide.

Keywords

Patient Satisfaction, Davis and Ware, Dental Hospital

INTRODUCTION

Health is a fundamental human right and a cornerstone of social and economic development. According to the World Health Organization, health is a state of complete physical, mental, and social well-being and not merely the absence of disease.[1] The delivery of quality healthcare is therefore essential for improving population health outcomes.

The World Health Organization defines quality healthcare as care that is effective, safe, patient-centered, timely, equitable, and efficient.[2] In recent decades, increasing awareness and consumerism in healthcare have transformed patients from passive recipients into informed stakeholders. Patient satisfaction has thus emerged as a critical indicator of healthcare quality and system performance.[3–5]

Satisfaction is a multidimensional construct influenced by patient expectations, perceived performance, and prior experiences.[6] In healthcare, service quality dimensions such as reliability, responsiveness, assurance, empathy, and tangibles are commonly used to assess satisfaction.[7] In dentistry, satisfaction is closely linked to interpersonal communication, trust, pain control, accessibility, affordability, and continuity of care.[8,9]

Dental institutions cater to diverse populations and play a vital role in providing affordable oral healthcare. Regular assessment of patient satisfaction in such settings provides valuable feedback for service improvement. Satisfied patients are more compliant, experience less anxiety, and are more likely to seek preventive care.[10] Moreover, organizations delivering high-quality care develop strong reputations, resulting in better patient retention and positive word-of-mouth.[11] The present study was undertaken to assess dental patient satisfaction using the Dental Satisfaction Questionnaire and to evaluate its association with selected demographic variables.

MATERIALS AND METHODS

- **Study Design and Setting**

  A cross-sectional questionnaire-based study was conducted over two months (June–July 2024) at Buddha Institute Of Dental Sciences And Hospital, Patna.

- **Study Population and Sample Size**

  The study included patients aged 18 years and above who had received dental treatment. Based on an assumed satisfaction prevalence of 55%, 95% confidence level, and 5% margin of error, the required sample size was calculated as 381. Convenience sampling was used.

- **Inclusion and Exclusion Criteria**

  Patients who provided informed consent were included. Illiterate patients, orthodontic patients, and individuals with intellectual or physical

disabilities were excluded. Participants were assured of confidentiality and anonymity, and questionnaires were self-administered without investigator influence.

- **Ethical Considerations**

  Ethical approval was obtained from the Institutional Ethics Committee(ref.no.-100/BIDSH/IEC/2024-25(2023-24). Written informed consent was obtained from all participants prior to data collection.

- **Data Collection Tool**

  Patient satisfaction was assessed using the Dental Satisfaction Questionnaire (DSQ) developed by Davies and Ware.[12] The questionnaire was translated into Hindi using the standard back-translation method and validated through a pilot study. It consists of 19 items assessing access, availability/convenience, cost, continuity, pain management, quality, and overall satisfaction, scored on a 5-point Likert scale. Questionnaires with incomplete responses were excluded from the final analysis.

- **Statistical Analysis**

  Data were entered into MS Excel and analyzed using SPSS version 16.0. Descriptive statistics were calculated. Mann–Whitney U test, Kruskal–Wallis test, and Spearman's correlation were applied. A p-value <0.05 was considered statistically significant.

RESULTS

A total of 381 patients participated in the study, including 206 males (54.1%) and 175 females (45.9%). The mean age was 40.03 ± 12.91 years for males and 37.99 ± 13.44 years for females, with no statistically significant difference between genders ($p = 0.106$).

Overall, patients reported high dental satisfaction. The highest mean scores were recorded for Access (4.65 ± 0.25), Cost (4.24 ± 0.25), and Access Total (4.35 ± 0.20). Availability/Convenience (4.06 ± 0.49) and Quality of care (3.99 ± 0.12) showed moderately high satisfaction. In contrast, Pain Management (2.66 ± 0.35) and Continuity of care (2.47 ± 0.50) received the lowest scores. The overall Dental Satisfaction Index was 3.87 ± 0.11. Most satisfaction parameters showed no significant variation across age groups ($p > 0.05$); however, Cost ($p = 0.049$) and Continuity ($p = 0.034$) differed significantly, with lower scores reported in the 58–67 years age group. Gender-wise comparison revealed that females reported significantly higher satisfaction for Access ($p = 0.05$) and Pain Management ($p = 0.018$). No significant gender differences were observed for other parameters.

