

## Laser Therapy in Patients with Rheumatoid Arthritis: A Clinical Trial

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**Abstract :** Rheumatoid arthritis is a chronic, inflammatory, systemic and progressive disease that affects the synovial joints bilaterally, causing definitive orthopedic damage. It has a higher prevalence in postmenopausal female patients. It is a disabling disease that causes joint deformities that may compromise the functionality of the affected segment. The aim of this study was to evaluate the influence of low-intensity therapeutic laser on the perception of pain and quality of life in patients with rheumatoid arthritis. This is a randomized clinical study involving 6 women with a mean age of 56.8+6.3 years. Exclusion criteria: patients with acute pain, chronic infectious disease, underlying acute or chronic underlying disease. An AsGaAl laser with 808nm wavelength, 100mW power, beam output area of 0.028cm<sup>2</sup>, power density of 3.57W/cm<sup>2</sup> was used. The laser was applied at pre-defined points in the interphalangeal and metacarpophalangeal joints, totaling 24 points, 2 times a week, for 4 weeks, totaling 8 sessions. The Pain Inventory (IBD) and Visual Analogue Scale (VAS) were used for the analysis of pain and for the WHOQOL-bref quality of life assessment. There was no statistical difference between the onset (5.67±2.66) and the final (4.67±3.78) of treatments (p=0.70). There was also no statistical difference between the beginning (5.67±2.66) and the final (4.67±3.78) of the treatments in the VAS analysis (p=0.68). The overall mean quality of life obtained by the questionnaire at the start of treatment was 42.3±7.6, while at the end of treatment it was 58.5±7.6 (p=0.01) and the domains of the questionnaire with significant differences were: psychological domain 42.9±6.8 and 66.7±12.9 (p=0.004), social domain 39.9±5.7 and 68.1±6.3 (p=0.0005) and environmental domain 36.3±7.3 and 56.3±12.5 (p=0.003). It can be concluded that the low-intensity therapeutic laser did not produce significant changes in the painful period of rheumatoid arthritis patients. However, there was an improvement in patients' quality of life in the psychological, social and environmental aspects.

**Keywords :** laser therapy, pain, quality of life, rheumatoid arthritis

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