

EVALUATION OF BITE FORCE AFTER IMPLANT-SUPPORTED FIXED PROSTHESIS TREATMENT: A PILOT STUDY

Objective: Partial tooth loss may be restored with tooth-supported fixed prostheses or implant-supported fixed prostheses. Evaluation of bite force is crucial in assessing oral function and the effectiveness of dental treatments. The aim of the study was to evaluate the maximum bite force (MBF) and oral health-related quality of life (OHRQoL) in patients with implant-supported fixed prostheses. In addition, it was aimed to determine the effect of gender, age, and Body Mass Index (BMI) on the MBF.

Material and methods: Ethical approval was obtained prior to the commencement of the study. Bite force values of three different dental conditions were evaluated: the fixed implant-supported prosthesis group (patients who had one or more posterior restored dental implants) and the control groups (dentate patients and patients using complete dentures). A total of 54 patients, with 18 individuals in each group, were included in this study. MBF was measured with a bite force meter. The measurements were repeated 3 times (with 2-minute intervals between times) for each side, and the highest value of the MBF was recorded for each side. OHRQoL was evaluated using the OHIP-14.

Results: The results revealed that patients with implant-supported fixed dentures exhibited higher bite force values (82 N) compared to those with complete dentures (57 N). However, these values were lower than the bite force values observed in dentate patients (176 N). Additionally, the study found that patients with fixed implant-supported prostheses experienced an improvement in OHRQoL.

Conclusion: The findings from this pilot study suggest that implant-supported fixed dental prostheses contribute to an increase in MBF and have a positive impact on OHRQoL. These results highlight the effectiveness of implant-supported fixed prosthesis treatment in patients with partial tooth loss.

Keywords: dental implants, implant-supported fixed prostheses, maximum bite force, quality of life