Satisfaction levels did not differ significantly by geographic location or socioeconomic status, indicating uniform perceptions of dental services. Spearman's correlation analysis demonstrated weak and mostly non-significant associations between age and satisfaction parameters, with significance observed only in select age groups.

Table No. 1: Distribution of study subjects according to age categories and gender

Age Category (in years)	Male		Female		Total	
	N	%	N	%	N	%
18-27	48	52.20%	44	47.80%	92	100.00%
28-37	41	48.20%	44	51.80%	85	100.00%
38-47	41	40.20%	61	59.80%	102	100.00%
48-57	29	44.60%	36	55.40%	65	100.00%
58-67	14	46.70%	16	53.30%	30	100.00%
68-78	2	28.60%	5	71.40%	7	100.00%
Total	175	45.90%	206	54.10%	381	100.00%

Chi-square= 3.878, Degrees of freedom (df)= 5, P-value= 0.567

Table No. 2: Overall Statistics of the Dental Satisfaction Parameters

Parameters	Min	Max	Mean	SD
Access	3.7	5	4.65	0.25
Availability/ Convenience	3.5	4.5	4.06	0.49
Cost	4	4.5	4.24	0.25
Continuity	2	3	2.47	0.5
General Satisfaction	3	3	3	0
Pain Management	2	3.7	2.66	0.35
Quality	3.7	4.3	3.99	0.12
Access Total	4	4.7	4.35	0.2
Dental Satisfaction	3.6	4.2	3.87	0.11

*p<0.05 is statistically significant,**p<0.01 is statistically highly significant, NS = not significant,

Table no. 3 : Spearman's correlation between Age groups and Dental satisfaction parameters

Spearman's rho		Age Category					
		18-27 yrs	28-37 yrs	38-47 yrs	48-57 yrs	58-67 yrs	68-78 yrs
Access	P	0.018	-0.09	-.246*	-0.02	-0.062	.808*
	P Value	0.862	0.413	0.013	0.877	0.744	0.028
Availability	P	-0.013	0.083	-0.002	-0.087	-.380*	-0.367
	P Value	0.9	0.452	0.983	0.493	0.038	0.417
Cost	P	0.06	0.012	0.053	-0.105	0.025	0
	P Value	0.569	0.916	0.594	0.404	0.897	1
Continuity	P	-0.038	0.045	0.059	0.169	0.045	.
	P Value	0.717	0.686	0.556	0.178	0.812	.
General Satisfaction	P	.	.	.	.	.	.
	P Value	.	.	.	.	.	.
Pain Management	P	-0.004	-0.129	-0.013	0.151	0.256	-0.729
	P Value	0.973	0.238	0.894	0.229	0.172	0.063
Quality	P	-0.072	0.159	-0.013	-0.156	-0.024	.884**
	P Value	0.498	0.146	0.897	0.215	0.901	0.008
Access Total	P	0.013	0.011	-0.097	-0.125	-0.282	-0.133
	P Value	0.9	0.922	0.333	0.322	0.132	0.776
Dental Satisfaction	P	-0.065	0.072	-0.125	-0.079	-0.081	0.204
	P Value	0.54	0.51	0.21	0.533	0.67	0.661

*p<0.05 is statistically significant,**p<0.01 is statistically highly significant, NS = not significant,

DISCUSSION

The present study assessed patient satisfaction with dental care services provided by an institutional dental hospital in Patna and explored its association with demographic variables. Overall, the findings indicate high levels of patient satisfaction, with notable strengths in accessibility, affordability, and quality of care, alongside identifiable gaps in continuity of care and pain management.

