

# THE EFFECTIVENESS OF ACUPUNCTURE IN REDUCING MUSCULOSKELETAL PAIN: A META-ANALYSIS

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## ABSTRACT

**Background:** Musculoskeletal disorder affects the musculoskeletal system's function, which includes tendons, bursae, bones, muscles, joints, and ligaments. Acupuncture is one of the non-pharmacological alternative therapies for treating musculoskeletal disorders. This study aimed to examine the effectiveness of acupuncture in reducing pain in musculoskeletal diseases.

**Subjects and Method:** This was a meta-analysis and systematic review. The study was collected articles from PubMed, ProQuest, Science Direct, Scopus, Springer Link, and Google Scholar databases. The inclusion criteria were full text in English language and used randomized controlled trial study design. There were 8 articles with 466 study subjects comprised in two groups, including 236 people received acupuncture therapy (intervention) and 230 people received sham acupuncture (control). The selected articles were analyzed by ReVman 5.4.

**Results:** This study had high heterogeneity ( $I_2 = 90\%$ ;  $p < 0.001$ ). This study reported that acupuncture was more effective to reduce musculoskeletal pain than sham acupuncture (Mean Difference = 1.63; 95% CI = 0.89 to 2.38;  $p = 0.001$ ).

**Conclusion:** Acupuncture is more effective to reduce musculoskeletal pain than sham acupuncture.

**Keywords:** acupuncture, musculoskeletal pain

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