

Original Article



Patients' Expectations and Satisfaction with Fixed Partial Denture and Implant-Supported Single Crown in Clinical Practice in Bangladesh

Tareq Hassan ¹, Khadizatul Kobra ², Haris Muhammad Wali ur Rahman ³, Nizia Shahid ⁴

Abstract

Background: Fixed partial dentures and implant-supported single crowns are among the most widely accepted treatment options for replacement of missing teeth. These two procedures differ in cost, invasiveness, and biological outcomes, which may influence patient expectations and satisfaction.

Objective: To evaluate and compare patients' expectations and satisfaction with fixed partial dentures and implant-supported single crown in clinical practice from a Bangladeshi perspective.

Materials and Methods: A descriptive cross-sectional study was conducted among 130 patients (65 fixed partial dentures and 65 implant-supported single crowns) attending selected dental clinics in Bangladesh. Pre-treatment expectations and post-treatment satisfaction were assessed using a validated structured questionnaire including function, aesthetics, comfort, speech, and cost domains. Data were analyzed using SPSS version 25. Chi-square tests used to compare satisfaction between groups ($p < 0.05$).

Results: Post-treatment, functional satisfaction was reported by 83.08% of fixed partial dentures and 93.85% of implant-supported single crowns patients; aesthetic satisfaction by 69.23% of fixed partial dentures and 89.23% of implant-supported single crowns patients; comfort satisfaction by 76.92% of fixed partial dentures and 95.38% of implant-supported single crowns patients; and speech satisfaction by 95.38% of fixed partial dentures and 98.46% of implant-supported single crowns patients. Overall satisfaction was 81.54% for fixed partial dentures and 90.77% for implant-supported single crowns, with no statistically significant difference ($p = 0.3132$). However, dissatisfaction with treatment cost was common (41.53% for fixed partial dentures; 38.46% for implant-supported single crowns).

Conclusion: Both fixed partial dentures and implant-supported single crowns demonstrated high patient satisfaction regarding function, aesthetics, comfort, and speech. There was no statistically significant difference regarding overall satisfaction between fixed partial dentures and implant-supported single crowns. However, satisfaction related to treatment cost were low.

Key words: Fixed Partial Denture, Implant-Supported Single Crown, Patient Satisfaction, Expectations, Cost.

Date of received: 20.05.2025

Date of acceptance: 29.09.2025

DOI: <https://doi.org/10.3329/kyamcj.v16i3.88014>

KYAMC Journal. 2025; 16(03): 115-118.

Introduction

The replacement of missing tooth remains a fundamental aspect of prosthodontic treatment, directly influencing masticatory function, aesthetics, and overall quality of life. Over recent decades, significant advances have occurred in restorative options, allowing clinicians to choose from a range of fixed and implant-based prostheses. Among these, fixed partial dentures (FPDs) and implant-supported single crowns (ISCs) are two of the most widely accepted options for replacing single or multiple missing teeth. Both approaches aim to restore function and aesthetics, but they differ in biological, mechanical, and psychosocial outcomes.¹ Fixed partial dentures have traditionally been the treatment of choice for single-tooth replacement, for many decades. They are less invasive in terms of surgery and

relatively cost-effective.² However, they require preparation of adjacent teeth and may have biological and mechanical limitations such as secondary caries, periodontal pathology, and debonding. In contrast, implant therapy involves surgical intervention, longer treatment time, and higher cost. All factors that may affect patient expectations and satisfaction, particularly in developing countries like Bangladesh.³ In this context, the demand for fixed and implant based treatment is rising as public awareness and socioeconomic conditions improve. Yet, access to advanced dental treatment remains limited, and affordability often dictates cheaper treatment choice. Patient expectations play a crucial role in treatment planning and patient satisfaction. These expectations may be influenced by social and financial background, past dental experiences, education level, and

