

# Abuse and Misuse Potential of Drugs for Attention-Deficit/ Hyperactivity Disorder: A Review

## Context

Attention-deficit/hyperactivity disorder (ADHD) is a common neurobehavioural disorder characterized by inappropriate levels of inattention, hyperactivity, and impulsivity. In Canada, 5% to 12% of school-aged children have ADHD. About 80% of children diagnosed with this condition will continue to have it into adolescence, and more than 60% will still have ADHD as adults. There are medications for managing the symptoms of ADHD; however, these drugs also have the potential to be abused.

## Technology

Medications used to manage ADHD include stimulants, such as amphetamine and methylphenidate, and non-stimulants, such as atomoxetine. The stimulant drugs come in long and short-acting forms, and both have been shown to be clinically effective in the treatment of ADHD symptoms. Likewise, the non-stimulant atomoxetine has also been shown to be effective.

## Issue

As the rate of prescribing stimulants for ADHD has increased, so too has the misuse of these medications. For example, some young adults use stimulant ADHD medications not to treat ADHD but rather because they think it will improve their ability to study and help them cope with stress. It is possible that the non-stimulant atomoxetine could be similarly misused. A review of the evidence regarding the abuse and misuse potential of drugs for ADHD will help inform decisions on their use.

## 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

- Abuse or misuse of methylphenidate and amphetamine
  - ranges from 5% to 12% among junior school and high school students
  - ranges from 5% to 35% among undergraduate university students and other adults.
- ADHD medications are misused by both those with ADHD and those without.
- Atomoxetine has less abuse liability than methylphenidate (based on a short-term study).
- These results are based on studies of limited quality.

## Results

The literature search identified 290 citations, with no additional articles identified from other sources. Of these, 20 were deemed potentially relevant and 14 met the criteria for inclusion in this review — 1 systematic review, 1 randomized controlled trial, and 12 observational studies.

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