



**Short - term and Long - term Effects of
Chinese Herbal Medicine in Drug Abuses:
A Series of Meta-analysis**

中藥近期和遠期脫毒療效的薈萃分析



RESEARCH PROJECT REPORT

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ABSTRACT

Background and objectives: Psychotropic-drug abuse is a study priority of health and social science. A number of randomized controlled clinical trials (RCTs) to treat heroin dependence and psychotropic-drug adverse effects with Chinese herbs (CH) have been conducted. This study aims to (1) assess the quality and data of these trials, and (2) compare the efficacy and safety of CH with WM (Western medications) in short-term and long-term heroin detoxification, and in the treatment of adverse symptoms caused by psychotropic drugs clinically.

Methods: (1) Search strategy: electronic databases and hand-search materials were widely searched for screening eligible trials. (2) Inclusive and exclusive criteria: RCTs to compare the efficacy and safety of CH with WM were valid. (3) Data analysis: the quality of eligible trials was assessed by Jadad's scale; and data were estimated by standard mean difference (SMD) and odd ratio (OR) with 95% confidence interval (95% CI) in meta-analyses.

Results: (1) 107 RCTs (6,032 treated with CH in total 11,490 patients) that met the inclusion criteria were included from 193 trials and 34 RCTs (32%) were assessed as high-quality trials (scoring 3-5 marks; 13 RCTs for short-term heroin detoxification, 3 RCTs for long-term heroin detoxification, and 18 RCTs for adverse effects of psychotropic drugs); the rest were low-quality trials (scoring 1-2 marks) owing to poor description of randomization, double-blind methods and dropout reporting.

(2) In short-term heroin detoxification (≤ 10 days): 1) Compared with clonidine, CH was more effective to diminish acute abstinent symptoms from the Day 1 to 10 (16RCTs, $P=0.01$ to $P<0.0001$) and anxiety on the Day 5 or 10 (9RCTs, $P<0.0001$ or $P=0.0002$). 2) Compared with methadone, CH showed a similar effect to diminish acute abstinent symptoms from the Day 1 to 10 (5RCTs, $P\geq 0.05$) and anxiety on the Day 5 or 10 (4RCTs, $P>0.05$). 3) Compared with nifexidine, CH was more effective to diminish acute abstinent symptoms from the Day 1 to 6 (8RCTs,

P=0.03 to P=0.007) and anxiety on the Day 10 (7RCTs, P=0.04). 4) Compared with buprenorphine, CH showed a similar effect to diminish acute abstinence symptoms from the Day 1 to 10 (5RCTs, P>0.05) in most trials. 5) Compared with diazepam, CH was more effective to diminish acute abstinence symptoms from the Day 4 to 7 and 10 (2RCTs, P=0.02 to P=0.0009). 6) Compared with WM in the number of improved patients (NIP) of acute abstinence symptoms, CH showed more effective than clonidine (5RCTs, P=0.007) and buprenorphine (2RCTs, P=0.01) but similar to methadone (4RCTs, P=0.87). 7) Adverse-effect score of CH was lower than that of WM from the Day 1 to 4 (6RCTs, P=0.01 to P=0.0009), and CH was safer than WM in NIP of adverse effects such as blurred vision (2RCTs, P<0.00001) and dizziness (3RCTs, P<0.00001).

(3) In long-term heroin detoxification (>10 days): 1) Compared with WM (diazepam, oryzanol, tramadol, naltrexone, clonidine, etc.), CH was more effective to diminish protracted abstinence symptoms (3RCTs, P=0.006) and anxiety (2 RCTs, P=0.02), but might be less effective to diminish pain (2RCTs, P=0.04); meanwhile, CH was more effective to improve NIP in all symptoms (2RCTs, P=0.0002), insomnia (3RCTs, P<0.00001), anxiety (2RCTs, P<0.00001), pain (2RCTs, P<0.00001), debility (2RCTs, P=0.0001) and relapse rate (3RCTs, P<0.0001). 2) Compared with placebo, CH was more effective to diminish all symptoms (4RCTs, P=0.0005), insomnia (3RCTs, P=0.002), pain (3RCTs, P<0.00001), palpitation (1RCT, P<0.00001), dysphoria (1RCT, P<0.00001), and to improve relapse rate (1 RCT, P=0.03). 3) CH was safer than WM in long-term treatments, although available data could not be integrated in a meta-analysis.

(4) In the treatment of adverse effects caused by psychotropic drugs: 1) Compared with WM, CH was more effective to improve NIP (8RCTs, P<0.00001), constipation (4RCTs, P=0.001), sialorrhea (7RCTs, P<0.00001), dry mouth (3RCTs, P<0.00001), ECG (4RCTs, P=0.001), amenorrhea (4RCTs, P=0.0009), enuresis (3RCTs, P<0.00001), leucopenia (5RCTs, P<0.00001) and coma (3RCTs, P=0.003). 2) CH showed a less adverse-effect score in nausea (2RCTs, P=0.005) and poor appetite (2RCTs, P=0.002) when compared with WM.

Conclusion: CH may be effective and safe for the treatment of heroin withdrawal syndrome and adverse effects caused by other psychotropic drugs, albeit more clinical trials with high-quality study design should be conducted to further verify the evidence in this study. In addition, CH is not a “No-Pain” therapy in heroin detoxification and treatment of adverse effects caused by other psychotropic drugs. It should be concerned in future clinical studies that some toxic herbs can cause typical adverse effects, and the relapse rate is still quite high in patients treated with certain herbal preparations.

Keywords: Chinese herb; drug abuse; heroin detoxification; withdrawal syndrome; psychotropic drug; systematic review; meta-analysis.