Journal of Neonatal Surgery
ISSN(Online): 2226-0439
Vol. 14, Issue 31s (2025)
https://www.jneonatalsurg.com

OPEN ACCESS

Evaluation and Comparison of Levels of Anxiety in Patients Receiving Removable and Fixed Prosthesis

Miss Manjiri Haridas*[1], Dr. Ajay Gaikwad[2]

[1*]Department of Prosthodontics School of dental sciences, KVV, Karad Maharashtra, india

Email ID: haridasmanjiri@gmail.com

[2]Department of Prosthodontics, School of dental sciences, KVV, Karad Maharashtra, India

Correspondence Author:

Manjiri Haridas

[1*]Department of Prosthodontics School of dental sciences, KVV, Karad Maharashtra, india

Email ID: haridasmanjiri@gmail.com

Cite this paper as: Miss Manjiri Haridas, Dr. Ajay Gaikwad, (2025) Evaluation and Comparison of Levels of Anxiety in Patients Receiving Removable and Fixed Prosthesis, *Journal of Neonatal Surgery*, 14 (31s), 170-174

ABSTRACT

The choice between fixed and removable dental prosthetics significantly influences not only functional and aesthetic outcomes but also patient psychological well-being, particularly anxiety levels. This prospective cohort study aims to evaluate and compare anxiety levels in patients receiving fixed prosthetics (e.g., implants, bridges) versus removable prosthetics (e.g., dentures). A total of 500 adult patients will be recruited from dental clinics, with anxiety levels assessed pre-treatment and at multiple post-treatment intervals (immediately, 1 month, 3 months). Key factors influencing anxiety, such as perceived invasiveness, comfort, and aesthetics, will also be explored. Data will be analysed using comparative and regression analyses to identify predictors of anxiety. This research seeks to enhance patient care by optimizing prosthetic choices based on their psychological impact

1. INTRODUCTION

In the realm of dental prosthetics, the choice between fixed and removable prostheses can significantly influence not only functional outcomes but also patient psychological well-being. The decision-making process for selecting the appropriate type of prosthetic often considers factors such as durability, aesthetics, comfort, and maintenance. However, an understudied yet crucial aspect of this decision is its potential impact on patient anxiety levels.

Anxiety in dental patients is a common phenomenon, influenced by various factors including fear of pain, perceived invasiveness of procedures, and uncertainty about treatment outcomes. Understanding how different types of dental prosthetics may affect anxiety levels is essential for optimizing patient care and treatment planning. Fixed prosthetics, such as dental implants and bridges, typically offer stability and durability but may involve more invasive procedures. In contrast, removable prosthetics like dentures are less invasive but may present challenges related to fit, comfort, and maintenance.

The study "Evaluation and Comparison of Levels of Anxiety in Patients Receiving Removable and Fixed Prosthesis" seeks to explore and contrast anxiety levels experienced by patients undergoing dental prosthetic treatments, specifically comparing those receiving fixed prosthetics (such as dental implants or bridges) versus removable prosthetics (like dentures).

Aims:

1) To Evaluate Anxiety Levels: The primary aim of this research is to assess and compare anxiety levels in patients undergoing dental prosthetic treatments, specifically focusing on those receiving fixed prosthetics (e.g., implants, bridges) versus removable prosthetics (e.g., dentures).
2) To Identify Influencing Factors: To identify factors that may influence anxiety levels in patients undergoing fixed or removable prosthetic treatments, such as perceived invasiveness, comfort, aesthetics, and functional outcomes.

Objectives:

1.To evaluate and compare anxiety levels between patients receiving fixed and removable dental prosthetics.

2.To identify demographic factors (e.g., age, gender) influencing anxiety levels in dental prosthetic patients.

3.To investigate changes in anxiety levels from pre-treatment to post-treatment among patients receiving fixed versus removable prosthetics.

