

## Antidepressants for cocaine dependence (Cochrane Review)

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ABSTRACT

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A substantive amendment to this systematic review was last made on 24 February 2003. Cochrane reviews are regularly checked and updated if necessary.

**Background:** Cocaine dependence is a common and serious condition, which has become a substantial public health problem. The past decade has witnessed a sustained search for an effective pharmacotherapeutic agent for the treatment of cocaine dependence. While administration of cocaine acutely increases intercellular dopamine, serotonin, and norepinephrine levels by blocking their presynaptic reuptake, chronic cocaine abuse leads to down-regulation of monoamine systems. Post-cocaine use depression and cocaine craving may be linked to this down-regulation. Antidepressant pharmacotherapy, by augmenting monoamine levels, may alleviate cocaine abstinence symptomatology, as well as relieving dysphoria and associated craving by general antidepressant action.

**Objectives:** To conduct a systematic review of all RCTs on the use of antidepressants for treating cocaine dependence.

**Search strategy:** We searched the Cochrane Controlled Trials Register (Cochrane Library, issue 4, 2000), MEDLINE (from 1966 - 2000), EMBASE (from 1980 - 2000), LILACS (from 1982 - 2000), PsycLIT (from 1974 - 2000), Biological Abstracts (1982 to 2000). Other searches: reference searching; personal communication; conference abstracts; unpublished trials from pharmaceutical industry; book chapters on treatment of cocaine dependence.

**Selection criteria:** The inclusion criteria for all randomised controlled trials were that they should focus on the use of antidepressants on the treatment of cocaine dependence. Trials including patients with additional diagnosis such as opiate dependence were also eligible.

**Data collection and analysis:** The reviewers extracted the data independently and Relative Risks, weighted mean difference and number needed to treat were estimated. The reviewers assumed that people who died or dropped out had no improvement and tested the sensitivity of the final results to this assumption.

**Main results:** 18 studies were included in the review, with 1177 people randomised. Positive urine sample for cocaine metabolites was the main efficacy outcome, with no significant results obtained regardless of the type of antidepressant. Compared to other drugs, desipramine performed better but showing just a non significant trend with heterogeneity present as revealed by the chi-square test (8.6, df=3; p=0.04). One single trial showed imipramine performed better than placebo in terms of clinical response according to patient's self-report. A similar rate of patients remaining in treatment was found for both patients taking desipramine or placebo. Results from one single trial

suggest fluoxetine patients on SSRIs are less likely to dropout. Similar results were obtained for trials where patients had additional diagnosis of opioid dependence and/or were in methadone maintenance treatment.

**Reviewers' conclusions:** There is no current evidence supporting the clinical use of antidepressants in the treatment of cocaine dependence. Given the high rate of dropouts in this population, clinicians may consider adding psychotherapeutic supportive measures aiming to keep patients in treatment.

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This is an abstract of a regularly updated, systematic review prepared and maintained by the Cochrane Collaboration. The full text of the review is available in *The Cochrane Library* (ISSN 1464-780X).

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