

**Digitalized measurement of maximum bite force
in Iraqi adult sample aged 18 – 25 years with
different malocclusion groups
(Comparative study)**

A thesis

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ABSTRACT

Information concerning the maximum bite force in human population is important to clinical orthodontics. Additionally, the influence of bite force on the vertical stability of any treatment result is important. The new position of the dentition should be compatible with the dynamics of the muscular and occlusal forces in all planes. This study was conducted to assess the maximum bite force of Iraqi adult persons aged 18-25 years. The total sample size is (150) persons (75 male, 75 female) fulfill the specification of study sample. The sample is divided into 3 groups according to malocclusion (class I malocclusion, class II malocclusion and class III malocclusion).

The maximum bite force measurements were performed by a digital device (**GM10**, Naganokeiki, Japan) which was used especially for this study.

The data were analyzed by computerized statistical program and the following results were found:

- 1- The maximum molar bite force for class I malocclusion was (500.5 N), while the minimum was (160.5 N) but the maximum incisal bite force was (260 N), while the minimum was (66 N).
- 2- The maximum molar bite force for class II malocclusion was (511.5 N), while the minimum was (210 N) but the maximum incisal bite force was (187 N), while the minimum was (63 N).
- 3- The maximum molar bite force for class III malocclusion was (595.5 N), while the minimum was (219 N) but the maximum incisal bite force was (180 N), while the minimum was (92 N).
- 4- There is a very high significant difference between the incisal and molar bite force in class I, II and III malocclusion for the male and female.

5- There is a non significant difference between left and the right side of the molar bite force in class I, II and class III malocclusion in female group and class II and III malocclusion in male group.

6- For the molar bite force, there is a very high significant difference between the male and female for all classes of malocclusion group.

7- For the Incisal bite force, regarding the gender there is a very high significant difference between male and female. For the classes difference, there is a very high significance difference in class I and II but non significant difference in class III malocclusion.