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Pacific Northwest Prosthodontics specializes in fixed, removable and implant Prosthodontics as well as being highly trained in fully edentulous immediate implant provisionalization (aka all on 4) options for your patients with failing or missing dentitions.



Oral Health-related Quality of Life: Conventional Complete Dentures vs Implant Overdentures

Prosthodontic replacement of missing teeth in edentulous patients can ultimately enhance patients' quality of life. In addition to various treatment options to address edentulism, modern dentists must consider anatomical and surgical limitations as well as the cost and duration of treatment. Achieving predictable improvements in patients quality of life with affordable treatment require an evidence-based understanding of available choices. This issue of Prosthodontics Newsletter reviews published research comparing conventional complete dentures to implant overdentures for enhancing patients' oral health-related quality of life.

One vs Two Implants to Support Overdentures

Numerous studies have shown the superiority of implant-supported overdentures over conventional dentures for treating mandibular edentulism. The gold standard calls for the use of mandibular overdentures retained by 2 implants; however, the cost may put this treatment out of reach for some patients. The use of 1 implant rather than 2 has been suggested to reduce the cost, but evidence as to whether this has an impact on patient quality of life is lacking. Jayasinghe et al from the University of Peradeniya, Sri Lanka, designed a study to compare the effectiveness of conventional dentures, 1-implant-supported overdentures and 2-implant-supported over-

dentures for prosthetic rehabilitation of the edentulous mandible.

The researchers enrolled 30 edentulous patients, all screened to establish both medical fitness and sufficiency of bone to undergo implant placement. All patients received conventional complete dentures, which they wore for ≥ 3 months, after which time they completed self-assessment questionnaires and were then randomly assigned to 1 of 2 groups:

➤ **SIMOD:** 1 implant in the midline of the mandible

➤ **TIMOD:** 2 implants in either the canine or first premolar region

After confirmation of osseointegration, mandibular overdentures were placed. At 3 months, 6 months and 1 year after receiving the overdentures, patients assessed their oral health-

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One vs Two Implants to Support Overdentures

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related quality of life (OHRQoL) and their satisfaction with the prosthesis, while clinicians evaluated outcomes based on retention, stability, support of the overdentures and overall success of treatment.

Esthetic and functional outcomes in the TIMOD group were superior to conventional dentures at all time points, with significant improvements in all outcome measures, including comfort, esthetics, chewing, speech, retention, stability, support and general patient satisfaction. The SIMOD group showed similar results at 3 and 6 months; an insufficient number of patients in this group attended the 1-year follow-up to reach any conclusions. The TIMOD group had better outcomes than the SIMOD group for patient comfort; however, all other evaluations showed no statistically significant differences. Replacement of conventional dentures with either type of implant-supported overdentures resulted in significantly improved OHRQoL.

Comment

One or 2 implant-retained mandibular overdentures resulted in significantly better quality of life for patients compared with conventional dentures. Use of a single implant was nearly as effective as using 2 implants, while reducing costs to the patient.

Jayasinghe RM, Attygalla M, Fonseka MCN, et al. Single versus two dental implants retained mandibular overdentures: comparison of function, patient satisfaction, oral health-related quality of life and success of treatment. BMC Res Notes 2024;17:374.

OHRQoL and Nutrition by Restoration Type

As the world population's life expectancy increases, so does edentulism. Inadequate retention and stability of conventional dentures may compromise chewing efficiency, which can increase malnutrition and overall poor health. To examine how the relationships among the form of prosthetic rehabilitation, the patient's nutritional status and oral health-related quality of life (OHRQoL) may be interrelated, Demirekin and Erten from Süleyman Demirel University, Türkiye, created a cross-sectional clinical study to compare the nutritional status and OHRQoL in completely edentulous patients who received conventional complete dentures, implant-supported overdentures or implant-supported fixed prostheses.

The 140 fully edentulous patients aged ≥ 40 years were divided into 3 groups:

- 40 received conventional complete dentures (CDs)
- 50 received implant-supported overdentures (IODs)
- 50 received implant-supported fixed prostheses (IFPs)

All had completed their prosthetic treatment ≥ 6 months prior to enrollment. The participants completed the

OHIP-14 and OHQoL-UK questionnaires, which evaluate OHRQoL, and the Mini Nutritional Assessment-Short Form (MNA-SF), a questionnaire assessing nutritional status. Potential confounding demographic factors, including age, sex, education and income, were recorded.