1. Associate Professor, Department of Prosthodontics, Bangladesh Dental College, Dhaka, Bangladesh.

2. Assistant Professor, Department of Dental Pharmacology, Bangladesh Dental College, Dhaka, Bangladesh.

3. Assistant Professor, Department of Dental Pharmacology, Bangladesh Dental College, Dhaka, Bangladesh.

4. Senior Resident Medical Officer, St George Hospital, Kogarah NSW, Australia.

Corresponding author: Dr. Tareq Hassan, Associate professor, Department of Prosthodontics, Bangladesh Dental College, Dhaka, Bangladesh. Cell: +8801711817126, E-mail: tareqbipul@yahoo.com

experience from others. Therefore, assessing expectations prior to treatment and evaluating satisfaction after prosthesis delivery provide valuable insights into treatment success from the patient’s perspective. Patient satisfaction encompasses multiple dimensions, including function, aesthetics, comfort, phonetics, and psychological well-being considering treatment cost, expended time, surgical and procedural hardship.⁴ Thus, assessing patients’ expectations and satisfaction with FPDs and ISCs can reveal the effectiveness of the prosthetic intervention. Understanding the insights from this study can explore the cost-benefit considerations and patient values regarding choice of treatment. Against this background, the present study aims to evaluate and compare patients’ expectations and satisfaction with fixed partial dentures and implant-supported single crowns in clinical practice from a Bangladeshi perspective. Findings from this study are expected to contribute to patient-centered prosthodontic practice and improve the service delivery and aligning treatment options with patient priorities.

Materials and Methods

This descriptive cross-sectional study was conducted among patients treated with either fixed partial dentures (FPDs) or implant-supported single crowns (ISCs) at selected dental clinics in Bangladesh between January 2024 and June 2025. A total of 130 patients (65 per group) were studied using consecutive sampling. Sample size was calculated using the two-sample means formula to detect a medium standardized effect ($d = 0.5$) between two independent groups (Fixed Partial Denture vs Implant-Supported Single Crown) with $\alpha = 0.05$ and power = 80%. Pre-treatment expectations were assessed using a structured, validated questionnaire covering functional, aesthetic, comfort, and cost-related domains. Post-treatment satisfaction was evaluated three months after prosthesis delivery using a similar questionnaire. Sociodemographic and clinical variables were also recorded. Data were analyzed using SPSS

version 25. Descriptive statistics summarized patient characteristics, expectations, and satisfaction scores. Chi-square tests compared patient satisfaction between FPD and ISC groups, with significance set at $p < 0.05$.

Results

A total of 130 patients were examined and interviewed before treatment and at three-month follow-up. Of them, 56.15% were male and 43.85% were female, with a mean age of 54.73 (± 10.03) years, ranging from 22 to 75 years (Table I). Nearly all participants expressed high expectations regarding function, aesthetics, comfort, and speech. Besides, 48.46% expected high longevity, 31.54% anticipated low or reasonable cost, 11.58% preferred minimal maintenance, and 8.46% desired minimally invasive procedures (Figure 1). Following treatment, most patients reported satisfactory chewing function; 83.08% in the FPD group and 93.85% in the ISC group (Table II). Regarding aesthetics, 69.23% of FPD and 89.23% of ISC patients were satisfied with appearance. When considering comfort, 76.92% of the FPD group and 95.38% of the ISC group were satisfied. Speech satisfaction was high overall, reported by 95.38% of FPD and 98.46% of ISC recipients. Results revealed no significant difference in satisfaction regarding chewing and speech between the two groups (Table II). But, satisfaction regarding esthetics and comfort were statistically greater in the implant group (Table II). Overall satisfaction was 81.54% among FPD and 90.77% among ISC patients (Figure 2). Statistical analysis revealed no significant difference in overall satisfaction between the two groups ($p=0.3132$). The majority were not satisfied with the treatment cost despite fulfilling their expectations; 41.53% of FPD and 38.46% of ISC patients were not satisfied with the treatment cost. However, 36.92% of FPD patients and 33.84% ISC patients were satisfied with the treatment cost, and the rest remained neutral (Figure 3).

