



Questionnaire based Evaluation of Implant Prosthesis and Related Quality of Life in Patients with Conventional Implants: An Original Research Study

Dr. Priya Gupta¹, Dr. Deepa², Dr. Shelly Goyal³, Dr. Mukesh Kumar Goyal⁴

¹Assistant Professor, Department of Oral and Maxillofacial Surgery, Krishna Nagar Institute of Medical Sciences, Nadia , Krishna Nagar, West Bangal, India (Corresponding Author)

²Reader, Department of Oral and Maxillofacial Surgery, Sri Venkateshwara Dental College and Hospital, Bengaluru, Karnataka, India

³Professor, Department of Dentistry, Varun Arjun Medical College & Rohilkhand Hospital, Banthra, Shahjahanpur, UP, India

⁴Professor and Head, Department of Prosthodontics, Inderprastha Dental College & Hospital, Ghaziabad, UP, India

Corresponding Author: Dr. Priya Gupta

(Received: 16 January 2025

Revised: 20 February 2025

Accepted: 31 March 2025)

KEYWORDS

QOL(quality of life), Dental Implant, Questionnaire

ABSTRACT:

Aim: The study aimed to evaluate the impact of implant prostheses on patients quality of life with conventional implants.

Materials and Methods: This study was to evaluate the impact of implant prostheses on patients' quality of life in the city, focusing on private general practitioners. Using a cross-sectional questionnaire with eight closed-ended questions, we gathered responses from 100 of 140 dental practitioners from the local registry. The method was efficient and ensured confidentiality and informed consent. Data collection took one month, and results were statistically analyzed at $p < 0.05$. Findings were shared with participants to illustrate the effect of implant prostheses on patient quality of life.

Statistical Analysis and Results: A study was conducted with a questionnaire distributed to 100 dental practitioners, and the responses were analyzed using SPSS. Results showed a gender distribution of 65 males and 35 females, with 30 practitioners aged over 75 and only 6 in the 41-50 age range, indicating a prevalence of older participants. A significant p-value was noted for the 61-70 age group. Additionally, over 68 of respondents held only undergraduate degrees, and 60% had less than four years in private practice. The overall findings revealed a combined p-value of 0.005, emphasizing the study's significance.

Conclusion: Authors have concluded that the dental implant treatments effectively meet patients' needs after tooth loss, with most patients expressing satisfaction in functionality, aesthetics, phonetics, and comfort. Clinical evaluations, such as mobility and bleeding, correlate with this satisfaction. Data on patient experiences help dentists align treatments with expectations. Overall, dental implants enhance patient satisfaction and quality of life, making them a preferred solution for replacing missing teeth.



Introduction

Dental implants are a vital treatment for replacing missing teeth and effectively managing complete and partial edentulism in modern dentistry.^[1] They offer compelling advantages over conventional fixed partial dentures, boasting a success rate exceeding 97% after 10 years, significantly reducing the risk of cavities in adjacent teeth, promoting bone maintenance in edentulous areas, and minimizing sensitivity.^[2] Designed to resemble the look and function of natural teeth closely, dental implants depend on a robust interface with surrounding bone, ensuring effective load transmission and fostering healthy adjacent tissues. Research consistently demonstrates that implants restore chewing ability effectively, driving a growing demand for this treatment. While dentists focus on preserving implants and preventing peri-implantitis, patients prioritize comfort and aesthetics. Therefore, it is essential to thoroughly investigate the factors that influence patient satisfaction and the treatment plans proposed by dentists.^[3,4] This understanding is crucial for optimizing the implant therapeutic process, strengthening the dentist-patient relationship, and minimizing potential disputes. Quality of Life (QOL) encompasses essential factors that enhance living standards and patient satisfaction with treatment outcomes. It's critical to recognize that the gap between high expectations and actual results can influence patient satisfaction.^[5] The primary objective of this study is to thoroughly examine the various clinical factors that influence the therapeutic process. By identifying and analyzing these factors, we aim to enhance the overall experience for patients receiving care, ultimately leading to more effective treatments and greater patient satisfaction.^[6] So given the importance, this study aims to evaluate the impact of implant prostheses on patients' quality of life with conventional implants.

