

## Non-stimulants and Modafinil for Adults With ADHD: A Review

### Context

Attention-deficit/hyperactivity disorder (ADHD) is a common neurobehavioural disorder characterized by inappropriate levels of inattention, hyperactivity, and impulsivity. It manifests in childhood and continues into adulthood, resulting in functional impairment in academic, family, and social settings. The prevalence of ADHD in the general population is approximately 3% to 4%, and it affects approximately 4.4% of American adults. Stimulants such as methylphenidate and amphetamine are first-line agents and a major component of pharmacotherapy in children and adults with ADHD. However, they have the potential to be abused and can lead to side effects.

### Technology

Atomoxetine, tricyclic antidepressants, clonidine, and venlafaxine are non-stimulant drugs that have been used as alternative treatments for ADHD. Modafinil, another potential treatment alternative, is a novel, non-traditional stimulant and wakefulness-promoting compound that is considered to have a lower potential for abuse than traditional stimulants.

### Issue

Because of the addictive nature of stimulants such as methylphenidate and amphetamine, there is a high potential for them to be abused. A review of the clinical efficacy of alternative treatments that have a lower abuse potential — namely, non-stimulant drugs and modafinil — will help to inform decisions about their use in the treatment of adults with ADHD.

### Methods

A limited literature search was conducted of key resources, and titles and abstracts of the retrieved publications were reviewed. Full-text publications were evaluated for final article selection according to predetermined selection criteria (population, intervention, comparator, outcomes, and study designs).

### Key Messages

#### For the treatment of adults with ADHD:

- Venlafaxine may reduce ADHD symptoms, but it appears to work no better than placebo.
- Modafinil is not significantly better than dextroamphetamine in reducing ADHD symptoms and does not always perform better than placebo.
- No evidence on the clinical effectiveness of tricyclic antidepressants and clonidine was found.

### Results

The literature search identified 99 citations of which 22 were deemed potentially relevant. An additional study was identified from the grey literature. Of the 23 reports, 3 randomized controlled studies met the criteria for inclusion in this review.

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