High satisfaction with access observed in the present study indicates efficient institutional organization, convenient clinic hours, and acceptable waiting times.

Similar high access-related satisfaction has been reported by Chu et al. and Hashim et al., who observed that university-based dental clinics generally perform well in ensuring service availability and ease of access.[13],[14] Likewise, Ebn Ahmady et al. reported that institutional settings often provide structured systems that enhance patient access.[10] High satisfaction with cost in the present study aligns with findings by Kumar et al., who attributed affordability in institutional dental clinics to subsidized fee structures and standardized treatment costs.[15]

Despite these strengths, continuity of care emerged as the least satisfactory domain. This finding is consistent with observations by Hashim et al., who reported dissatisfaction related to lack of consistent provider–patient interaction in teaching institutions due to frequent student rotations.[14] Similarly, Milgrom et al. emphasized that disrupted continuity negatively affects trust, follow-up compliance, and long-term treatment satisfaction.[16] Continuity is particularly critical for comprehensive and chronic dental care, and its absence may compromise treatment adherence.

Pain management received comparatively low satisfaction scores, reflecting persistent patient concerns regarding discomfort during dental procedures. Comparable findings have been reported by Kumar et al. and Milgrom et al., who identified fear of pain as a major deterrent to dental visits and a key contributor to patient dissatisfaction.[15],[16] These studies highlight that inadequate pain control and insufficient communication regarding pain expectations can lead to anxiety, avoidance behavior, and delayed care. Therefore, patient-centered pain management strategies remain essential.

Age-related analysis in the present study revealed lower satisfaction with cost and continuity among older adults, a trend also reported by Gutierrez et al.[17] In contrast, younger adults demonstrated relatively stable satisfaction levels, consistent with findings by Skaret et al., who reported minimal age-related variation in overall dental satisfaction.[18]

Female participants in the present study reported higher satisfaction with access and pain management. This observation is in agreement with Shulamithi et al., who found that females tend to demonstrate greater healthcare utilization, better communication, and more proactive health-seeking behavior, contributing to higher satisfaction scores.[19]

The absence of significant differences based on geographic location and socioeconomic status suggests equitable service delivery within the institutional setting. Similar findings were reported by Kumar et al. and Alshali et al., who noted that standardized protocols in teaching hospitals help minimize disparities in patient experience.[15],[20] From a public health perspective, this uniformity reflects

effective service provision across diverse population groups.

The present study has several strengths. It utilized a validated and widely used instrument (Dental Satisfaction Questionnaire), ensuring reliability and comparability with existing literature. The adequate sample size (n = 381) and inclusion of multiple demographic variables such as age, gender, geographic location, and socioeconomic status enhance the robustness and generalizability of the findings within institutional dental care settings. Additionally, the study provides comprehensive domain-wise assessment of dental satisfaction, offering practical insights for quality improvement in public health dentistry.

However, certain limitations must be acknowledged. The cross-sectional design limits the ability to establish causal relationships between demographic factors and patient satisfaction. The use of convenience sampling may introduce selection bias and restrict external generalization beyond similar institutional settings. Satisfaction was assessed using self-reported responses, which may be influenced by social desirability bias. Furthermore, the study was conducted at a single institution, and variations in infrastructure or service delivery across other settings were not evaluated. Future multicentric and longitudinal studies are recommended to validate and extend these findings.

CONCLUSIONS

The study demonstrated high overall satisfaction with dental services, particularly in terms of accessibility, affordability, and perceived quality. However, continuity of care and pain management were identified as major gaps. Strengthening follow-up systems, ensuring provider consistency, and enhancing pain management protocols are essential to improve patient satisfaction and oral healthcare outcomes.

Recommendations

- Implement structured follow-up and recall systems
- Improve pain management through patient-centered strategies
- Enhance communication regarding procedures and expectations
- Conduct periodic patient satisfaction audits
- Promote preventive and continuity-focused dental care models

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