**Home-based photobiomodulation in the rehabilitation of patients with chronic physical impairments. A systematic review.**

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Sensorimotor impairments reflect the main sequelae of chronic and/or degenerative disorders that affect the neuromuscular and musculoskeletal systems and that require intervention and specialized care in ways to limit disability, functional rehabilitation, and improve the quality of life of these patients. Many muscular and/or neurovascular diseases, such as osteoarthritis and fibromyalgia, lymphedema, or neurological sequelae, could produce chronic impairment and/or disabilities. As a result, during long-term follow-up, intra-hospital rehabilitation treatment can determine low adherence, high costs, and mobility difficulty. Domestic treatment could reduce costs, improve satisfactory results, and improve the quality of life of the population. It is especially important because COVID-19 highlights the urgency of using the home environment for continuity of health care. In this sense, this study is a PRISMA systematic review to discuss if home-based photobiomodulation is a safe and effective technique in the treatment of patients with chronic physical impairments. We are interested in evaluating the changes in symptoms, functionality, and quality of life of patients with chronic impairments using home rehabilitation with photobiomodulation therapies. Our protocol was registered on the prosperous website before data extraction by No. CDR42022326588 and followed the Prisma guidelines. Clinical trials, case reports, guidelines, and observational studies evaluating the use of PBM in patients with chronic impairments of any etiology will be analyzed and available data about the quality of life, functionality, or degree of independence will be reported. The chosen tools for quality analysis of the included studies depend on the design of the data source. We intend to use the Cochrane risk-of-bias tool (RoB 2) for randomized trials; Cochrane Robins-I for non-randomized trials; and the CARE Tool for case reports. In addition, we will use the WALT recommendations to analyze the PBM parameters. If a minimum of two studies demonstrate population, stimulation parameters, and outcomes homogeneity, we also intend to carry out a quantitative analysis of the extracted results (meta-analysis).

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