

Childhood methylphenidate treatment predicts antidepressant use during adolescence

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Attention deficit hyperactivity disorder (ADHD) is one of the most common psychiatric diagnoses among children and adolescents worldwide. The standard of care for ADHD typically includes long-term treatment with stimulants, such as methylphenidate (MPH)-based medications (e.g., Ritalin).

Over the last few decades a worldwide escalation in MPH-based [medication](#) prescriptions for treating ADHD has been reported, particularly among [children](#) and adolescents. As a result, the long-term effects of exposure to MPH have become a major public health interest, particularly given the high prevalence, long duration, and early age of MPH treatment onset.

Over the years research has shown that adherence to taking MPH-based medications as prescribed, mostly during or after the onset of puberty, prevents depression and anxiety later on. But a new, 12-year [longitudinal study](#), which monitored 6,830 children from [early childhood](#) into adolescence, has shown that consistent treatment with MPH-based medications during childhood increases the risk of antidepressant use during adolescence.

The study, conducted by researchers at Bar-Ilan University in Israel, together with physicians and psychiatrists from Clalit Health Services, the country's largest healthcare organization, and the Geha Mental

Health Center, is the first of its kind to examine the connection between children diagnosed with ADHD and prescribed MPH between the ages of six and eight, and future dispensed prescriptions of antidepressants. The research findings were recently published in the journal *European Child and Adolescent Psychiatry*.

The researchers sampled all children who were first prescribed with MPH-based medications between the ages of six and eight, and then recorded individual adherence by tracking how many months the medication was purchased in relation to the amount prescribed—until the age of 12. It was found that children with high adherence (above 50%) were at significantly greater risk of being prescribed with antidepressants between the ages of 12-18, after controlling for individual risk factors, such as parental use of antidepressants (OR = 1.50).

"Parents, doctors and teachers should be aware that prolonged consumption of MPH-based medications beginning at these ages can be a predictor of subsequent use of antidepressants. Our findings highlight the importance of systematic follow-up for all children who initiated MPH treatment before the age of eight and persisted in their [treatment](#)," says Dr. Nir Madjar, of Bar-Ilan University's Churgin School of Education, who led the study.

While greater adherence is likely associated with a greater beneficial effect on ADHD symptoms, the underlying emotional and behavioral dysregulation among symptomatic children may still be present during adolescence, as reflected by the increase in antidepressant medications, the study concluded.

More information: Nir Madjar et al, Childhood methylphenidate adherence as a predictor of antidepressants use during adolescence, *European Child & Adolescent Psychiatry* (2019). [DOI:](#)

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