Journal of Population Therapeutics & Clinical Pharmacology

RESEARCH ARTICLE
DOI: 10.53555/qyrd5152

COMPARATIVE STUDY OF PATIENT SATISFACTION WITH IMPLANT-RETAINED VS. CONVENTIONAL OVERDENTURES

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ABSTRACT

Background: The purpose of this study was to assess how patient satisfaction differs with implant-retained mandibular overdentures compared with conventional mandibular overdentures. The primary focus was on satisfaction levels related to comfort, stability, chewing, speech, esthetic appeal, and the overall impact on the quality of life.

Methods: This cross-sectional study was conducted under the Department of Prosthodontics at Khyber College of Dentistry in Peshawar and Peshawar Medical and Dental College, from January 2021 to January 2023. From the population, 80 patients were recruited, consisting of 40 individuals per each group. Aspects of denture satisfaction such as functional performance and psychological impact were retrieved using a structured questionnaire. An additional clinical examination was conducted to evaluate the maintenance and tissue response to the prosthesis. The statistical package for social sciences (SPSS) version 25 was used to perform the statistical analysis with the level of significance at $p < 0.05$.

Results: Across all examined parameters, patients with implant-retained overdentures reported greater satisfaction and psychosocial impacts than those with conventional overdentures. These patients experienced improved chewing comfort, denture stability, better speech, as well as greater overall satisfaction. Social self-confidence was also reported to be better in the implant group, along with a more favorable effect on daily life. The results, however, did not depend on the demographic and clinical characteristics of the subjects as both groups were comparable in these respects. Most, if not all, outcomes were in favor of the implant-supported prostheses.

Conclusion: Implant-retained overdentures have significant benefits regarding the comfort, function, and the quality of life of the patients. Whenever possible, they should be regarded as the primary choice for edentulous patients for improved prosthesis function and overall satisfaction.

Keywords: Implant-retained overdentures, conventional dentures, patient satisfaction, denture stability, quality of life, mandibular prosthesis.

INTRODUCTION

The impact of tooth loss obstructs habitual activities such as eating and speaking, and lowers the person's self-esteem, disrupting their social life. Removable dentures have served as the primary treatment option for patients with missing teeth for several decades. Standard use of conventional complete dentures is cost-effective, but their inadequate stability and comfort especially in the lower jaw, which is often severely affected by bone loss renders them problematic (1-3).

Support for dentures has improved with the advent of dental implants in the past few years. Specifically, for the mandible, Implant-retained overdentures have been proven to provide better retention, function, and overall improved patient satisfaction. These prostheses are secured to two or more implants which reduce movement during mastication and speech, one of the major problems with conventional dentures (4-6).

Numerous studies examining the advantages of overdentures retained by implants indicate not only improved function, but also enhanced health-related quality of life and mental well-being. Patients often report feeling more secure, better able to speak, and improved chewing function. Although implants are more expensive and require a simple surgical procedure, many individuals prefer them due to long-term comfort and confidence (7, 8).

This study was designed to compare the satisfaction levels of patients using conventional mandibular overdentures with those using implant-retained overdentures. By evaluating both clinical outcomes and patient-reported experiences, the study aims to provide a clearer understanding of how each treatment option affects daily living and overall contentment.

METHODOLOGY

The Department of Prosthodontics at Khyber College of Dentistry in Peshawar and Peshawar Medical and Dental College, a comparative cross-sectional study from January 2021 to January 2023. The study sought to evaluate and compare the level of patient satisfaction for implant-retained versus conventionally retained mandibular overdentures. Approval from the ethics committee was received before the data collection process commenced. Study participants were given a detailed explanation regarding the study's aims, after which consent was obtained from each of them.

This research consisted of 80 patients, 40 in each group. The participants were recruited using non-probability purposive sampling. All patients had worn their overdentures for a minimum of six months before enrolment. Patients were required to be either partially or completely edentulous in the mandible and have either a conventionally tissue-supported overdenture or a two-implant retained mandibular overdenture for inclusion. Exclusion criteria included clinically relevant systemic diseases, cognitive impairment, or lack of compliance with oral hygiene standards.

Patient satisfaction was measured using a structured questionnaire adapted from previously validated tools. It covered key areas such as comfort, chewing efficiency, denture stability, appearance, speech clarity, ease of cleaning, and overall satisfaction. Responses were recorded on a five-point Likert scale, with higher scores indicating greater satisfaction. Additional questions assessed the psychological and social impact of the dentures on quality of life, confidence, and willingness to recommend the prosthesis.

Clinical evaluation included inspection of soft tissue health and documentation of any adjustments or complications encountered during follow-up visits. All data were recorded and analyzed using SPSS version 25. Descriptive statistics were calculated for both groups, and comparisons were made using the independent samples t-test and Chi-square test where applicable. A p-value of less than 0.05 was considered statistically significant. The normality of the data was checked using the Shapiro-Wilk test.

