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PATIENT-REPORTED OUTCOMES IN IMPLANT-SUPPORTED OVERDENTURES VERSUS CONVENTIONAL COMPLETE DENTURES: A REVIEW

Prosthodontics

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ABSTRACT

Edentulism affects the elderly, leading to issues with chewing, speech, and quality of life. Conventional dentures often lack stability, causing dissatisfaction. Implant-supported overdentures improve retention and comfort, enhancing patient satisfaction and overall well-being. This review compares patient-reported outcomes between implant-supported overdentures and conventional complete dentures. Evidence from clinical trials and systematic reviews indicates that implant-supported overdentures provide higher patient satisfaction, improved function, and better quality of life. Despite increased cost and surgical requirements, they are increasingly considered the preferred treatment for edentulous mandibles.

KEYWORDS

Dental Implants; Denture, Overlay; Complete Denture

INTRODUCTION

Edentulism is a significant public health issue, especially among the elderly, as complete tooth loss affects mastication, speech, aesthetics, nutrition, and psychosocial health. While conventional complete dentures are affordable and non-invasive, many patients struggle with retention and stability, particularly in the mandible due to alveolar ridge resorption [1]. This has led to a rise in the use of implant-supported overdentures, which greatly enhance stability and retention through osseointegrated implants, making them a reliable treatment for edentulous patients [2].

Recent research has shifted its focus from clinician-centred to patient-centred outcomes. Now, factors like comfort, chewing ability, speech, aesthetics, satisfaction, and oral health-related quality of life play crucial roles in assessing treatment success [3]. This review analyzes patient-reported outcomes between implant-supported overdentures and conventional complete dentures.

Conventional complete dentures and patient satisfaction

Conventional complete dentures are the most common treatment for edentulous patients due to their cost-effectiveness and non-invasive nature. While they can restore appearance and function, satisfaction varies among patients [4]. Factors influencing satisfaction include retention, stability, aesthetics, and patient expectations. Maxillary dentures tend to be better accepted than mandibular ones, which often face issues with instability and comfort due to ridge resorption and tongue movement [5].

Patient-reported outcomes show that dissatisfaction frequently stems from poor retention, difficulty in chewing, mucosal soreness, and social embarrassment. These problems can impact confidence and dietary choices, ultimately affecting health [5]. Despite improvements in denture materials and fabrication, dissatisfaction, especially with mandibular dentures, remains a common issue, prompting interest in implant-supported solutions [4].

Implant-supported overdentures

Implant-supported overdentures are removable prostheses retained by dental implants, utilizing attachments like bars, balls, locators, or magnets. They enhance stability, retention, and support while reducing movement during function [6]. The McGill Consensus Statement recognizes the two-implant mandibular overdenture as the minimum standard for edentulous mandibles due to its superior functional and psychosocial outcomes compared to conventional dentures [2]. Benefits include improved chewing, speech, facial support, and increased patient confidence. While two-implant designs offer satisfactory retention at a lower cost, additional implants can enhance stability but may raise treatment expenses. Overall, patients typically adapt well to implant-supported overdentures, leading to increased popularity among elderly edentulous individuals [6].

Patient-reported outcomes

Patient-reported outcomes are assessments provided directly by patients regarding their perception of treatment and its impact on daily life. In prosthodontics, these outcomes are important because treatment success depends greatly on patient comfort and satisfaction rather than only clinical findings.

Commonly evaluated outcomes in overdenture research include overall satisfaction, oral health-related quality of life, masticatory ability, aesthetics, speech, comfort, social interaction, and psychological well-being. Assessment methods include visual analogue scales, questionnaires, the Oral Health Impact Profile (OHIP), and denture satisfaction scales [7].

The growing use of patient-reported outcome measures reflects the shift toward evidence-based, patient-centred healthcare, where prosthodontic treatment aims to restore function while improving quality of life and psychosocial well-being.