Materials and Methods

Understanding patient satisfaction in dental care is crucial for improving services. Satisfied patients are more likely to follow treatment plans, leading to better outcomes. While dental implants improve quality of life for those with missing teeth, research on satisfaction shows mixed results. A comprehensive questionnaire was created to assess factors like appearance, comfort,

function, durability, hygiene, and mental well-being. Concerns about the overall impact of dental treatments on quality of life emphasize the need to explore effects on eating, speaking, and social interactions. Many studies show significant improvements in these areas post-implant, highlighting the importance of patient satisfaction. This research sought to evaluate how implant prostheses affect the quality of life for patients with conventional implants, specifically targeting private general practitioners in the city. We employed a cross-sectional questionnaire approach, collecting responses from 100 dental practitioners out of a possible 140 who were currently practicing. We sourced the contact details of participants from the local dental society's registry and finalized a group of 100 respondents, who provided crucial insights. The questionnaire contained eight closed-ended questions specifically designed to assess the impact of implant prostheses on the quality of life for patients with conventional implants. To maximize participation, we distributed the questionnaires directly in clinics. This questionnaire-based method was deliberately chosen for its efficiency in gathering detailed information on individual and group perceptions, demonstrating both time- and cost-effectiveness. We firmly upheld the confidentiality and rights of all participants by obtaining informed consent from everyone involved. Data collection spanned a month, and the results were statistically analyzed, with a significance threshold set at $p < 0.05$. The findings were shared with all participating practitioners, emphasizing the importance of understanding the influence of implant prostheses on patient quality of life.

Statistical Analysis and Results

A study was carried out involving a questionnaire distributed to 100 dental practitioners. The responses to this questionnaire were statistically analyzed using SPSS (Statistical Package for the Social Sciences). The analysis involved several statistical tests to calculate p-values, means, standard deviations, and included a chi-square test to assess the data. In Table 1, the findings indicated a gender distribution of 65 males and 35 females among the practitioners. Notably, male 34 and female 21 practitioners were aged over 75 years, while only 6 fell within the 41-50 age range, suggesting a majority of participants belonged to older age groups. A significant p-value was identified for the age range of



61-70 years. Table 2 shows that regarding educational qualifications, more than 68% of respondents held only an undergraduate degree, while 32% possessed both undergraduate and postgraduate degrees. Table 3 shows the evaluation of professional experience revealed that over 60% of respondents had been in private practice for less than four years, with only 30 practitioners in the 5 to 10-year range and a mere 10 practitioners with over 15 years of experience. Table 4 evaluation of 8

questionnaire responses with associated statistics shows the overall outcomes from the questionnaire, indicating significant findings, with a combined p-value of 0.005 across all questions, highlighting the importance of the study results. Table 5 shows the overall outcomes from the questionnaire, indicating significant findings, with a combined p-value of 0.005 across all questions, highlighting the importance of the study results.

Table 1: Age & Gender Wise Allocation of Practitioners

Age Group (Yrs)	Male	Female	Total %	P value
41-50	3	3	6[6 %]	0.07
51-60	12	6	18[18 %]	1.00
61-70	16	6	22[22 %]	0.01*
71-75	15	7	21[21 %]	0.80
>75	19	14	33[33 %]	0.07
Total	65	35	100%	*Significant

*p<0.05 significant

Table 2: Evaluation of Practitioners Based On Educational Background

Educational Degree	Number	Mean	Standard Deviation
Under Graduate	68	30.51	15.78
Post Graduate	29	33.12	16.53
Post Graduate + PhD	3	3.34	2.53
Total	100	-	-

Table 3: Evaluating Practitioners by Their Years Of Experience In Private Practice

Years of Employment	Number	Mean	Standard Deviation
<5	60	15.87	8.24
5-10	30	15.57	11.10
10-15	7	3.67	1.98
>15	3	1.23	0.52

**Table 4: Evaluation of Questionnaire Responses with Associated Statistics**

S.NO.	Questionnaire	Responses of Practitioners 'Yes' [n]	Responses of Practitioners 'No' [n]	P Value
1	What was the state of chewing ability?	55	45	0.005*
2	What was the state of speaking ability	90	10	
3	Evaluating comfort after implant prosthesis.	89	11	
4	Oral hygiene maintained	30	70	
5	Smiling, laughing, or showing teeth without discomfort	49	51	
6	Enjoying communication with others, such as friends, relatives, and neighbours	79	21	
7	Evaluate the prosthesis's appearance.	51	49	
8	Overall satisfaction with the outcome of the treatment	59	41	
*p<0.05 significant				

Table 5: Fundamental Statistical Description With Level Of Significance Evaluation Using Pearson Chi-Square Test

Question No.	Mean	Std. Deviation	Std. Error	95% CI	Pearson Chi-Square Value	df	Level of Significance (p-value)
1	2.23	0.276	0.025	1.96	2.550	3.0	0.001*
2	1.57	0.352	0.029	1.96	2.463	1.0	0.435
3	1.38	0.132	0.016	1.96	1.231	1.0	0.341
4	2.34	0.349	0.033	2.33	1.219	1.0	0.324
5	2.53	0.252	0.160	1.96	2.433	1.0	0.086
6	2.76	0.264	0.000	1.96	2.242	2.0	0.020*
7	2.53	1.346	0.078	1.96	2.498	1.0	0.010*
8	2.98	0.434	0.035	1.96	1.556	1.0	0.080
*p<0.05 significant							