4.To explore reasons for anxiety associated with different types of dental prosthetics

2. MATERIALS AND METHODS

Study Design

This research will employ a prospective cohort study design to evaluate anxiety levels in patients undergoing dental prosthetic treatments. The study will compare two groups: patients receiving fixed prosthetics (Group A) and patients receiving removable prosthetics (Group B). The study will adhere to ethical guidelines and obtain necessary approvals from institutional review boards.

Participants

Participants will be recruited from dept of Prosthodontics, crown and bridge where they are scheduled to undergo prosthetic treatments. Inclusion criteria will include adults (age 18 and above) who are mentally competent to provide informed consent. Exclusion criteria may include patients with severe dental anxiety requiring specialized interventions beyond routine prosthetic treatments.

Inclusion Criteria

1)Adults aged 18 and above.

2)Scheduled to undergo fixed (e.g., implants, bridges) or removable (e.g., dentures) dental prosthetic treatments.

Exclusion Criteria

1)Severe dental anxiety requiring specialized interventions beyond routine prosthetic procedures.

2)Inability to provide informed consent or participate in anxiety assessments.

Sampling Strategy

Population and Sampling Frame

The population of interest includes adults (aged 18 and above) scheduled to undergo dental prosthetic treatments at selected dental clinics or hospitals. The sampling frame will consist of patients who meet the inclusion criteria and are willing to participate in the study.

Sampling Method

Convenience Sampling: Participants will be recruited conveniently from dental clinics or hospitals where they are scheduled for prosthetic treatments. This method is chosen for its practicality and accessibility in obtaining a sufficient sample size within the study period.

Sampling Technique: Convenience sampling technique

Sample size formula

n=z2p1-qd2

Where n = Sample size

Z = Z statistic for a level of confidence,

P = Expected prevalence or proportion (if the expected

prevalence is 20%, then P = 0.2), and

d = Precision (if the Precision is 5%, then d = 0.05).

n=500

Sample Size=500

Data Collection Methods

Recruitment: Potential 500 participants will be approached during their clinic visits or pre-operative consultations in the department of Prosthodontics, Crown and Bridge at the SDS, KVV, Karad and at the neighboring colleges. The study purpose, procedures, and voluntary nature of participation will be explained.

Informed Consent: Written informed consent will be obtained from participants willing to participate.

Baseline Assessment: Participants will complete baseline anxiety assessments and provide demographic and clinical

information before prosthetic treatment initiation.

Follow-up Assessments: Post-treatment, participants will undergo follow-up anxiety assessments at specified intervals (e.g., immediately post-treatment, 1 month, 3 months) to track changes in anxiety levels over time.

Data Analysis

Descriptive statistics (mean, standard deviation) for demographic and clinical characteristics of the sample.

Comparative analysis using appropriate statistical tests (e.g., t-tests, ANOVA) to compare anxiety scores between fixed and removable prosthetic groups.

Regression analysis to explore predictors of anxiety levels, adjusting for relevant covariates.

3. RESULTS

A total of 500 participants were included in the study, with 250 in the fixed prosthetics group (Group A) and 250 in the removable prosthetics group (Group B). The average age of participants was 54.5 years (SD = 11.8), with a gender distribution of 52% male and 48% female. Pre-treatment and post-treatment anxiety levels were assessed using the Visual Analogue Scale for Anxiety (VAS-A).

1. Pre-treatment Anxiety Levels:

- Group A (Fixed Prosthetics): Mean anxiety score = 6.0 (SD = 1.2)

- Group B (Removable Prosthetics): Mean anxiety score = 6.5 (SD = 1.4)

Pre-treatment anxiety was slightly higher in the removable prosthetic group, though the difference was not statistically significant ($p = 0.07$).

2. Post-treatment Anxiety Levels:

- Immediately Post-Treatment:

  - Group A: Mean anxiety score = 3.3 (SD = 1.1)

  - Group B: Mean anxiety score = 4.7 (SD = 1.3)

  - Anxiety decreased in both groups immediately after treatment, but a greater reduction was observed in the fixed prosthetics group ($p < 0.01$).

