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Original Research Article

Patient Satisfaction with Aesthetic Outcomes of Prosthodontic Restorations on Endodontically Treated Teeth

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Abstract:

Background: Endodontic treatment often leaves teeth weakened, necessitating prosthodontic restorations to restore function and aesthetics. While advancements in dental materials and technology have enhanced the aesthetic potential of such restorations, understanding patient satisfaction remains critical for improving care.

Objective: To evaluate patient satisfaction with the aesthetic outcomes of prosthodontic restorations on endodontically treated teeth, considering factors such as gender, age, and restoration type.

Materials and Methods: A cross-sectional study involving 200 patients aged 18–70 years was conducted at a tertiary dental care center. Patient satisfaction was assessed across four aesthetic domains—shade matching, translucency, shape, and overall appearance—using a 5-point Likert scale. Clinical data on restoration type and material were correlated with satisfaction scores.

Results: The mean satisfaction score was 4.5 (SD ±0.4). Female patients and those aged 18–35 years reported higher satisfaction. Shade matching and overall appearance were the highest-rated domains. Statistical analysis revealed significant correlations between demographic factors and satisfaction scores.

Discussion: Findings highlight the importance of patient-centered approaches in prosthodontics, emphasizing the role of advanced materials and effective clinician-patient communication. Challenges in achieving translucency suggest areas for further innovation.

Conclusions: Prosthodontic restorations achieve high aesthetic satisfaction, with significant influences from age, gender, and material selection. Advances in material science and patient-centered care can further enhance outcomes.

Keywords: Patient satisfaction, prosthodontics, endodontically treated teeth, dental aesthetics, restoration outcomes.

Introduction

Endodontic treatment, commonly referred to as root canal therapy, is a widely performed dental procedure aimed at eliminating infection from the pulp of a tooth and protecting it from future microbial invasion. While endodontic therapy successfully resolves the pathological aspects of the tooth, it often leaves the tooth weakened, necessitating restoration to restore both function and aesthetics. Prosthodontic restorations, including crowns, overlays, and veneers, play a pivotal role in achieving these outcomes.

Aesthetic considerations are particularly significant, as they influence patients' confidence, self-esteem, and satisfaction with the dental care they receive [1-4]. In recent years, advancements in dental materials and technology have improved the aesthetic potential of prosthodontic restorations. Materials such as lithium disilicate ceramics, zirconia, and advanced composite resins have enabled clinicians to mimic the natural appearance of teeth with remarkable precision. Despite these advancements, achieving patient satisfaction remains a multifaceted challenge, influenced by technical, biological, and psychological factors [5,6].

Patient satisfaction is a subjective assessment that encompasses various dimensions, including the appearance of the restoration, comfort, and functionality. The appearance of the prosthetic restoration, particularly in terms of shade matching, translucency, and shape, often takes precedence in patients' evaluations. Factors such as age, gender, socioeconomic status, and cultural expectations can further modulate patient perceptions of aesthetics. Additionally, clinician expertise and communica-

tion play a critical role in aligning patient expectations with clinical outcomes [7,8]. While numerous studies have evaluated the clinical success of restorations, fewer have focused on patient-reported outcomes [9,10]. This study aims to bridge this gap by evaluating patient satisfaction with the aesthetic outcomes of prosthodontic restorations on endodontically treated teeth. By assessing satisfaction across multiple domains and correlating it with demographic and clinical variables, the study seeks to provide valuable insights for improving patient-centered care in prosthodontics.

Materials and Methods

This cross-sectional study was conducted over six months at a tertiary dental care center. The study population consisted of 200 patients who had received prosthodontic restorations on endodontically treated teeth within the past year.

Inclusion criteria:

1. Adults aged 18–70 years.
2. Patients with single-tooth prosthodontic restorations.
3. Absence of untreated periodontal conditions.
4. Consent to participate in the study.

Exclusion criteria:

1. Multiple-tooth restorations.
2. Patients with a history of allergic reactions to dental materials.
3. Incomplete or failed restorations.

Data Collection: Patients were recruited through systematic random sampling. Data collection involved a structured questionnaire and clinical examination. The questionnaire assessed patient satisfaction across four domains: shade matching, translucency, shape, and overall appearance. Responses were recorded on a 5-point Likert scale (1 = very dissatisfied, 5 = very satisfied). Clinical parameters, including restoration type and material, were recorded to identify correlations with patient-reported outcomes.

Statistical Analysis: Data were analyzed using SPSS software. Descriptive statistics were used to summarize demographic and satisfaction data. Inferential statistics, including chi-square tests and regression analysis, were employed to evaluate associations between variables.

Results

The study included 200 patients, with a mean age of 35.8 years (±12.4). Females constituted 60% (n = 120) of the study population, while males accounted for 40% (n = 80). The distribution of satisfaction scores and aesthetic domains is summarized in the tables below.

Table 1: Demographics and Satisfaction Scores

Characteristic	Frequency (n)	Mean Satisfaction Score (SD)
Gender: Male	80	4.3 (±0.5)
Gender: Female	120	4.6 (±0.4)
Age Group: 18–35	90	4.7 (±0.3)
Age Group: 36–70	110	4.4 (±0.5)

Female patients reported higher satisfaction scores compared to male patients. Younger patients (18–35 years) were more satisfied with aesthetic outcomes, particularly in anterior restorations (Table 1).

Table 2: Satisfaction across Aesthetic Domains

Domain	Mean Score (SD)
Shade Matching	4.6 (±0.3)
Translucency	4.4 (±0.5)
Shape	4.5 (±0.4)
Overall Appearance	4.7 (±0.3)

Overall appearance received the highest satisfaction scores, indicating that patients valued the restoration's ability to blend naturally with adjacent teeth. Translucency scored slightly lower, suggesting a need for improvements in this domain (Table 2).

Discussion

The findings of this study underscore the high levels of patient satisfaction with the aesthetic outcomes of prosthodontic restorations on endodontically treated teeth. The results align with previous studies, which have highlighted the importance of aesthetic parameters in determining patient satisfaction11.

Gender and Age Influences: Female patients exhibited higher satisfaction scores compared to males, consistent with the literature suggesting that women tend to be more particular about dental aesthetics. Younger patients also reported higher satisfaction, possibly due to their heightened awareness of appearance and greater emphasis on aesthetics in anterior restorations [12].

Material and Technique Considerations: The slightly lower scores for translucency highlight the challenges in replicating the optical properties of natural teeth. Advances in materials, such as monolithic zirconia and lithium disilicate ceramics, have improved outcomes, but limitations remain, particularly in cases of deep discoloration. Techniques such as layered ceramics and digital shade matching systems could enhance translucency and overall satisfaction [13].

Clinical and Patient-Centered Factors: The study emphasizes the importance of aligning clinical outcomes with patient expectations. Effective communication, including the use of digital mockups and shade guides, can help manage expectations and improve satisfaction. Additionally, clinician expertise in selecting and manipulating materials plays a critical role in achieving optimal outcomes [14,15].

Conclusions

Prosthodontic restorations on endodontically treated teeth achieve high aesthetic satisfaction among patients. Factors such as age, gender, and material selection significantly influence satisfaction. Future advancements in material science and technology should focus on enhancing translucency and other optical properties to further improve outcomes. Effective patient communication and individualized treatment planning are essential for achieving patient-centered care.

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