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# MANAGEMENT OF SUBSTANCE DEPENDENCE

## REVIEW SERIES

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# SYSTEMATIC REVIEW OF PHARMACOLOGICAL TREATMENT OF COCAINE DEPENDENCE

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World Health Organization  
Mental Health and Substance Dependence Department  
Noncommunicable Disease and Mental Health Cluster

## ABSTRACT

Cocaine dependence is a common and serious condition, associated with severe medical, psychological and social problems, including the spread of infectious diseases. This series of systematic reviews will critically assess the efficacy of pharmacotherapy for treating cocaine dependence. The literature search strategy included: electronic searches of Cochrane Library holdings, EMBASE, MEDLINE, PsycLIT, Biological Abstracts and LILACS; scans of reference lists of relevant articles, personal communications, conference abstracts, unpublished trials from the pharmaceutical industry and book chapters on the treatment of cocaine dependence. Randomised controlled trials focusing on the use of carbamazepine, antidepressants, dopamine agonists, and other drugs used in the treatment of cocaine dependence were included. Trials in which patients had an additional diagnosis such as opiate dependence were also eligible. The reviewers extracted the data independently, and relative risks (RR), and weighted mean differences were estimated. Number needed to treat would be calculated for statistically significant outcomes. Qualitative assessments were carried out using a Cochrane validated checklist. Where possible, analysis was carried out according to the "intention to treat" principles. The reviewers assumed that people who died or dropped out had no improvement in their condition. The results indicate that there is no current evidence supporting the clinical use of CBZ, antidepressants, dopamine agonists mazindol, phenytoin, nimodipine, lithium, and NeuRecover-SA, in the treatment of cocaine dependence. Larger randomised investigation must be considered, while taking into account that these time-consuming efforts should be reserved for medications showing more relevant and promising evidence. Given the high dropout rate among the test population, clinicians may wish to consider adding psychotherapeutic supportive measures aimed at keeping patients in treatment programs.

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## TABLE OF CONTENTS

INTRODUCTION.....	5
RATIONALE FOR THIS SERIES OF SYSTEMATIC REVIEWS ON THE PHARMACOLOGICAL TREATMENT OF COCAINE DEPENDENCE.....	7
COCAINE DEPENDENCE.....	8
OUTLINE OF THIS SERIES OF REVIEWS.....	8
METHODS.....	8
BIBLIOGRAPHY.....	12
REVIEW 1 - CARBAMAZEPINE FOR COCAINE DEPENDENCE.....	13
SUMMARY.....	15
DESCRIPTION OF STUDIES.....	15
RESULTS.....	20
DISCUSSION.....	22
BIBLIOGRAPHY.....	25
REVIEW 2 - ANTIDEPRESSANTS FOR COCAINE DEPENDENCE.....	27
SUMMARY.....	29
DESCRIPTION OF STUDIES.....	30
RESULTS.....	42
DISCUSSION.....	50
BIBLIOGRAPHY.....	54
REVIEW 3 - DOPAMINE AGONISTS FOR COCAINE DEPENDENCE.....	59
SUMMARY.....	61
DESCRIPTION OF STUDIES.....	62
RESULTS.....	70
DISCUSSION.....	77
BIBLIOGRAPHY.....	81
REVIEW 4 - MISCELLANEOUS TREATMENT FOR COCAINE DEPENDENCE.....	85
SUMMARY.....	87
DESCRIPTION OF STUDIES.....	87
RESULTS.....	92
DISCUSSION.....	96
BIBLIOGRAPHY.....	97
GENERAL CONCLUSIONS.....	99



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# INTRODUCTION



## **RATIONALE FOR THIS SERIES OF SYSTEMATIC REVIEWS ON THE PHARMACOLOGICAL TREATMENT OF COCAINE DEPENDENCE**

Systematic reviews of scientific research allow for the efficient integration of valid information and provide a basis for rational decision-making. The use of explicit, consistent methods when reviewing can limit bias (systematic errors) and reduce random errors (simple mistakes), thus providing more reliable results upon which to draw conclusions and make decisions. In addition, meta-analysis, or the use of statistical methods to summarise the results of several independent studies provides a more precise estimate of the effects of healthcare than that which can be derived from the individual studies included in a review.

In the 1970s and early 1980s, psychologists and social scientists developed systematic guidelines for minimising bias and random errors in research reviews. However, it was not until the late 1980s that attention was drawn to the poor scientific quality of healthcare review articles. Since the recognition of the need for systematic reviews in this field has grown rapidly. This is reflected by the current number of articles about review methods as well as the number of systematic reviews published in healthcare journals.

The Cochrane Collaboration is an international organisation that prepares, maintains and disseminates systematic reviews concerning the impact of health care or the effects of policy and practises on health. These reviews are designed to encompass every relevant randomised controlled trial, to critically appraise these works, and, if appropriate, to summarise them. A resulting overview is produced that is as free from bias as possible. The reviews focus on randomised controlled trials (RCTs) as they are the best available source of reliable information on the differential effects of different forms of healthcare.

Because of the widespread prevalence of cocaine dependence and its high social, psychological and physical morbidity, there is an urgent need to expand the treatment repertoire for this condition. A range of pharmacological treatments has been proposed. There is, however, a

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