

Short-Term Effects of High-Intensity Laser Therapy *versus* Ultrasound Therapy in the Treatment of Low Back Pain: a Randomized Controlled Trial

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Background: Low back pain (LBP) is a common musculoskeletal disorder that is highly prevalent in the general population. Management of this pathology includes numerous interventions depending on pain severity: analgesic, nonsteroidal anti-inflammatory drugs, steroid injections. However, the effect size and duration of symptom relief are limited. Physical therapy (ultrasound [US], laser therapy, manual therapy, interferential current therapy, Back School, aerobic work, therapeutic aquatic exercise acupuncture) have been reported often with mixed results.

Aim: To evaluate the short-term effectiveness of high-intensity laser therapy (HILT) versus ultrasound (US) therapy in the treatment of LBP.

Design: Randomized clinical trial.

Setting: University hospital.

Population: Thirty patients with LBP were randomly assigned to a HILT group or a US therapy group.

Methods: Study participants received fifteen treatment sessions of HILT or US therapy over a period of three consecutive weeks (five days/week).

Results: For the 30 study participants there were no between-group differences at baseline in Visual Analogic Scale (VAS) and Oswestry Low Back Pain Disability Questionnaire (OLBPDQ) scores. At the end of the 3-week intervention, participants in the HILT group showed a significantly greater decrease in pain (measured by the VAS) and an improvement of related disability (measured by the OLBPDQ) compared with the group treated with US therapy.

Conclusions: Our findings obtained after 15 treatment sessions with the experimental protocol suggested greater effectiveness of HILT than of US therapy in the treatment of LBP, proposing HILT as a promising new therapeutic option into the rehabilitation of LBP.

