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Current Evidence Using Pulsed Electromagnetic Fields in Osteoarthritis: A Systematic Review

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Abstract

(1) **Background:** Osteoarthritis (OA) significantly impacts patients' quality of life and negatively affects public healthcare costs. The aim of this systematic review is to identify the effectiveness of pulsed electromagnetic fields (PEMFs) in OA treatment across different anatomical districts, determining pain reduction and overall improvement in the patient's quality of life. (2) **Methods:** In this systematic review following PRISMA guidelines, PubMed and Google Scholar were searched for randomized controlled trials involving patients with osteoarthritis undergoing PEMF therapy. Seventeen studies (1197 patients) were included. (3) **Results:** PEMF therapy demonstrated positive outcomes across

various anatomical districts, primarily in knee osteoarthritis. Pain reduction, assessed through VAS and WOMAC scores, showed significant improvement (60% decrease in VAS, 42% improvement in WOMAC). The treatment duration varied (15 to 90 days), with diverse PEMF devices used. Secondary outcomes included improvements in quality of life, reduced medication usage, and enhanced physical function. (4) **Conclusions:** Diverse PEMF applications revealed promising results, emphasizing pain reduction and improvement in the quality of life of patients. The variability in the treatment duration and device types calls for further investigation. This review informs future research directions and potential advancements in optimizing PEMF therapies for diverse osteoarthritic manifestations.

Keywords: application; musculoskeletal disorders; osteoarthritis; pulsed electromagnetic fields; therapy.

Figures

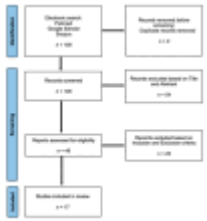

Figure 1 PRISMA flowchart.

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