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EFFECTS OF LOW INTENSITY LASER THERAPY ON RHEUMATOID ARTHRITIS: SYSTEMATIC REVIEW

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BACKGROUND

Rheumatoid arthritis (RA) is an inflammatory, systemic and chronic disease, which mainly affects the joints in a generalized, symmetrical and progressive manner. It is the most common form of arthritis mediated by the immune system¹, covers 1% of the general population and is characterized mainly by pain, edema and joint stiffness, which can lead to significant loss of functional capacity and quality of life². Low-level laser therapy (LLLT) has demonstrated anti-inflammatory and pain control effects, in addition to favoring the healing process¹. The effectiveness of LLLT in RA is still controversial and the heterogeneity of clinical application, different dosages, wavelengths and type of LLLT are frequent limitations found in research³. The present study aims to evaluate the effectiveness of LLLT in adults with RA.

MATERIALS AND METHODS

A systematic review was carried out, including only randomized controlled trials (RCTs) published in any language until February 2020. A sensitive search strategy was used and adapted to each database to track relevant studies in the databases: MEDLINE via PubMed, EMBASE, CENTRAL, LILACS, PEDro and SCIELO). In addition, searches were performed in the gray literature and manual searches to ensure the inclusion of all potentially relevant studies. Two authors selected all studies independently. Disagreements were resolved through the evaluation of a third author.

RESULTS

Among the 1124 studies screened using the search strategy, after excluding duplicate studies and those that did not meet the eligibility criteria, 11 RCTs, with a total of 417 participants and duration between 4 and 10 weeks were included (Fig. 1). Ten studies with a total of 387 participants compared the effects of laser therapy to a sham group and 1 study with 30 participants compared laser acupuncture to reflexology. Both reflexology and laser acupuncture seem to promote the range of motion, functionality and quality of life of individuals with RA. When compared to sham, laser therapy seems to promote greater pain reduction and improved functionality.

Figure 1. Flow diagram of study selection.

CONCLUSION

Laser therapy appears to be effective in reducing pain and improving the functionality of patients with RA. New RCTs, with a larger number of participants and longer follow-up are necessary to improve the accuracy of the results and promote standardization of treatment protocols with laser therapy in relation to the parameters to be used, duration of treatment and place of application.

REFERENCES

1. Silva DP, Novaretti APOC, Baldan C. Efeito analgésico do laser de baixa intensidade (LILT) na artrite reumatóide aguda. *Rev Inst Ciênc. Saúde*. 2009;27(1):35–8.
2. Zamora NV, Tayar JH, Lopez-Olivo MA, Christensen R, Suarez-Almazor ME. Baricitinib for rheumatoid arthritis. *Cochrane Database of Syst Rev*. 2019;2019(4). <https://doi.org/10.1002/14651858.CD013311>
3. Brosseau L, Robinson V, Debie R, Gam A, Harman K, Morin M, et al. Low level laser therapy (Classes I, II and III) for treating rheumatoid arthritis. *Cochrane Database of Syst Rev*. 2005;(4):CD002049. <https://doi.org/10.1002/14651858.cd002049.pub2>