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# Effectiveness of high-intensity laser therapy in patients with myogenic temporomandibular joint disorder: A double-blind, placebo-controlled study

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## Abstract

**Purpose:** The aim of the study is to evaluate the effectiveness of high-intensity laser therapy (HILT) in the short and long term in the treatment of patients with the myogenic temporomandibular joint disorder(TMD).

**Methods:** This prospective, double-blind, controlled clinical study was conducted on patients with myogenic TMD at a university's oral and maxillofacial surgery clinic. Seventy-six patients were randomized into two groups (HILT, and control group), including 38 patients in one group. The patients were evaluated for pain, the range of motion of the jaw, disability, and quality of life. Assessments were performed before therapy (week 0) and after therapy (weeks 4 and 12). Data were evaluated using SPSS-20 and the level of significance was set at  $p <0.05$ .

**Results:** There was no significant difference between the groups in terms of socio-demographic characteristics of the groups at the beginning of the study. In the 4th week, the VAS pain score was significantly decreased in the HILT group (47%) compared to the placebo HILT group (4%) ( $p <0.001$ ). The maximum mouth opening was significantly increased in the HILT group (27%) compared to the placebo HILT group (4%) at week 12 ( $p <0.001$ ). The HILT group showed a significant improvement in Jaw Functional Limitation Scale 20 (JFLS-20) and Oral Health Impact Profile (OHIP-14) compared to the placebo HILT group ( $p <0.001$  and  $p <0.005$  respectively).

**Conclusion:** As a result of the study, it was concluded that HILT is a highly effective, non-invasive therapeutic method for patients with myogenic TMD.

**Keywords:** Laser therapy; Orofacial pain; Quality of life; Temporomandibular joint disorder.