Table I: Age and gender distribution of the study patients (n=130)

Age and gender distribution	FPD (n=65)	Implant (n=65)	All (n=130)
Age (Years)			
Mean \pm SD	52.63 \pm 8.28	48.50 \pm 6.33	54.73 \pm 10.03
min - max	22 - 75	34 - 65	22 - 75
Gender, n (%)			
Female	30 (46.15%)	27 (41.54%)	57 (43.85%)
Male	35 (53.85%)	38 (58.46%)	73 (56.15%)

Table II: Patients satisfaction regarding chewing, esthetics, comfort, and speech for FPD and ISC (n=130)

		FPD (n=65)	ISC (n=65)	p
Chewing	Satisfied	54 (83.08%)	61 (93.85%)	0 .0546
	Neutral	11 (16.92%)	4 (6.15%)	
	not satisfied	0	0	
Esthetics	Satisfied	45 (69.23%)	58 (89.23%)	0 .0184
	Neutral	16 (24.62%)	6 (9.23%)	
	not satisfied	4 (6.15%)	1 (1.54%)	
Comfort	Satisfied	50 (76.92%)	62 (95.38%)	0 .0089
	Neutral	12 (18.46%)	2 (3.08%)	
	not satisfied	3 (4.62%)	1 (1.54%)	
Speech	Satisfied	62 (95.38%)	64 (98.46%)	0 .3097
	Neutral	3 (4.62%)	1 (1.54%)	
	not satisfied	0	0	

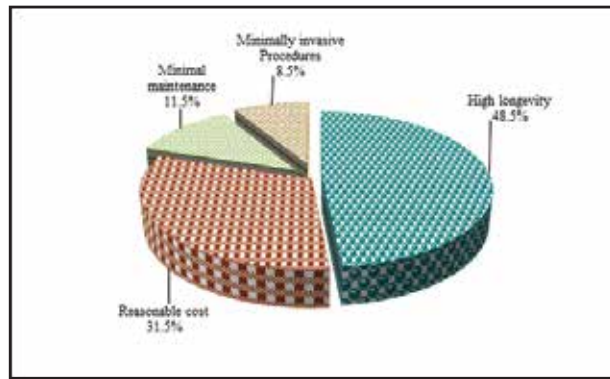


Figure 1: Patients' expectations regarding longevity, cost, maintenance and procedures.

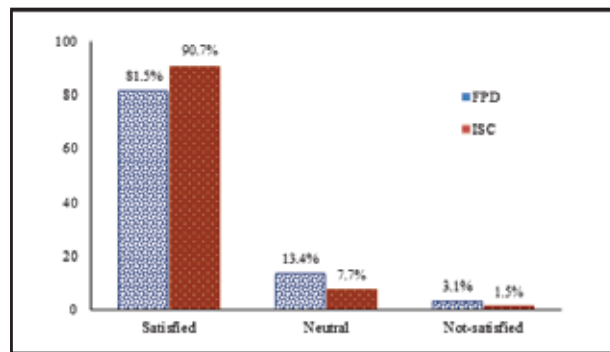


Figure 2: Patients' overall satisfaction for FPD and ISC.

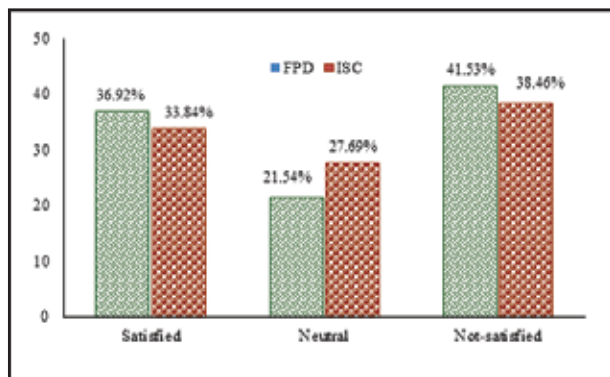


Figure 3: Patients' satisfaction regarding treatment cost for FPD and ISC.

