Available online at www.sciencedirect.com

ScienceDirect

European Journal of Integrative Medicine 7 (2015) 94–107

European Journal of INTEGRATIVE MEDICINE

www.elsevier.com/eujim

Review article

Acupuncture for chronic nonspecific low back pain: An overview of systematic reviews

Yingchun Zeng [a], Joanne Wai-yee Chung [b,*]

[a] *Department of Obstetrics and Gynecology, The Third Affiliated Hospital of Guangzhou Medical University, Guangzhou, Guangdong Province, China*
[b] *Department of Health and Physical Education, The Hong Kong Institute of Education, Hong Kong, China*

Received 1 July 2014; received in revised form 31 October 2014; accepted 2 November 2014

Abstract

Introduction: Chronic nonspecific low back pain (cnLBP), which cannot be attributed to a specific pathology is very common. As a result acupuncture is frequently used by patients as a treatment option.

This overview aimed to summarize and evaluate the available systematic reviews on the clinical effectiveness and cost-effectiveness of acupuncture for the management of cnLBP, and to identify the safety of acupuncture for the management of cnLBP.

Methods: Systematic reviews of acupuncture and cnLBP were sourced from five databases. Publications between January 2003 and May 2014 were included for analysis. Quality appraisal of included systematic reviews was assessed by the Overview Quality Assessment Questionnaire.

Results: Seventeen systematic reviews were included. Five found that acupuncture was more effective when compared with a no treatment/waiting list control, as there were eight systematic reviews and meta-analysis providing positive and consistent findings. Seven systematic reviews providing positive findings of the comparison of acupuncture to sham acupuncture/passive modality treatment. Three systematic reviews of multiple RCTs also indicated positive and consistent findings of the comparison of acupuncture plus an intervention vs an intervention alone. Overall, findings on the effectiveness of acupuncture for cnLBP were consistent.

Conclusions: As there is a range of diverse acupuncture styles used for patients with cnLBP, future trials are needed to establish the standardization of acupuncture in terms of the length of treatment sessions, frequency of sessions, number of needles needed per treatment, placement of needle insertion, depth of needle insertion, and whether needle stimulation achieves De Qi.

Keywords: Acupuncture; Chronic nonspecific low back pain; Overview

Introduction

Back pain is regarded as one of the most common musculoskeletal complaints, and the second most common condition for patients seek primary care consultation as many people experiencing back pain during their lifetime [1,2]. The term nonspecific back pain is used to describe back pain that is not attributed to a specified pathology or symptom pattern [2]. A recent systematic review indicated that a global lifetime prevalence of low back pain is up to 63.2% [3]. Krismer and van Tulder [4] reported an even higher lifetime prevalence of low back pain, which is 60–85% in Europe. The reported prevalence varies significantly depending on the definitions of low back pain used [5]. Low back pain may refer to pain, muscle tension or stiffness occurring between the costal margin and gluteal folds [6]. Rozenberg et al. [7] indicated that more than 90% of patients are categorized into nonspecific LBP cases.

One of the main characteristics of nonspecific low back pain is its recurrent nature, which is an essential factor for predisposing the individuals to chronic illness [2,8]. While the diagnosis and treatment of low back pain has improved, disability arising from chronic nonspecific low back pain (cnLBP) appears to be increasing [9]. As cnLBP is significantly prevalent in the working population, it also results in obvious financial burden to society due to loss of working hours and ability to work. For

* Corresponding author. Tel.: +852 29488479; fax: +852 29486000.
E-mail addresses: chloezengyc@hotmail.co.uk (Y. Zeng), joannewychung@ied.edu.hk (J.W.-y. Chung).

http://dx.doi.org/10.1016/j.eujim.2014.11.001
1876-3820/

healthcare systems, cnLBP is one of the most costly medical conditions [10]. The direct healthcare cost of low back pain in United States is estimated as $25 billion annually, possibly over $100 million if direct and indirect healthcare expenses are taken together [11].

Choosing an efficacious, safe, and cost-effective treatment for low back pain patients can be challenging due to many stakeholders involving patients, health providers, policy makers, and third-party payers [12]. While pharmacologic treatment seems to be one of the most effective treatment options for cnLBP, its side effects arises safety concerns on drug therapies for cnLBP. Cassileth et al. [13] suggested that complementary therapies can be incorporated as an adjunct to pain management by enhancing or decreasing the need for pharmacologic treatment. In recent decades, complementary therapies are used widely for treating cnLBP. Acupuncture is the most common complementary therapies for cnLBP [14]. It is a safe and cost-effective treatment compared to medication, injection, and surgical therapies for cnLBP [15].