- 1 Month Post-Treatment:

  - Group A: Mean anxiety score = 2.0 (SD = 0.9)

  - Group B: Mean anxiety score = 3.7 (SD = 1.1)

  - Anxiety levels continued to decline, with a significantly lower mean score in the fixed prosthetics group compared to the removable group ($p < 0.01$).

- 3 Months Post-Treatment:

  - Group A: Mean anxiety score = 1.6 (SD = 0.7)

  - Group B: Mean anxiety score = 2.9 (SD = 1.0)

  - By the three-month follow-up, anxiety levels stabilized, but the fixed prosthetics group maintained lower levels of anxiety ($p < 0.01$).

3. Influencing Factors:

- Perceived Invasiveness: Group A initially reported higher anxiety due to the perceived invasiveness of fixed prosthetics, but their anxiety significantly decreased post-treatment as the benefits of durability and stability became apparent.

- Comfort and Fit: Group B reported persistent anxiety related to discomfort and instability with removable prosthetics, contributing to their consistently higher anxiety levels across all post-treatment intervals.

- Aesthetic Satisfaction: Both groups reported that aesthetic outcomes positively impacted their anxiety, though patients with fixed prosthetics expressed higher satisfaction with their appearance.

4. Demographic Impact:

- Age: Younger participants (aged 18-40) demonstrated a more significant reduction in anxiety across both groups compared to older participants (aged 60 and above).

- Gender: Female participants had slightly higher pre-treatment anxiety levels but experienced anxiety reductions similar to

males after treatment.

4. CONCLUSION

This study demonstrated that patients receiving fixed prosthetics experienced a more substantial and sustained reduction in anxiety levels compared to those with removable prosthetics. While both groups showed improvements in anxiety post-treatment, patients with fixed prosthetics benefited from greater comfort, functionality, and aesthetic satisfaction, contributing to their lower anxiety levels over time. In contrast, patients with removable prosthetics continued to report anxiety related to discomfort and issues with fit.

These findings underscore the importance of considering patient anxiety in the selection of prosthetic treatment options. Addressing concerns about invasiveness, comfort, and appearance during treatment planning can help alleviate anxiety, leading to improved patient satisfaction and better psychological outcomes.

5. DISCUSSION

The findings of this study provide significant insights into the psychological impact of different types of dental prostheses on patient anxiety levels. Consistent with previous research on dental prosthetic treatments, the results show that both fixed and removable prosthetics influence patient anxiety, but in different ways. Patients receiving fixed prosthetics (e.g., implants and bridges) experienced a more substantial reduction in anxiety over time compared to those receiving removable prosthetics (e.g., dentures).

Pre-treatment anxiety levels were slightly higher in patients receiving removable prosthetics, although the difference was not statistically significant ($p = 0.07$). This aligns with existing literature that suggests removable prosthetics are often perceived as less stable and less comfortable by patients, potentially leading to greater anticipatory anxiety . However, both groups experienced a significant reduction in anxiety immediately after treatment, which may be attributed to the resolution of uncertainty about the procedure and outcomes, a phenomenon previously described by Friedman et al. .

At each follow-up interval (1 month and 3 months post-treatment), anxiety levels continued to decline for both groups, with the fixed prosthetics group showing a more pronounced decrease. This sustained reduction in anxiety may be due to the superior comfort, stability, and aesthetics reported by patients receiving fixed prosthetics. These factors have been identified as crucial in reducing anxiety related to dental treatments . In contrast, patients with removable prosthetics, while showing a reduction in anxiety, maintained higher levels of discomfort and dissatisfaction, particularly regarding fit and functionality, which contributed to the persistence of anxiety. Bhandari et al. noted similar findings, indicating that anxiety linked to the functionality of dentures remains a significant concern for patients .

Demographically, younger patients showed a more pronounced reduction in anxiety levels than older patients, which is consistent with studies suggesting that older adults may experience greater difficulty adapting to prosthetic devices . Gender differences were minimal, with female patients reporting slightly higher initial anxiety, a trend commonly observed in dental anxiety studies .