Discussion

The present study evaluated and compared patients' expectations and satisfaction with fixed partial dentures (FPD) and implant-supported single crowns (ISC) in the clinical context of Bangladesh. The findings revealed that both treatment groups showed high satisfaction in terms of function, aesthetics, comfort, and speech. The majority of patients expressed dissatisfaction with the treatment cost. Although overall satisfaction

was slightly higher among implant recipients (90.77%) than FPD patients (81.54%), the difference was not statistically significant. Results indicated that both modalities were perceived as effective and acceptable options for single-tooth replacement with overall satisfaction.

Before treatment, nearly all participants had high expectations regarding the primary functional and aesthetic outcomes of their prostheses, which aligns with the growing trend of patient awareness and aesthetic consciousness observed in previous studies.⁵ The expectation for high longevity (48.46%) reflects a growing demand for durable prosthesis. Patients also expect prosthesis that require minimal maintenance and expect non-invasive procedures. However, around one-third of patients also prioritized treatment cost, indicating that economic considerations remain a dominant factor in treatment decisions. This observation was consistent with findings from studies in low- and middle-income settings.^{6,7}

Post-treatment satisfaction was high in both groups, particularly concerning chewing function, aesthetics, comfort, and speech. Regarding chewing function 83.08% patients with FPD and 93.85% with ISC were satisfied, comparable to results reported by de Kok et al. and Pjetursson et al., who noted similar or slightly higher satisfaction among implant-supported prosthesis.^{8,9} Aesthetic satisfaction was also notably higher in the implant group (89.23% patient) than in the FPD group (69.23% patient). This difference can be attributed to the superior emergence profile and natural appearance of implant restorations.¹⁰

Speech satisfaction was almost universal across both groups, consistent with previous findings that fixed prostheses generally have minimal phonetic impact.¹¹ Comfort satisfaction, however, was significantly higher in the implant group, which could reflect the absence of pressure on abutment teeth and a more natural proprioceptive feel. This aligns with studies by Al-Johany et al. and Goiato et al., who reported superior comfort ratings for implants compared to conventional fixed bridges.^{12,13}

Patients from both groups showed high overall satisfaction, 81.54% patient with FPDs and 90.77% patient with ISC, the difference was not statistically significant ($p > 0.05$), suggesting that both treatment types adequately met patient expectations in functional and aesthetic dimensions. This finding mirrors reports from other regions, indicating that both fixed and implant-supported restorations are capable of producing comparable patient satisfaction outcomes when treatment is properly executed.^{8,9}

However, a striking finding in this study was that most patients were dissatisfied with the treatment cost. Despite reporting satisfaction in other domains 41.53% in the FPD group and 38.46% in the ISC group was not satisfied with the treatment cost. This finding reflects a common challenge in low- and middle-income countries, where treatment affordability remains a barrier to dental care access.^{14,15} Implant based dental prosthesis, in particular, remains cost-prohibitive for many patients in Bangladesh, often exceeding the average

monthly income.¹⁶ Even though implant patients expressed higher functional and aesthetic satisfaction, the cost dissatisfaction indicates that economic burden heavily influences perceived treatment value. Similar results were observed by Al-Omiri et al. and de Bruyn et al., who reported that high treatment costs often reduced overall satisfaction, regardless of clinical success.^{17,18}

This cost-related dissatisfaction highlights an important sociocultural aspect of prosthodontic care in Bangladesh. Many patients view oral rehabilitation as a necessary but luxury expenditure rather than a health necessity.¹⁹ Hence, the cost-benefit perception becomes crucial in determining treatment acceptance. As the dental insurance system is virtually non-existent and out-of-pocket payments dominate, patient expectations regarding affordability should be carefully managed during treatment planning.

Conclusion

Both fixed partial dentures and implant-supported single crowns demonstrated high patient satisfaction in terms of function, aesthetics, and comfort. However, treatment cost remains a major source of dissatisfaction, particularly in the Bangladeshi context where financial constraints significantly influence treatment choices. Enhancing patient education, promoting affordable treatment options, and improving socioeconomic access to advanced prosthodontic care are crucial for optimizing patient-centered outcomes.