Discussion

In the study by Jayasingh et al., it was reviewed that assessing dental patient satisfaction is a crucial component in the continuous improvement of clinical services. When patients feel satisfied with their dental care, they are more likely to adhere to treatment plans and consistently attend follow-up appointments, which ultimately enhances their overall health outcomes.^[6] Fillion et al in their study showed introduction of dental implants has revolutionized the process of replacing missing teeth, offering a more convenient and effective solution that significantly improves patients' quality of life.^[7] Research into patient satisfaction concerning dental implant treatments often exhibits a range of findings, with many studies focusing on both mid- and long-term evaluations of these services. To delve deeper into what factors genuinely influence satisfaction with implants, a detailed and comprehensive questionnaire was crafted.^[8] Alam MK et al in their study showed that the questionnaire takes into account various patient-specific elements, as well as those directly related to the implants themselves. When evaluating dental implants, several key criteria come into play.^[9] These include aesthetics, which pertains to the visual appeal of the implants; comfort, ensuring the devices feel natural; functionality, which relates to the implants' ability to perform as expected; durability, signifying how well the implants withstand daily use; hygiene, emphasizing ease of maintenance; and psychological satisfaction, which encapsulates patients' emotional wellbeing after treatment. There is an escalating concern regarding the impact of dental treatments on patients' overall quality of life. Utilizing well-designed questionnaires to gauge satisfaction levels has emerged as a valuable strategy for informed treatment planning. The factors that influence one's quality of life are multidimensional, spanning from the ability to eat a diverse range of foods and speak clearly to maintaining proper oral hygiene, engaging in physical activities, socializing with others, and freely expressing emotions without any discomfort. Numerous studies have reported significant improvements in these facets of life following implant restoration, underscoring the vital importance of prioritizing patient satisfaction and enhancing quality of life within the realm of dental care.^[10] Emphasizing these elements not only leads to better overall patient

experiences but ultimately fosters trust and loyalty towards dental practitioners.

Conclusion

Despite the study's limitations, the authors indicated that dental implant procedures effectively meet the needs of patients who have lost teeth. The majority of patients expressed satisfaction with the functionality, appearance, speech, and overall comfort of their implant prostheses. Furthermore, clinical assessments such as mobility, suppuration, and bleeding on probing were closely linked to patient satisfaction. As a result, information on patient satisfaction is a valuable tool for dentists, helping them to offer treatments that better match patients expectations. In summary, dental implant placement significantly boosts patient satisfaction and quality of life. These results endorse the use of dental implants as a favoured option for replacing missing teeth, providing considerable benefits in terms of both functional outcomes and overall well-being.

References

1. Misch CE. Contemporary implant dentistry. 3rd ed. Mosby Elsevier Health Sciences 2007; pp. 26-37.
2. Block MS. Dental Implants: The Last 100 Years. *J Oral Maxillofac Surg.* 2018 Jan;76(1):11-26.
3. Buser D, Sennerby L, De Bruyn H. Modern implant dentistry based on osseointegration: 50 years of progress, current trends and open questions. *Periodontol 2000.* 2017 Feb;73(1):7-21.
4. Nevins M. Implant dentistry: a continuing evolution. *Int J Periodontics Restorative Dent.* 2014;34 Suppl 3:s7.
5. Yao J, Tang H, Gao XL, McGrath C, Mattheos N. Patients' expectations to dental implant: a systematic review of the literature. *Health Qual Life Outcomes.* 2014;12:153.
6. Jayasingh RM, Perera J, Jayasinghe V, et al. Awareness, attitudes, need and demand on replacement of missing teeth among a group of partially dentate patients attending a University Dental Hospital. *BMC Res Notes.* 2017;10(1):334.
7. Fillion M, Aubazac D, Bessadet M, Allègre M, Nicolas E. The impact of implant treatment on oral health related quality of life in a private dental



- practice: A prospective cohort study. *Health Qual Life Outcomes* 2013; 11: 197.
8. Ismail RM, Hasan RM. Evaluation of Patient's Satisfaction with Implant Supported Prosthesis in Rizgary Hospital from 2015-2019. *Sulaimani Dent J.* 2021;8(2):48-53.
 9. Alam MK, Rahman SA, Basri R, Tt SY, Si-Jie JW, Saha S. Dental implants–perceiving patients' satisfaction in relation to clinical and electromyography study on implant patients. *PloS One.* 2015;10(10): e0140438.
 10. Bidra AS, Tischler M, Patch C. Survival of 2039 complete arch fixed implant-supported zirconia prostheses: A retrospective study. *J Prosthet Dent.* 2018;119(2):220–224.