The highest OHIP-14 scores, signifying poorer OHRQoL, were in the CD group; the lowest were in the IFP group. Similarly, the CD group recorded the poorest OHQoL-UK scores; the IFP group scored highest in OHRQoL (Table 1). The CD group showed the greatest proportion of patients at risk of malnutrition. Controlling for potential confounders, multivariate analysis demonstrated a significant association between OHRQoL and prosthetic type; patients receiving implant-supported prostheses scored better on the OHIP-14 and OHQoL-UK. The association of prosthetic type with nutritional status lessened after adjustment for demographic and socioeconomic variables, suggesting that the causes of possible malnutrition are multifactorial.

Comment

Implant-supported prosthetic restorations, especially implant-supported fixed prostheses, significantly improved patients' OHRQoL compared with conventional complete dentures. They also appear to contribute to improved nutritional status.

Table 1. Mean OHIP-14 and OHQoL-UK scores by prosthetic treatment type.

	OHIP-14 ^a	OHQoL-UK
Conventional complete denture (CD)	27.38	58.75
Implant-supported overdenture (IOD)	21.78	63.62
Implant-supported fixed prosthesis (IFP)	16.84	67.60

^a $p < 0.001$.

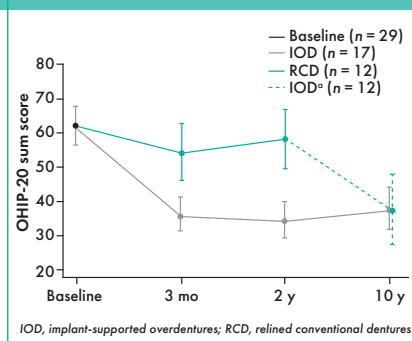
Demirekin ZB, Erten E. Association between prosthetic rehabilitation type, nutritional status, and oral health-related quality of life in completely edentulous adults: a cross-sectional study. *BMC Oral Health* 2026;doi:10.1186/s12903-026-08805-6.

Patient Satisfaction: 10-year Follow-up

Studies show that implant-supported mandibular overdentures improve the oral health-related quality of life (OHRQoL) in edentulous patients who previously wore conventional mandibular dentures, but nearly all have been short term, typically between 2 and 5 years. One study (Gjengedal H *et al*, *Int J Prosthodont* 2013;26:68-78) reported that edentulous patients had a strong increase in OHRQoL 3 months and 2 years after replacing their conventional mandibular dentures with implant-supported overdentures; all patients randomized to having their conventional dentures relined rather than replaced chose to receive implant-supported overdentures.

Mukilvannan *et al* from the University of Bergen, Norway, followed the original patient group to measure changes in patient satisfaction and OHRQoL 10 years after the end of the earlier study. Of the original 54 patients, 16 had died, 4 did not participate due to severe health problems, and 5 could not be reached. The 29 remaining patients included 17 from the original group and 12 who received implant-supported overdentures at the end of the previous study. Each respondent completed the same questionnaire

Figure 1. Changes over 10 years in OHIP-20 sum scores for mandibular dentures. At 2 years, the RCD group received IODs (IOD^a).



from the previous study that measured patient satisfaction with their dentures, along with the OHIP-20 questionnaire to assess their OHRQoL.

At the 10-year follow-up, patients who replaced their conventional dentures with implant-supported overdentures reported significantly higher levels of satisfaction, comfort, retention and fit with their mandibular dentures, along with better ability to chew and less soreness or pain. Their OHRQoL significantly increased in the domains of functional disability, physical pain, psychological discomfort, physical disability, social disability and overall OHRQoL. In the group that received mandibular implant-supported overdentures at the beginning, only overall satisfaction changed. All other measures, including all domains of the OHIP-20, remained unchanged (Figure 1).

Comment

Only 3 patients reported dissatisfaction with their mandibular overdentures, all related to retention. These results indicate that patient-reported outcome measures for 2-implant-retained mandibular overdentures

remained stable over a 10-year period, with a high degree of satisfaction and enhanced OHRQoL.

Mukilvannan G, Gjerde CG, Schriwer C, *et al*. An 8- to 10-year follow-up of denture satisfaction and oral health-related quality of life with implant-retained mandibular overdentures. *Int J Prosthodont* 2021;34:317-323.