References

1. Abd Elghany MHA, El-Sheikh MM, Mahmoud AM, et al. Fixed partial prosthesis vs. implant-supported single crown. *EC Dent Sci.* 2021;20(1):18-28.
2. Neto MHM, Silva EFS, Pereira JN, et al. Cost-effectiveness analysis of single-tooth rehabilitation options. *Pesqui Bras Odontopediatria Clín Integr.* 2024;24:e230174.
3. Hasan MM, Jahan N, Rahman MH. Socio-demographic factors and implant consideration for missing teeth replacement in a student prosthodontics clinic in Bangladesh. *J Dent Res Rev.* 2022;9(2):88-93.
4. Carek A, Brkić B, Cigić M, Jelavić I, Kurilić A. Fixed prosthodontic patient satisfaction survey. *Psychiatr Danub.* 2021;33(Suppl 4):1320-1326.
5. Kashbur MM, Abodaya AM, Alswisi AH, et al. Patients' satisfaction, expectation, care, and maintenance of fixed prosthesis. *Libyan J Med Sci.* 2022;7(1):1-8.
6. Ali M, Rahman M, Akhter S. Socioeconomic determinants of dental care utilization in urban Bangladesh. *Bangladesh J Dent Res Educ.* 2020;10(1):15-22.
7. Islam SN, Rahman MM, Karim MA, et al. Awareness and attitudes towards dental implants among patients in Dhaka city. *Bangladesh J Dent.* 2019;35(1):29-35.
8. de Kok IJ, Razzoog ME, Bloem TJ. Patient expectations and satisfaction with dental implants: a systematic review. *J Prosthodont.* 2015;24(2):94-101.
9. Pjetursson BE, Thoma D, Jung R, Zwahlen M, Zembic A. A systematic review of the survival and complication rates of implant-supported fixed dental prostheses. *Clin Oral Implants Res.* 2012;23(Suppl 6):22-38.
10. Buser D, Chappuis V, Belser UC, Chen S. Implant therapy for the esthetic zone: current treatment modalities. *Periodontol 2000.* 2017;73(1):7-29.
11. Vohra F, Alrahlah A, Al-Humaid J. Assessment of phonetics and satisfaction in fixed prosthodontic rehabilitation. *J Oral Rehabil.* 2020;47(6):731-738.
12. Al-Johany SS, Al Zoman HA, Al Juhaini MA, Al Refeai M. Dental implant survival and patient satisfaction: a retrospective study. *Saudi Dent J.* 2010;22(4):195-200.
13. Goiato MC, Dos Santos DM, Pellizzer EP. Patient satisfaction in implant-supported prostheses: a literature review. *Int J Dent.* 2015;2015:1-5.
14. Haque MS, Rahman MA, Sultana T. Challenges in implant dentistry practice in Bangladesh. *Bangladesh J Med Sci.* 2022;21(3):512-519.
15. Rahman MA, Hossain MZ, Islam MN. Evaluation of patient satisfaction in fixed prosthodontic treatment in Bangladesh. *Bangladesh J Prosthodont.* 2021;2(1):5-10.
16. Islam MS, Alam MM. Cost analysis of dental implant treatment in Bangladesh. *Bangladesh Dent J.* 2020;36(2):55-62.
17. Al-Omiri MK, Karasneh JA. Relationship between oral health-related quality of life, satisfaction, and personality in patients with prosthodontic treatments. *J Prosthodont.* 2010;19(2):69-76.
18. de Bruyn H, Raes F, Matthyss C, Cosyn J. The current use of patient-centered outcome measures in implant dentistry: a systematic review. *Clin Oral Implants Res.* 2015;26(11):1281-1290.
19. Sultana T, Rahman MA, Haque MS. Barriers to dental implant acceptance in Bangladesh: a qualitative study. *Bangladesh Dent Res J.* 2023;3(1):20-27.