Aims

The overview was aimed to summarize and evaluate the available systematic reviews on the clinical effectiveness and cost-effectiveness of acupuncture for the management of cnLBP, and to identify the safety of acupuncture for the management of cnLBP.

Methods

Data sources and searches

Systematic reviews of acupuncture and chronic nonspecific low back pain were sourced from five databases: Medline, The Cochrane Library, Allied and Complementary Medicine Database (AMED), Scopus, and CAJ (Chinese Academic Journal) Full-text Database. The publications between January 2003 and May 2014 were included for analysis. The search was conducted on May 15, 2014 and articles published in English and Chinese were included. The search terms of "acupuncture", "acupuncture therapy"; "low back pain", "chronic", "review", "review literature", "meta-analysis", and "systematic" were included. The selection of studies was shown in Fig. 1.

Inclusion and exclusion criteria

Systematic reviews were included; the study population had chronic (duration of symptoms >12 weeks) nonspecific low back pain (pain no known underlying pathology or disease or related to pregnancy). Exclusion criteria were; those reviews which included populations with acute (<6 weeks duration) or sub-acute (3–12 weeks duration) low back pain, or specific low back pain caused by specific pathological entities such as infection, inflammatory disorders, systemic diseases or metastatic diseases.

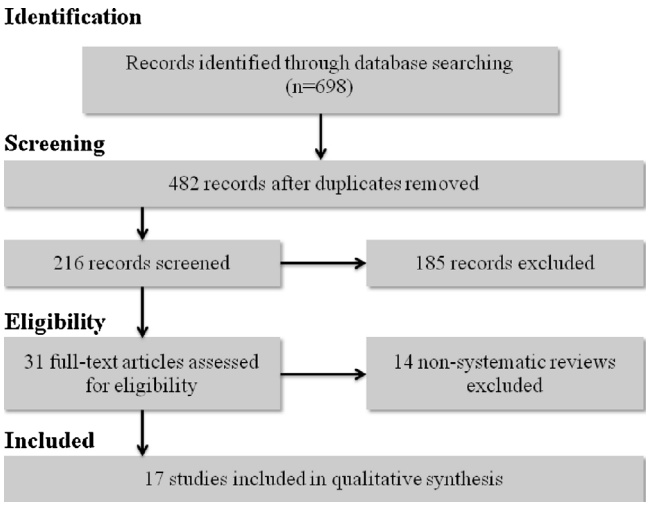

Fig. 1. PRISMA flow diagram of included systematic reviews.

Interventions

Acupuncture was defined as "a process involving that needles were required to be inserted into the skin (without an injection) at classical meridian points, extra points or Ah-shi points (painful points), accompanying a definite feeling of "De Qi" [16,17]. De Qi (arrival of energy) was "a sensation of numbness or distention sometimes generated by stimulating acupuncture needles by hand or with an electrical current" [18]. According to acupuncture theory, activation of De Qi may be indicated that acupuncture is reaching the correct placement and exerting potentially beneficial effects. Sham acupuncture was defined as "any intervention designed to make patients believing that he/she is receiving acupuncture by either puncturing a location near the acupoint with tingling only but not De Qi, or stimulated acupuncture technique using a toothpick or other needle-like object in the needle guidetube" [19]. Acupuncture that did not involve needle insertion such as laser acupuncture, or electro-acupuncture without needles, was excluded.

Outcome measures

The primary outcome was the effectiveness of acupuncture for cnLBP. The outcome measures were; pain intensity, patient global assessment of pain, and specific functional status related to cnLBP. The secondary outcome was the cost-effectiveness and the safety of acupuncture for cnLBP. Relevant outcome measures include the presence and frequency of adverse effects (e.g., abdominal pain) and withdrawals due to adverse events of acupuncture interventions.

Quality assessment of the systematic reviews selected

It is essential to include existing systematic reviews that adhere to high methodological standards [20]. According to Pieper et al. [21], the most commonly used assessment tool for overviews of systematic reviews were the Overview Quality Assessment Questionnaire (OQAQ). Two independent