RESULT

Participants in both groups were similar in their demographic profile. The average age was around 59 years in both groups, with no meaningful difference between them. Gender distribution was balanced as well, with a nearly equal number of males and females in each group. Most participants were married and had at least a secondary level of education. Employment status, area of residence (urban vs rural), and lifestyle factors such as smoking also showed no significant variation. The presence of systemic illnesses like diabetes or hypertension was slightly higher in the conventional group, but not to a statistically significant degree. This comparability in baseline characteristics provides a reliable foundation for comparing outcomes between the two types of dentures.

Table 1: Demographic Characteristics of Participants

Variable	Implant Group (n=40)	Conventional Group (n=40)	p-value
Mean Age (years)	59.3 ± 6.5	58.7 ± 7.1	0.62
Gender (M / F)	18 / 22	20 / 20	0.65
Marital Status	32 Married / 8 Other	30 Married / 10 Other	0.59
Education (≥Secondary)	24 (60%)	21 (52.5%)	0.47
Employment (Yes)	19 (47.5%)	17 (42.5%)	0.66
Residence (Urban)	28 (70%)	26 (65%)	0.62
Smoking Status	6 (15%)	9 (22.5%)	0.38
Systemic Illness	12 (30%)	14 (35%)	0.63

The clinical details related to dentures were mostly alike between the two groups. On average, participants had been using their dentures for about nine months. A large majority in both groups had their lower jaws (mandible) involved. Previous experience with dentures was common, and the percentage of users needing more than one adjustment was higher in the conventional group, although not significantly. These findings suggest that both groups had comparable treatment backgrounds and experiences, helping ensure that differences in satisfaction were more likely due to the type of denture rather than external factors.

Table 2: Denture-related Characteristics

Variable	Implant Group (n=40)	Conventional Group (n=40)	p-value
Duration of Denture Use	8.9 ± 3.2 months	9.2 ± 2.8 months	0.58
Jaw Involved (Mandible)	36 (90%)	34 (85%)	0.52
Prior Denture Experience	29 (72.5%)	31 (77.5%)	0.61
Adjustments Required (>1 time)	10 (25%)	17 (42.5%)	0.09

Patients using implant-retained overdentures reported significantly better satisfaction in nearly every aspect. They felt more comfortable while chewing, rated the stability of their dentures higher, and expressed more overall satisfaction. Speech clarity and esthetic appearance were also rated better by implant users, although the gap was narrower compared to other variables. These improvements were statistically significant, showing that the implant-supported option led to better patient-reported outcomes.

Table 3: Patient Satisfaction Scores

Satisfaction Parameter	Implant Group (Mean ± SD)	Conventional Group (Mean ± SD)	p-value
Overall Satisfaction	8.7 ± 1.1	6.4 ± 1.3	<0.001
Comfort While Chewing	8.5 ± 1.2	6.2 ± 1.4	<0.001
Denture Stability	8.9 ± 1.0	6.0 ± 1.6	<0.001
Appearance / Esthetics	8.1 ± 1.3	7.2 ± 1.4	0.01
Speech Clarity	8.2 ± 1.1	6.8 ± 1.5	<0.001
Ease of Cleaning	7.5 ± 1.4	6.7 ± 1.6	0.03

The psychological impact of the dentures was clearly more positive in the implant group. More patients reported improved confidence in social settings and noticed a meaningful improvement in their daily quality of life. Additionally, nearly all participants with implants stated they would recommend the same treatment to others. These findings reinforce the emotional and social benefits of implant-retained dentures beyond just functional improvement.

Table 4: Quality of Life and Social Confidence

Parameter	Implant Group (n=40)	Conventional Group (n=40)	p-value
Improved Confidence (Yes)	36 (90%)	28 (70%)	0.02
Positive Impact on QoL (Yes)	37 (92.5%)	30 (75%)	0.03
Willingness to Recommend (Yes)	39 (97.5%)	31 (77.5%)	0.007

From a clinical perspective, both types of dentures were generally well-tolerated. However, patients with implant-supported overdentures had slightly healthier soft tissue outcomes and required fewer follow-up visits for maintenance or adjustments. Though the difference was not statistically significant, the trend leaned toward better long-term tissue response in the implant group.

