

# Most ADHD medications aren't associated with risk of irritability

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Credit: Yale University

Irritability in children refers to angry and overly reactive moods that are often associated with acts of aggression. Irritability is common across psychiatric diagnoses, but is especially common in children with ADHD. Some common ADHD medications are purported to increase irritability, leading doctors and families to avoid them, even though medication is a highly effective treatment.

That may be a mistake for certain kinds of medication, according to a new meta-analysis which examined irritability as a side effect in kids being treated for ADHD.

A team at Yale analyzed 32 studies and compared the side effects of two different classes of ADHD medications – methylphenidates, such as Ritalin, and amphetamine derivatives, such as Adderall. "Most ADHD meds aren't associated with a risk of irritability," says Michael Bloch, MD, MS, Professor in the Yale Child Study Center, and senior author of the study. The team found that only amphetamine-derived medications were associated with an increase in irritability. Methylphenidates were not.

Although the two drugs have similar effects in reducing ADHD symptoms, their mechanism is slightly different. Amphetamine derivatives have pronounced, dose-dependent effects on dopamine, norepinephrine, and serotonin, all neurochemicals with strong relationships to irritability. This difference in mechanism may account for the difference in side effect risks.

By quantifying the different risks of irritability as a side effect for different drug classes, the researchers have provided valuable information for doctors and families discussing medication options for people with ADHD. "As a clinician, it tells me if I'm proscribing a methylphenidate, [irritability] is likely not caused by the medication," says Bloch.

Provided by Yale University

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