Aims: In contemporary prosthodontics, one of the patient-associated prognostic factors consist of the bone mineral density (BMD) of the jaws. The aim of this study was to compare the mandibular BMD of the dentulous and edentulous subjects using by the dual-energy X-ray absorbiometry technique.

Methods: A total of 39 subjects, 19 dentulous (10 female and 9 male) and 20 edentulous (10 female and 10 male), were recruited in this study. Mandibular body bone mineral density was measured using dual-energy X-ray absorbiometry technique (g cm⁻²). A statistical package program was used for statistical evaluation of the data.

Results: There was no statistically significant difference between the dentulous and edentulous groups in matching variables (age, body mass index and gender) (p>0.01). There was a statistically significant difference regarding the mandibular body bone mineral density in the dentulous and edentulous group (p<0.01). The edentulous group subjects were higher mandibular body bone mineral density values (1.27±0.31 g cm⁻²) than those in the dentulous group (0.94±0.22 g cm⁻²).

Conclusion: Comparison of the mandibular body bone mineral density revealed that dentulous patients have less dense bone than in the edentulous patients. Further investigations are needed to determine the bone mineral density of the jaws in different regions and for different systemic conditions.