

# DRUG of ALCOHOL FINDINGS *Review abstract*

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## ► **Efficacy of psychostimulant drugs for amphetamine abuse or dependence (Review).**

**Pérez-Mañá C., Castells X., Torrens M. et al.**

**Cochrane Database of Systematic Reviews, 2013**

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*Unlike its counterpart which reviewed psychosocial interventions for people dependent on amphetamines, this paper was unable to point to promising pharmacological treatment options involving the use of stimulants as a substitute therapy.*

**SUMMARY** Globally, **amphetamines** rank as the second most used illicit drug after cannabis, followed by cocaine and opiates. Amphetamines are drugs which stimulate the nervous system like cocaine but with longer-lasting effects. They are used for different purposes, and there is no known typical profile of an amphetamine user; amphetamines can be used by students or drivers to stay awake, by athletes to enhance performance, and at parties or clubs (as 'club drugs') to increase sociability.

To date no pharmacological treatment has been approved for amphetamine **dependence** or **abuse**, although different kinds of drugs have been tested. Psychosocial interventions have shown modest results ([1](#) [2](#) [3](#)), suggesting a gap for a medication that could enhance their effectiveness.

The featured review focused on the effectiveness of outpatient prescribing of stimulant drugs as a substitution therapy for amphetamine abuse or dependence. Eleven studies were included – all randomly allocating patients to an intervention group (stimulant medication) versus a control group (placebo), and offering **psychosocial interventions** in addition to medication. There were 791 participants in total, all of whom met criteria for dependence on amphetamine-type stimulants (most commonly methamphetamines). The most frequently studied stimulant was modafinil (four trials), followed by bupropion (three trials); both dexamphetamine and methylphenidate were studied in two trials. More than half of the studies (seven) were conducted in the US, two in Australia, one in Sweden, and one in Finland.

From the amalgamated findings there were no significant positive results in the form of reducing amphetamine use or craving, or increasing sustained abstinence compared with placebo. Only two studies individually showed a favourable result for one outcome – in the first, retention **improved** with dexamphetamine, and in the second, self-reported use **decreased** with modafinil.

Not included in the review's analyses was the possibility that the rates of mild and transient side effects differed between stimulants and placebo. However, in respect of adverse events that were intense enough to induce dropouts, there was no evidence that compared with placebo stimulants increased patients' risk.

No cases of 'medication abuse' were reported in the trials, which is one of the main concerns when stimulants are used to treat amphetamine-dependent patients.

Overall, the results of the review did not support the use of stimulants to treat amphetamine dependence. Research with larger and longer trials would be needed to determine whether stimulants could be a useful replacement therapy for patients with amphetamine abuse or dependence.

**FINDINGS COMMENTARY** At the [present time](#), there is no widely accepted treatment for stimulant use disorders, and pharmacological treatments do not appear to be effective. [Another review](#), published in 2008, identified medications that may yield some benefits for problem cocaine and methamphetamine use, but concluded that treatment approaches combining efficacious medications (if these can be found) and behavioural interventions are likely to produce the best results.

Substituting opioid medications for heroin is not without controversy, but more controversial still is substituting stimulants for illegally-obtained amphetamines. The featured review was unable to point to a promising substitute treatment for people dependent on amphetamines, echoing the [findings](#) of a review of stimulant therapies for cocaine dependence.



A companion paper, also conducted according to rigorous Cochrane Collaboration procedures, [reviewed](#) the effectiveness of psychosocial interventions for the two main types of illicit stimulants used recreationally – cocaine and amphetamines. This included consideration of [cognitive-behavioural therapy](#), [contingency management](#), [motivational interviewing](#), interpersonal therapy, psychodynamic therapies, and facilitated 12-step intervention. The most promising and most studied psychosocial approach given in addition to another treatment or to treatment as usual was contingency management, but the possibility could not be ruled out that studies of other types of treatment showed non-significant results because their samples were too small to be able to register a statistically significant finding, even if the therapy was effective.

Last published in 2017, there is no more important document for UK clinicians involved in treating problem drug use than the so-called 'Orange guidelines' ([see the entry](#) in the Effectiveness Bank). This included amphetamines among the drugs for which "there may be no medication-based treatment and psychosocial interventions are the primary intervention". On the subject of substitution therapy for amphetamine abuse or dependence (turn to page 245 of the [full document](#)), it said:

*"There is no evidence for substitution pharmacological treatments to manage reduction and abstinence from stimulants. Stimulants are very varied, and include cocaine, amphetamines, stimulant [new psychoactive substances] of different types, and combinations of these. Varying quality and purity is quite normal and the true chemical nature of some of the stimulants taken may well be unclear or unknown. Some individuals may present with problems of intoxication or with acute psychosis. Others may present with depression (often following cessation of use). Any physical health problems need to be addressed, with emergency assessment and treatment if needed. Other temporary states may need reassurance or may need symptomatic treatment (such as for agitation or psychosis) and care is needed to support individuals who may be at risk of self-harm. It is important to ensure any psychotic state is diagnosed adequately and has resolved with full recovery within days or so of cessation of use."*

Another authoritative verdict came from the British Association for Psychopharmacology. On [treatments](#) for the problem use of stimulants, they said:

- "There is no convincing evidence supporting the use of pharmacological treatment for amphetamine and cocaine abuse and dependence. Psychosocial interventions such as [cognitive-behavioural therapy] and contingency management remain the mainstay of treatment."
- "We do not recommend the use of dopamine agonists, antidepressants or anticonvulsants."
- "Disulfiram is not yet an established treatment for cocaine use, but clinicians should be alert to further studies as the current small evidence base is of interest."
- "There is no clear evidence to support substitute prescribing of dexamphetamine for treatment of cocaine or amphetamine dependence, but definitive studies are warranted and clinicians should be alert to further studies."

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