

Systematic Review of Acupuncture for Low Back Pain: Efficacy and Clinically-Meaningful
Change

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Abstract

BACKGROUND: Low back pain has a substantial effect on the quality of life for those affected by this condition. As well as a major health problem for these individuals, this ailment also places a significant economic burden on healthcare systems. Even though low back pain has an important impact on general health care, this condition is often insufficiently treated. Poor efficiency in treatment has led to the necessary creation of guidelines that address evidence-based strategies for treatment of low back pain.

OBJECTIVES: To identify, document, and appraise reports of randomized controlled trials on the treatment of low back pain by acupuncture.

METHODS: Relevant studies were identified through systematic searches in scientific databases (MEDLINE, Cochrane Library, CINAHL), “similar article” searches, and reference list scanning. Inclusion criteria were: randomized controlled trial, acupuncture, electro-acupuncture, dry needling, low back pain (LBP), ages 18-65, not geriatric, published 2004-2014, full-text available in English. Search terms of “low back pain” or “lower back pain” and “acupuncture,” “acupuncture therapy,” “electro-acupuncture,” “electro-acupuncture therapy,” “electro-acupuncture” or “electro-acupuncture therapy,” in [ti] title or [majr] major topic of an article resulted in a retrieval of 948 articles dated 2004-2014.

RESULTS: Eighteen papers met all inclusion criteria and were reviewed using the criteria set forth in the Consolidated Standards of Reporting Trials (CONSORT) and Standards for Reporting Interventions in Clinical Trials of Acupuncture (STRICTA) checklists. A total of 7,161 subjects were randomized in the studies analyzed for this review. Studies randomized a range of 26-3,093 subjects. Of the 18 trials reviewed, 11 trials compared acupuncture to usual or conventional care. Acupuncture outperformed usual care in all 11 reports, statistically

significantly so in 10 reports. Acupuncture was compared to other types of acupuncture (sham acupuncture, chrono-acupuncture, acupuncture with heat) or to other types of control groups in 15 of 18 papers; acupuncture outperformed the comparator in 10 of those 15 reports. Sham acupuncture outperformed waitlist in one trial and conventional care in two trials. Needleless placebo acupuncture outperformed conventional care in one of three trials reviewed.

No moderate or severe adverse events related to the intervention were reported in the papers reviewed. Minimal adverse events included minor bleeding, bruising, nausea, and temporary worsening of symptoms. In addition to effectiveness and safety, concerns of cost and missed work were studied in some of the reviewed trials. Acupuncture was found to be cost-effective at a 24-months follow up in a large study conducted in the UK, when taking into account usual care (Thomas et al., 2006). Another large trial conducted in Germany found acupuncture to be relatively cost-effective (Witt et al., 2006). Acupuncture was associated with fewer days absent from work in one reviewed trial (Bahrami-Taghanaki et al., 2014).

CONCLUSIONS: The identified evidence suggests that 1) acupuncture is a safe, effective and possibly cost-effective treatment for low back pain; and 2) sham and needleless placebo acupuncture do not appear to be inert. Further trials investigating cost and cost-savings of acupuncture are merited.

Perspective

This article presents a systematic review of trials of acupuncture in the treatment of low back pain. The evidence suggests that acupuncture is a safe, effective and possibly cost-effective treatment for low back pain and that sham and needleless placebo acupuncture do not appear to be inert.

Keywords: acupuncture, low back pain, efficacy, clinically meaningful change