

## The use of low level laser in management of temporo-mandibular joint disorder: A randomized control trial

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### Abstract

The use of low level laser for reducing Temporo mandibular joint pain has been of great focus in the recent practice. Low Level Laser has a considerable analgesia and anti-inflammatory effects. It increase of lymphatic flow that reduces edema. It promote tissue metabolic activation, resulting in tissue healing. In spite of plethora of literature, still, it is difficult to decide the optimal irradiation parameters. The utilization of different types, modes (pulsed or continuous, power, frequencies, wave lengths, and duration, the effective paradigm could not have been standardized as an algorithm.

This study was designed to evaluate the efficacy of Diode LLLT in controlling pain in TMD, and to compare treatment effects of continuous and pulsed mode of delivering the laser

**Method:** A sample consisted of 50 patients were enrolled, 18 tender points in the face and neck were assessed by palpating. The patients then were randomly grouped into G1 who received LLLT in pulsed emission mode and G2 group received the dose in continuous mode. Treatment was done with an infrared diode laser, (wave length of 810 nm, 500mW, 20s, 5.3 J/ cm<sup>2</sup>/ session), applied at the painful examined points, once a week for three sessions. The patients were evaluated before and after the treatment through a Visual Analogue Scale (VAS). The baseline and post therapy values of VAS was compared for both groups

**Results:** A significant difference was observed between pretreatment (baseline) and post treatment for both groups as the pain intensity was very much decreased, in addition a significant differences were observed regarding VAS ( $p = 0.04$ ) between G1 (pulsed mode group) and G2 (continuous mode group), pain and TMD symptoms were significantly lower.

### Biography

Suha N Aloosi, consultant Maxillofacial Surgeon, Faculty member in college of Dentistry, University of Sulaimani, Iraq, I had the Board degree in maxillofacial surgery and working in the teaching Hospital, supervising the post graduate students in practice and in theory. She subspecialized in cancer surgery.

### Publications

1. Piotr, R. et al (2016). Effect of the transdermal low-level laser therapy on endothelial function. *Lasers Med Sci*; 31 (7): 1301-1307
2. Judit Herranz-Aparicio 1, Eduardo Vázquez-Delgado et al . The use of low level laser therapy in the treatment of temporomandibular joint disorders. Review of the literature. *Med Oral Patol Oral Cir Bucal*. 2013 Jul 1;18 (4):e603-12.
3. Ho Jang, M.S. and Hyunju Lee, Ph.D. Meta-Analysis of Pain Relief Effects by Laser Irradiation on Joint Areas. *Photomed Laser Surg*. 2012 Aug; 30(8): 405–417
4. Javad T. Hashmi, MD, Ying-Ying Huang, et al : Effect of Pulsing in Low-Level Light Therapy. *Lasers Surg Med*. 2010 Aug; 42(6): 450–466.
5. Melis, M. Di G, and Zawawi, K (2012). Low level laser therapy for the treatment of temporomandibular disorders: a systematic review of the literature. *The Journal of Craniomandibular Practice*; 30 (4): 304–312.

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