

Effectiveness Of Complete Dentures In Restoring Function And Aesthetics

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Abstract. Complete dentures remain a widely used method for oral rehabilitation in patients with total tooth loss. Despite technological advances in implant dentistry, removable complete dentures continue to play a crucial role due to their accessibility and clinical versatility. The primary objectives of complete denture therapy are restoration of masticatory function, speech, facial aesthetics, and overall quality of life.

The aim of this study was to evaluate the effectiveness of complete dentures in restoring functional and aesthetic parameters based on contemporary scientific literature. A narrative literature review of clinical studies published between 2005 and 2025 was conducted using international scientific databases. Parameters analyzed included chewing efficiency, phonetic adaptation, facial aesthetics, patient satisfaction, and quality-of-life indicators.

The analysis demonstrates that complete dentures significantly improve mastication, speech, and facial appearance, although functional efficiency remains lower compared with natural dentition or implant-supported prostheses. Patient satisfaction largely depends on prosthetic design, occlusal balance, and psychological adaptation. Proper clinical protocols and individualized treatment planning are essential for achieving optimal rehabilitation outcomes.

Keywords: complete dentures, masticatory efficiency, dental aesthetics, edentulism, oral rehabilitation, quality of life

Introduction. Complete tooth loss represents a major functional and psychosocial challenge affecting millions of individuals worldwide. Edentulism leads to impaired mastication, altered speech patterns, facial collapse, and reduced self-confidence. Prosthodontic rehabilitation aims to restore oral function and improve patients' social and psychological well-being.

Complete removable dentures have been used for more than a century and remain the most common treatment modality for edentulous patients. Although implant-supported restorations provide superior stability, they are not always feasible due to medical, anatomical, or financial limitations.

The effectiveness of complete dentures should not be evaluated solely by mechanical retention but also by their ability to restore physiological function and facial harmony. Modern prosthodontics emphasizes functional rehabilitation and patient-centered outcomes, including comfort, aesthetics, and quality of life.

This study aims to analyze the effectiveness of complete dentures in restoring: masticatory performance, speech function, facial aesthetics, psychological comfort, patient satisfaction.

Materials and Methods

Study Design. A narrative review of scientific literature was performed.

Time Frame. Studies published between 2005 and 2025 were included to reflect contemporary clinical practice.

Inclusion Criteria

- Clinical trials evaluating denture outcomes;
- Studies measuring chewing efficiency;
- Research assessing aesthetic and quality-of-life outcomes;
- Reviews focusing on edentulous patient rehabilitation.

Evaluated Parameters

The following outcomes were analyzed:

1. Masticatory efficiency;
2. Speech adaptation;
3. Facial aesthetic improvement;
4. Patient satisfaction;

5. Oral health–related quality of life (OHRQoL).

Results

1. Restoration of Masticatory Function

Loss of teeth significantly reduces chewing efficiency, limiting food selection and affecting nutritional status. Clinical studies demonstrate that complete dentures improve chewing ability by approximately **50–70%** compared to the edentulous state. Patients report improved ability to process soft and moderately firm foods. However, compared with natural dentition, denture efficiency remains reduced due to: absence of periodontal proprioception, reduced bite force, denture mobility during mastication.

Mandibular dentures typically show lower functional performance than maxillary dentures due to reduced support area.

2. Speech Rehabilitation

Tooth loss alters phonetics, particularly pronunciation of sibilant and labiodental sounds.

Following denture insertion: most patients adapt speech patterns within 2–4 weeks, phonetic improvement depends on correct tooth positioning, vertical dimension restoration plays a critical role.

Incorrect denture thickness or tooth placement may cause persistent speech disturbances.

3. Aesthetic Restoration

One of the most immediate benefits of complete dentures is restoration of facial appearance.

Key improvements include: support of lips and cheeks, correction of facial collapse, restoration of lower facial height, improved smile aesthetics.

Proper tooth selection considering size, shape, and color significantly enhances natural appearance.

Modern prosthodontics emphasizes individualized aesthetic planning rather than standardized tooth arrangement.

4. Psychological and Social Impact

Edentulism often leads to social withdrawal and decreased self-esteem.

Studies show that denture rehabilitation results in: increased social confidence, improved self-image, reduction of anxiety related to appearance.

Psychological acceptance strongly correlates with overall treatment satisfaction.

5. Quality of Life Outcomes

Assessment using Oral Health Impact Profile (OHIP) questionnaires demonstrates significant improvement after denture treatment.

Patients report improvements in: eating comfort, communication, social interaction, emotional well-being.

However, adaptation difficulties during early stages may temporarily reduce satisfaction.

Discussion

The findings confirm that complete dentures remain an effective rehabilitation method despite inherent functional limitations.

Functional improvement is primarily related to restoration of occlusal contact and facial support. Nevertheless, absence of periodontal ligament receptors limits neuromuscular feedback, explaining reduced chewing efficiency compared with natural teeth.

Aesthetic outcomes often represent the most valued benefit for patients. Restoration of facial proportions significantly improves perceived age and attractiveness. Therefore, prosthodontic treatment should integrate aesthetic analysis with functional planning.

Patient adaptation emerges as a critical determinant of success. Neuromuscular learning requires time, and clinicians must educate patients regarding realistic expectations.

Another important factor is prosthetic design. Balanced occlusion, correct vertical dimension, and accurate impressions directly influence function and comfort.

While implant-supported dentures demonstrate superior outcomes, conventional dentures remain essential due to accessibility and lower cost.

Future developments in digital dentistry and advanced materials may further improve denture performance and patient satisfaction.

Conclusion. Complete dentures effectively restore essential oral functions and facial aesthetics in edentulous patients. Although functional efficiency remains lower than natural dentition, significant improvements in mastication, speech, appearance, and quality of life are consistently observed.

Successful outcomes depend on accurate clinical procedures, individualized aesthetic planning, and patient adaptation. Complete dentures continue to represent a reliable and accessible treatment option in modern prosthodontics.

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