

Acupuncture in Treatment of Heroin Withdrawal Syndrome:

A Systematic Review and Meta-analysis

針刺療法治療海洛英依賴的整合性分析

Executive Summary



Hong Kong Baptist University



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Abstract

Background and objectives: There are 13 million opiate addicts including 9 million heroin users throughout the world. Heroin abuse associates with a high risk of AIDS and other serious diseases, and social costs due to crime and poverty in this population may exceed those of most other drug abuses. Heroin dependence has been a priority of health and social problems in Hong Kong and many other areas. Acupuncture is a commonly used therapy for drug addiction. In recent years, a number of randomized controlled clinical trials have been conducted to identify the practice value of this therapy in heroin detoxification. This study aims to (1) assess the quality of trials, and measurement/category data in the trials, (2) evaluate the efficacy and safety of acupuncture in treatment of heroin withdrawal syndrome, and (3) analyze the most commonly used acupoints and manipulation methods in clinical application.

Methods: (1) Datum search: after preparation of a strict strategy, electronic databases and hand-search materials were widely searched for screening eligible trials. There was no language limitation in the paper collection. (2) Inclusive and exclusive criteria: randomized controlled trials to compare the efficacy and safety of acupuncture therapy (AT) with medication therapy (MT) for heroin detoxification were valid. (3) Datum analysis: the quality of eligible trials was assessed by Jadad's scale; the measurement data of trials were estimated by weight mean difference (WMD), the category data were estimated by odd ratio (OR) and 95% confidence interval (95% CI), in a meta-analysis. Datum extraction and assessment were performed by two reviewers independently.

Results: (1) 20 trials (1072 treated with acupuncture in total of 2134 patients) that met the inclusive criteria were cited, and 6 trials in them were assessed as high-quality trials (scoring 3-5 marks), and the rest were low quality trials (scoring 1-2 marks) as poor description of randomization, blind-method and dropout reporting in study design.

(2) Compared with MT, AT alone was more effective to diminish the withdrawal-symptom score (WSS) on the Day 2 to 10 (5 trials; WMD: -17.52 (-28.69, -6.35) to -4.83 (-8.13, -1.53); $P < 0.005$) and HAMA score (1 trial; $P < 0.05$), while there was no significant difference in patients' detoxicated number (PDN) after AT or MT treatment respectively (4 trials; OR: 1.04 (0.60, 1.82); $P = 0.88$). (3) AT combined with MT showed higher efficacy than MT alone in reducing the WSS on the Day 1 to 10 (6 trials; WMD: -9.54 (-15.83, -3.25) to -2.50 (-4.48, -0.53); $P < 0.02$) and HAMA score (3 trials; WMD: -4.85 (-8.12, -1.58); $P = 0.004$), and a higher PDN after treatment (8 trials; OR: 4.31 (2.47, 7.52); $P < 0.00001$). (4) The relapse rate after treatment by AT combined MT was significantly lower than MT alone in 6-month follow-up investigations (3 trials; OR: 0.30 (0.19, 0.46); $P < 0.00001$). (5) The incidence of adverse effects caused by MT was significantly higher than AT. Only one trial in total 20 included trials reported a mild adverse effect that was local pain caused by needles. (6) The 10 most commonly used acupoints in total acupoints reported were *Neiguan* (PC 6, 75.4%), *Zusanli* (ST 36, 57.4%), *Hegu* (LI 4, 45.9%), *Sanyinjiao* (SP 6, 44.3%), *Shenmen* (HT 7, 26.2%), *Laogong* (PC 8, 23.0%), *Waiguan* (SJ 5, 21.3%), *Shuigou* (DU 26, 18.0%), *Yanglingquan* (GB 34, 13.1%) and *Shenshu* (BL 23, 11.4%). (7) The most commonly used manipulation method of acupoint stimulation of 20 included trials was electro-stimulation (70%). (8) A subgroup meta-analysis for heterogeneity indicated that the different manipulative methods and assessemet scales were key factors to interfere synthesis of measurement data in this study.

Conclusion: Our data suggest that AT is statistically more favorable than MT in relieving heroin withdrawal syndrome, and AT combined with MT may be more effective in clinical application. Furthermore, AT is safe for treating patients clinically. AT therefore should be an effective and safe way for heroin detoxification. However, more trials with high quality of study design should be conducted to further verify the evidence in this study.

Keywords: Acupuncture; Heroin detoxification; Withdrawal syndrome; Meta-analysis