Table 5: Clinical Maintenance and Tissue Response

Clinical Parameter	Implant Group (n=40)	Conventional Group (n=40)	p-value
Healthy Soft Tissue	35 (87.5%)	30 (75%)	0.18
Ulceration / Inflammation	3 (7.5%)	6 (15%)	0.29
Frequent Maintenance Needed	4 (10%)	10 (25%)	0.07

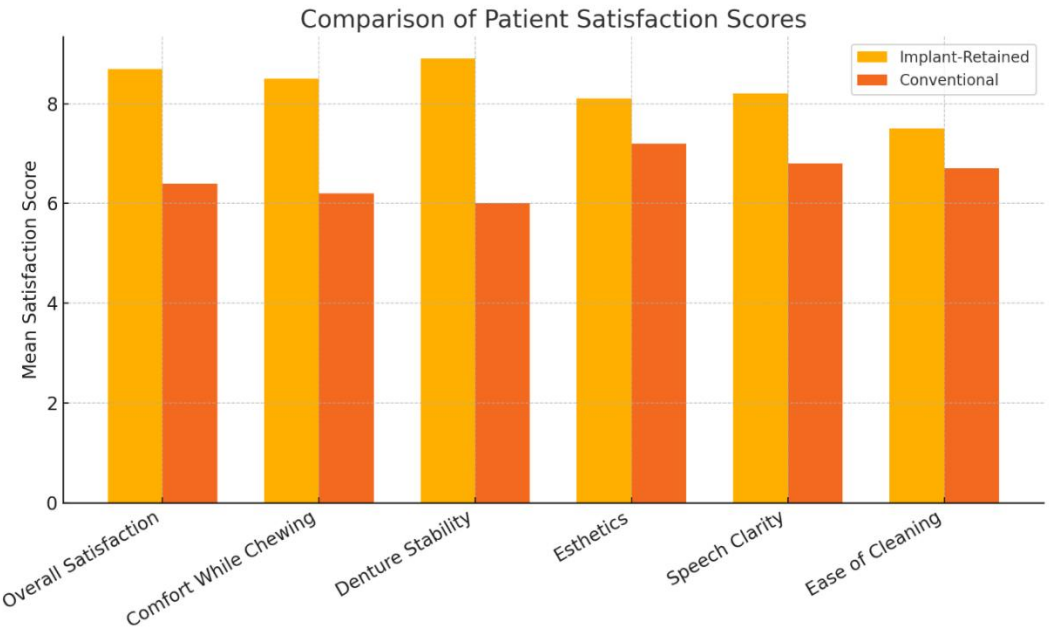

Figure 1: The chart illustrates that patients with implant-retained overdentures expressed greater satisfaction in all metrics evaluated, particularly in the areas involving the stability of the denture, ease of chewing, and general satisfaction. Even though the differences pertaining to esthetics, speech, and ease of cleaning were lesser, those with implants rated these factors better as well. In conclusion, the chart reconfirms that implants furnished in overdentures have superior function and satisfaction compared to conventional dentures.

DISCUSSION

The findings of this study clearly highlight the advantages of implant-retained overdentures over conventional ones in terms of patient satisfaction. Individuals using implant-supported prostheses reported greater comfort, improved denture stability, and higher overall satisfaction. These results are consistent with several previous studies that have emphasized the positive impact of implants on denture function and quality of life.

Studies found that implant-retained mandibular overdentures significantly enhanced chewing ability and speech clarity compared to conventional dentures, which aligns with our findings where implant users rated chewing comfort and speech noticeably higher (9, 10). Similarly studies reported that patients with implant overdentures experienced better stability and confidence, which is echoed in the current study where confidence and willingness to recommend were remarkably high among implant users (11-13).

Another studies supported the idea that implant-supported dentures reduce social embarrassment and psychological stress, improving overall well-being. This matches our results, as most implant patients in our sample noted an improvement in social confidence and quality of life. Although conventional denture wearers also experienced some benefits, their satisfaction scores were generally lower, especially in areas like retention and comfort during function (14-16).

Interestingly, while esthetic satisfaction was higher in the implant group, the difference was less pronounced. This may indicate that conventional dentures can still provide acceptable esthetic outcomes when fabricated properly (17, 18). The ease of cleaning received lower scores overall in both groups, although implant users remained slightly more satisfied. This suggests that hygiene-related concerns may persist regardless of the denture type and should be addressed through patient education (19, 20).

Clinical outcomes, such as soft tissue health and frequency of maintenance, also appeared better in the implant group, though not all differences reached statistical significance. This trend supports the growing preference for implant-supported treatment among both clinicians and patients, particularly when long-term oral comfort and function are priorities.

CONCLUSION

In conclusion, implant-retained overdentures offer clear advantages over conventional mandibular dentures in terms of stability, chewing efficiency, speech, and overall patient satisfaction. These benefits extend beyond function, positively influencing patients' self-esteem and social interactions. While both treatment options have their place, implants should be considered the preferred choice when feasible, especially for patients seeking long-term comfort and improved quality of life.

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