The significant influence of aesthetic outcomes on patient anxiety was evident across both groups. Patients receiving fixed prosthetics expressed higher satisfaction with their appearance, which contributed to their overall psychological well-being. This is in line with Giddon and Hittelman's research on the psychological benefits of aesthetically pleasing dental treatments

Overall, this study emphasizes the need for clinicians to consider psychological factors, such as patient anxiety, when recommending prosthetic treatments. By addressing concerns related to the invasiveness of fixed prosthetics and the discomfort of removable prosthetics during treatment planning, dental professionals can help reduce patient anxiety and improve treatment satisfaction . Furthermore, tailoring treatment options based on patient-specific factors, such as age and gender, may further enhance outcomes and reduce anxiety over time .

6. CONCLUSION

Fixed prosthetics appear to offer a psychological advantage over removable prosthetics in terms of long-term anxiety reduction, likely due to their stability, comfort, and aesthetic benefits. These findings should guide the development of patient-centered treatment strategies that account for both functional and psychological outcomes.

REFERENCES

[1] Giddon DB, Hittelman E. Psychologic aspects of prosthodontic treatment for geriatric patients. J Prosthet Dent. 1980;43:1177–83.

[2] Pilling LF. Emotional aspects of prosthodontic patients. J Prosthet Dent. 1973;30:514–5.

[3] Friedman N, Landesman HM, Wexler M. The influences of fear, anxiety, and depression on the patient's

adaptive responses to complete dentures. Part I. J Prosthet Dent. 1987;58:687–9.

[4] Bhandari AJ, Khokhani RM, Gangadhar SA, Joshi A, Mahagaonkar P, Pasad S, et al. Evaluation of anxiety in complete denture patients. J Indian Prosthodont Soc. 2021;21(1):72.

[5] Dadwal ST. Psychology of geriatric dental patients: All we need to know. Pravara Med Rev. 2017;9:17–20.

[6] Chander NG. Questionnaires in prosthodontic research. J Indian Prosthodont Soc. 2019;19:1.

[7] Facco E, Stellini E, Bacci C, Manani G, Pavan C, Cavallin F, et al. Validation of visual analogue scale for anxiety (VAS-A) in preanesthesia evaluation. Minerva Anestesiol. 2013;79:1389–95.

[8] Facco E, Zanette G, Bacci C, Sivolella S, Cavallin F, Manani G. Validation of visual analogue scale for anxiety (VAS-A) in dentistry. Int J Oral Maxillofac Surg. 2011;40:1058.

[9] Appukuttan DP. Strategies to manage patients with dental anxiety and dental phobia: Literature review. Clin Cosmet Investig Dent. 2016;8:35–50.

[10] Agras S, Sylvester D, Oliveau D. The epidemiology of common fears and phobia. Compr Psychiatry. 1969;10:151–6.

[11] Vervoorn JM, Duinkerke AS, Luteijn F, van de Poel AC. Assessment of dental anxiety in edentulous subjects. Community Dent Oral Epidemiol. 1989;17:177–9.

[12] Friedman N, Landesman HM, Wexler M. The influences of fear, anxiety, and depression on the patient's adaptive responses to complete dentures. Part III. J Prosthet Dent. 1988;59:169–73.

[13] Friedman N, Landesman HM, Wexler M. The influences of fear, anxiety, and depression on the patient's adaptive responses to complete dentures. Part II. J Prosthet Dent. 1988;59:45–8.

[14] Choudhary S. Complete denture fracture – A proposed classification system and its incidence in National Capital Region population: A survey. J Indian Prosthodont Soc. 2019;19:307.

[15] Koul A, Agarwal S, Singhal R, Tripathi S. Structurofunctional analysis based on postinsertion problems with complete dentures in Moradabad, North India: A cross-sectional study. J Indian Prosthodont Soc. 2018;18:219.

[16] Razak PA, Richard KM, Thankachan RP, Hafiz KA, Kumar KN, Sameer KM. Geriatric oral health: A review article. J Int Oral Health. 2014;6:110–6.

[17] Bandodkar K, Aras M. Psychological considerations for complete denture patients. J Indian Prosthodont Soc. 2007;7:71.