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Intraoral photobiomodulation diminishes pain and improves functioning in women with temporomandibular disorder: a randomized, sham-controlled, double-blind clinical trial : Intraoral photobiomodulation diminishes pain in women with temporomandibular disorder.

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Abstract

The aim of the present study was to evaluate the effect of intraoral photobiomodulation involving super-pulsed **laser** (905 nm) combined with red (640 nm) and infrared (875 nm) light-emitting diodes on pain, mandibular range of motion, and functioning in women with myogenous **temporomandibular** disorder. A randomized, sham-controlled, double-blind clinical trial was conducted involving 30 women with myogenous **temporomandibular** disorder diagnosed using the Research Diagnostic Criteria for **Temporomandibular** Disorders. The participants were randomly allocated to two groups (active and sham photobiomodulation). The evaluations involved this use of the visual analog scale, digital calipers, and a functional scale. Photobiomodulation was administered intraorally in the region of the pterygoid muscles, bilaterally, in all participants for a total of six sessions. Evaluations were performed on five occasions: prior to the intervention, immediately after the first session, 24 h and 48 h after the first session, and after the six sessions. Significant differences between groups were found regarding pain ($p \leq 0.01$) and functioning ($p \leq 0.04$). However, no statistically significant difference was found regarding range of mandibular

motion. The findings demonstrate that intraoral photobiomodulation involving super-pulsed **laser** (905 nm) combined with red (640 nm) and infrared (875 nm) light-emitting diodes diminishes pain and improves functioning but does not exert an influence on mandibular range of motion in women with **temporomandibular** disorder. Trial registration: [NCT02839967](#).

KEYWORDS: Lasers; Pain; Phototherapy; Physiotherapeutic modalities; **Temporomandibular** disorder syndrome; **Temporomandibular joint** dysfunction

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