Oral health-related quality of life

Oral health-related quality of life reflects how oral health affects physical, psychological, and social functioning. Edentulism can harm self-esteem, social participation, and nutrition, but rehabilitation with prostheses aims to mitigate these issues. Studies show that patients with implant-supported overdentures experience better oral health-related quality of life compared to those with conventional dentures, reporting improvements in functional limitations, pain, psychological comfort, and social disability [8].

Randomised clinical trials show that implant-supported overdentures enhance chewing ability, comfort, and speech, boosting confidence in eating and public speaking. Meta-analyses also confirm significant benefits of implant support on oral health-related quality of life and patient satisfaction, consistently favouring these solutions [6]. Enhanced oral function improves social interaction and well-being for the elderly.

Masticatory performance and functional outcomes

Mastication is a key factor in patient satisfaction with complete denture therapy. Conventional mandibular dentures often present issues with retention and stability, impacting chewing efficiency and dietary choices. In contrast, implant-supported overdentures significantly enhance retention and stability, allowing patients to chew harder foods more comfortably [1]. Studies indicate that improved chewing efficiency leads to a more varied diet, boosting nutritional status and overall health [8]. Patients report better experiences with fibrous foods, meat, and raw vegetables after transitioning to implant overdentures. Clinical comparisons consistently show superior chewing ability in implant overdenture wearers, especially in the mandibular arch, and recent evaluations of both digitally and conventionally fabricated implants confirm high patient satisfaction and masticatory performance [8].

Psychological and social outcomes

The psychological effects of edentulism are often overlooked, leading

to embarrassment, reduced self-confidence, and social withdrawal. While conventional dentures can improve appearance, they may still cause anxiety due to instability during speech and eating [7].

In contrast, implant-supported overdentures significantly enhance psychological well-being and social confidence. Patients typically experience less fear of denture displacement and are more willing to engage in social activities.

Effective communication and aesthetics are crucial for social interactions, and poorly fitting dentures can hinder speech and increase self-consciousness. Implant overdentures offer better stability, thereby improving communication and reducing social anxiety. Longitudinal studies have shown sustained psychological satisfaction following implant overdenture therapy, indicating long-term improvements in quality of life [8].

Expectations and patient satisfaction

Patient expectations are crucial for satisfaction with prosthodontic treatment. Satisfaction depends on both the quality of prostheses and how well treatment outcomes meet or exceed expectations. Research shows that conventional dentures often fall short in retention and function compared to implant-supported overdentures, which better satisfy patient expectations. Therefore, pre-treatment counselling is essential to inform patients about the advantages, limitations, costs, and potential complications of each option. Setting realistic expectations is key to treatment acceptance and long-term satisfaction [8].

Limitations of implant-supported overdentures

Implant-supported overdentures offer benefits but have limitations. Surgical intervention may deter patients, especially the elderly with medical issues or dental anxiety. Additionally, the higher cost compared to conventional dentures is a significant barrier [5]. Maintenance is also important, as attachment components need periodic replacement to prevent peri-implant disease. Some patients may prefer traditional dentures, finding little value in implants. Thus, treatment planning should be tailored to individual patient needs, expectations, anatomical conditions, and financial considerations.

Future perspectives

Future research on patient-reported outcomes in implant prosthodontics should emphasize standardized assessment methods and long-term follow-up to improve comparability among studies. Digital technologies, such as computer-aided design and additive manufacturing, can enhance the comfort and accuracy of overdentures. Additionally, advancements in implant design, attachment systems, and biomaterials may lead to higher patient satisfaction and lower maintenance needs. There should be a greater focus on geriatric patient care and multidisciplinary approaches, as the demand for effective rehabilitation of edentulous individuals will likely rise with an aging global population.

CONCLUSION

Patient-reported outcomes are vital for assessing prosthodontic success. Implant-supported overdentures significantly enhance patient satisfaction and quality of life compared to conventional dentures, which often lack stability. Effective treatment requires careful patient selection and individualized planning. Future advancements in implant dentistry are expected to improve outcomes further.

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