

Effects of Equine-Assisted Therapies or Horse-Riding Simulators on Chronic Pain: A Systematic Review and Meta-Analysis

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Abstract

Background and objectives: Chronic pain is a complex global public health problem that affects the health status, quality of life, activities of daily living, and different work-related variables. Riding a horse may lead to some benefits in chronic pain patients through the improvement of postural control and other biopsychosocial processes. Therefore, this systematic review and meta-analysis aimed to evaluate the effects of horse riding (with real or simulated horses) on chronic pain. **Materials and methods:** A systematic literature search was carried out in accordance with PRISMA guidelines in Web of Science (WOS) and PubMed (Medline) electronic databases. Eleven articles (seven randomized controlled trials) were selected to be included in the review. Due to some risk of bias concerns, two meta-analyses (using postintervention or change-from-baseline measures) were conducted utilizing Review Manager Software (RevMan 5.3). **Results:** Horse-riding simulators significantly reduced the pain levels of patients with low back pain ($p = 0.03$, with a SMD of -1.14 and a 95% CI from -2.16 to -0.11) using change-from-baseline measures. However, the p -value in the meta-analysis with the postintervention measures was 0.06 . Regarding interventions with real horses, it was not possible to conduct a meta-analysis due to the low number of studies. **Conclusion:** Horse riding could be a useful exercise to reduce pain, but more studies are needed to make evidence-based recommendations and to compare the effects of horse-riding with real and simulated horses.

Author keywords

equine-assisted therapy
hippotherapy
horse-riding
horseback riding
pain
simulator