Format: Abstract

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Laser Therapy and Occlusal Stabilization Splint for Temporomandibular Disorders in Patients With Fibromyalgia Syndrome: A Randomized, Clinical Trial.

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Abstract

Context • Patients with fibromyalgia syndrome (FMS) report frequent and severe symptoms from temporomandibular disorders (TMDs). The appropriate treatment of TMDs remains controversial. No studies have occurred on the efficacy of **therapy** with a **laser** or an occlusal stabilization splint in the treatment of TMDs in patients with FMS. Objective • The study intended to investigate the therapeutic effects of **laser therapy** and of an occlusal stabilization splint for reducing pain and dysfunction and improving the quality of **sleep** in patients with TMDs and FMS. Design • The research team designed a single-blinded, randomized clinical trial. Setting • The study took place in the research laboratory at the University of Granada (Granada, Spain). Participants • Participants were 58 women and men who had been diagnosed with FMS and TMDs and who were referred from the clinical setting. Intervention • Participants were randomly assigned to the occlusal-splint or the **laser** group. The **laser** group received a treatment protocol in which **laser therapy** was applied to the participant's tender points, and the occlusal-splint group underwent a treatment protocol in which an occlusal stabilization splint was used. Both groups underwent treatment for 12 wk. Outcomes Measures • Pain intensity, widespread pain, quality of **sleep**, severity of symptoms, active and passive mouth opening, and joint sounds were assessed in both groups at baseline and after the last intervention. The measurements used were (1) a visual analogue scale (VAS), (2) the Widespread Pain Index (WPI), (3) the Symptom Severity Scale (SSS), (4) the Patient's Global Impression of Change (PGIC), (5) the Pittsburgh Quality of **Sleep** Questionnaire Index (PSQI), (6) an assessment of the number of tender points, (7) a measurement of the active mouth opening, (8) a measurement of the vertical overlap of the incisors, and (9) the measurement of joint sounds during mouth opening and closing. Results • The group X time interaction for the 2 × 2 mixed analysis of variance found no statistically significant differences between the 2 treatment groups: (1) VAS, P = .591; (2) WPI, P = .112; (3) SSS, P = .227; (4) PGIC, P = .329; (5) number of tender

points, P = .107; (6) right and left clicking sounds in the jaw joint during palpation at mouth opening, P = .723 and P = .121, respectively; and (7) right and left clicking sounds in the jaw joint during palpation at mouth closing, P = .743 and P = .698, respectively. Compared with baseline, the **laser** treatment showed significant improvements on several outcomes, including the VAS, P < .001; WPI, P = .003; and SSS, P = .001. Overall, the study found an average improvement in symptoms from baseline of 21% , P < .001, based on the PGIC. Conclusions • **Laser therapy** or an occlusal stabilization splint can be an alternative therapeutic treatment for reducing pain symptoms and the clicking sound for TMDs in patients with FMS.

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