OHRQoL with Mandibular Overdentures

More than 20 years ago, the McGill Consensus Statement that “two-implant mandibular overdentures should replace mandibular conventional dentures as the minimum standard of care for completely edentulous patients” was echoed several years later by the York Consensus Statement. Bajunaid *et al* from King Saud University, Saudi Arabia, compared patients’ satisfaction and oral health-related quality of life (OHRQoL) using conventional dentures compared with implant-supported overdentures.

The 58 edentulous participants in the study had used mandibular implant-supported overdentures for >3 months after previously using conventional complete dentures. They completed a 3-part questionnaire about their demographic data and the length of time they had worn the mandibular implant-retained overdentures, including 17 questions comparing their experiences wearing conventional dentures and implant-retained overdentures in

- general satisfaction
- ease of cleaning



- ability to speak
- comfort
- aesthetics
- stability
- ability to chew different types of food
- function
- general oral condition

A single, open-ended question asked for their opinion on implant-retained overdentures.

As to whether their general oral health had negatively impacted their overall health, 65.5% responded yes. More were “very satisfied” or “satisfied” with their implant-retained overdentures (50.0%) than with their conventional dentures (8.6%). Similar results involved ability to speak (74.1% vs 36.2%), comfort (72.4% vs 31.1%), aesthetics (46.5% vs 20.7%), stability (46.5% vs 5.1%) and overall ability to chew food (67.2% vs 20.7%), including improvement in each of the various food categories listed. These category results were statistically significant; the only area without a significant difference was ease of cleaning. Open-ended responses reinforced the patients’ preference for implant-supported dentures.

Comment

The replacement of conventional mandibular dentures with 2-implant-supported overdentures positively impacted patients’ OHRQoL. These findings are similar to those reported in other populations.

Bajunaid SO, Alshahrani AS, Aldosari AA, et al. Patients’ satisfaction and oral health-related quality of life of edentulous patients using conventional complete dentures and implant-retained overdentures in Saudi Arabia. Int J Environ Res Public Health 2022;19:557.

OHRQoL with Implant-Supported Dentures

Often clinical outcome measures to determine treatment success do not align with patients’ subjective evaluations. The OHIP-49, a 49-item oral health-related quality of life (OHRQoL) questionnaire, is widely used to evaluate patients’ perceptions of treatment outcomes. The OHIP-5, condenses the questionnaire to 5 items while capturing 86% of the variability in OHRQoL as measured by the OHIP-49. Sabău et al from the University of Oradea, Romania, used the OHIP-5 to analyze changes in OHRQoL in elderly edentulous patients whose conventional dentures were replaced with fixed implant-supported dentures.

Fifty-two edentulous patients with conventional dentures <1 year old completed the OHIP-5, consisting of the following 5 questions:

- Have you had difficulty chewing any foods because of problems with your mouth, dentures or jaws?
- Have you experienced painful aching in your mouth?
- Have you felt uncomfortable about the appearance of your mouth, dentures or jaws?
- Have you noticed a reduced sense of taste from problems with your mouth, dentures or jaws?
- Have you had difficulty performing your usual activities from problems with your mouth, dentures or jaws?

Responses ranged from never (1 point) to very often (5 points). Patients sub-

sequently received 4 to 8 dental implants and fixed implant-supported dentures with multiunit abutments. Three months later the patients again completed the OHIP-5.

Patients showed significant improvement in all 5 areas after receiving fixed implant-supported dentures. Patients responding “never” to experiencing difficulty chewing foods increased from 1.9% to 57.7%, while those responding “never” to painful aching in the mouth increased from 3.8% to 76.9%. Results were consistent regardless of sex or age.

Comment

Implant-supported complete dentures significantly outperformed conventional dentures in patients’ perceptions of their OHRQoL.

Sabău DT, Moca AE, Juncar RI, et al. Analysis of oral health-related quality of life in elderly Romanian edentulous patients: implant-supported versus conventional complete dentures. J Clin Med 2024;13:6865.

In the Next Issue

Edentulous complete arch scanning in implant dentistry: where do we stand?

Our next report features a discussion of this issue and the studies that analyze them, as well as other articles exploring topics of vital interest to you as a practitioner.

Do you or your staff have any questions or comments about **Prosthodontics Newsletter**? Please write or call our office. We would be happy to hear from you.

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