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The effectiveness of acupuncture, acupressure and chiropractic interventions on treatment of chronic nonspecific low back pain in Iran: A systematic review and meta-analysis

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ABSTRACT

Background: Low back pain (LBP) is one of the most common health problems in adults. The impact of LBP on the individual can cause loss of health status and function related to pain in the back. To reduce the impact of LBP on adults, drug therapy is the most frequently recommended intervention. But over the last decade, a substantial number of randomized clinical trials of non-pharmacological intervention for LBP have been published.
Objective: To determine the effectiveness of acupuncture, acupressure and chiropractic (non-pharmacological) interventions on the treatment of chronic nonspecific low back pain in Iran.
Study design: Systematic review and meta-analysis.
Methods: A systematic literature search was completed without date restrictions up to May 2013 in five major databases (Medline, CINAHL, Science Direct, CAJ Full-text Database, and Cochrane databases). Only randomized controlled trials published in Persian (Farsi) or English languages were included. Two independent reviewers extracted the data. The quality of the papers was assessed using the Cochrane Back Review Risk of Bias criteria.
Results: Initial searches revealed 415 papers, 382 of which were excluded on the basis of abstract alone. After excluding 23 papers due to duplication, the remaining 10 trial papers were subjected to a more detailed analysis of the full text, which resulted in three being excluded. The seven remaining trials had a lack of methodological and clinical homogeneity, precluding a meta-analysis. The trials used different comparators with regards to the primary outcomes, the number of treatments, the duration of treatment and the duration of follow-up.
Conclusion: This systematic review demonstrates that acupuncture, acupressure and chiropractic may have a favorable effect on self-reported pain and functional limitations on NSCLBP. However, the results should be interpreted in the context of the limitations identified, particularly in relation to the heterogeneity in the study characteristics and the low methodological quality in many of the included studies.

Contents

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1. Introduction

Chronic Low Back Pain (CLBP) is pain that is located between the costal margin and buttocks and has persisted for longer than 3 months. Patients suffer physical disabilities and psychological distress concurrently with the pain [1]. Low back pain was shown to be a major problem throughout the world, with the highest prevalence among female individuals and those aged 40–80 years. In a recently published systematic review, the global prevalence of low back pain was estimated to be 11.9 ± 2.0%, and the 1-month prevalence was estimated to be 23.2 ± 2.9% [2]. LBP is the most prevalent musculoskeletal condition and the most common cause of disability [3]. The lifetime prevalence of LBP (at least one episode of LBP in a lifetime) in developed countries is reported to be up to 85% [4]. LBP results in significant levels of disability, producing significant restrictions on usual activity and participation, such as an inability to work [5]. Furthermore, the economic, societal and public health effects of LBP appear to be increasing. LBP incurs billions of dollars in medical expenditures each year [6].

A wide variety of non-pharmacologic therapies provided by various health care professionals are available for patients with LBP. Many non-pharmacologic therapies are available for treatment of low back pain. In one study of primary care clinicians, 65% reported recommending massage therapy; 55% recommended therapeutic ultrasonography; and 22% recommended, prescribed, or performed spinal manipulation [7]. In another study, 38% of patients with spine disorders were referred to a physical therapist for exercise therapy, physical therapies, or other interventions [8]. Other noninvasive interventions are also available, including psychological therapies, back schools, yoga, and interdisciplinary therapy.

The main objective of this review was to assess the effectiveness of non-pharmacological intervention for the treatment of chronic nonspecific low back pain in Iran compared with: 1) Sham or placebo intervention 2) other medical treatments 3) No treatment.

Secondary objectives were to compare the addition of **non-pharmacological intervention** to other treatments and to assess the effectiveness of different techniques.

2. Methods

2.1. Eligibility

We included all Published and unpublished reports of completed randomized controlled trials, with or without control meeting all of the following criteria: 1) reported in English, or in a Persian language 2) evaluated non-pregnant adults (>15 years of age) with chronic (>12 weeks) nonspecific low back pain (alone or with leg pain); 3) evaluated a target therapy (acupressure, acupuncture and manipulation therapy); and 4) reported at least 1 of the following outcomes: back-specific function, generic health status, pain, work disability, patient satisfaction and Functional status expressed by validated instruments, such as the Roland Morris Disability Questionnaire, McGill Pain Questionnaire, SF-36 (the MOS 36-item short-form survey), or the Oswestry Disability Index.

Low back pain was defined as pain localized from the costal margin or 12th rib to the inferior gluteal fold. “Nonspecific” meant that no specific cause was detectable, such as infection, neoplasm, metastasis, osteoporosis, rheumatoid arthritis, fracture, inflammatory process, or radicular syndrome.

We excluded trials of low back pain associated with acute major trauma, cancer, infection, the cauda equine syndrome, fibromyalgia, and osteoporosis or vertebral compression fracture.

2.2. Search methods

Searches for studies published from 1990 to 2012 were conducted in CINAHL, MEDLINE, EMBASE, Institute for Scientific Information (ISI), Scopus, and IranMedex and Irandoc (Farsi language web-based data centres) web-based information and documentation centres. The reference lists of all articles were searched for other studies, and authors of incomplete or unpublished articles were contacted up till December 2011 requesting details of their trials. Multiple search terms were used: Non-pharmacologic, Massage, Complementary and alternative medicine, Acupuncture, Manipulation therapy, Low back pain, Backache, Acupressure, Touch therapy and Iran.

2.3. Study selection

Two reviewers working independently of one another examined all citations from the electronic search, and full articles were obtained for those citations thought to fulfill the inclusion criteria. Disagreement was resolved by discussion between them. In cases they could not reach a consensus, a third author was consulted.