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Treatment Intensity, Genetics, and ADHD

This research update focuses on the impact of treatment intensity on outcomes among teens and the genetics of sex differences in the prevalence of ADHD.

Does treatment intensity matter?

In this study, researchers compared the effectiveness of a high-intensity versus a low-intensity skills-based summer intervention in a sample of 325 adolescents with ADHD. The study randomized teens and their parents to an eight-week, full-time intervention totaling 412 hours and costing $4,373 per student (high-intensity), a part-time intervention totaling 24 hours and costing $97 per student (low-intensity), or no treatment. Weekly parent training groups to learn contingency management skills were conducted in both the high-intensity and low-intensity treatment conditions.

After one year of tracking participants, the researchers found that the high-intensity program led to greater improvements in note-taking skills by the teen, parent management skills of using consistent reinforcement strategies, and overall improved ADHD symptoms compared to the low-intensity program. However, the cost differential between high-intensity and low-intensity treatments, coupled with the relatively modest benefits of the high-intensity program over the low-intensity program, may not fully justify use of such high-intensity programs.

Sibley, M.H., et al. (2018). High versus low intensity summer treatment for ADHD delivered at secondary school transitions. *Journal of Clinical Child & Adolescent Psychology*, 47, 248-255.

Can genetics help us understand why more boys are diagnosed than girls?

This complex genetics study sought to better understand why boys are more likely to be diagnosed with ADHD than girls. They examined genetic data from a Swedish population register and from two genetics consortia to test two common hypotheses about the cause of sex differences in ADHD: (1) that ADHD in girls is different than ADHD in boys, and (2) that being a girl exerts protection against ADHD and thus girls require greater genetic "hits" than boys to reach the ADHD "threshold."

The researchers found that that there was not a higher number of common genetic risk variants in girls with ADHD than boys with ADHD. They did discover, however, that girls with ADHD seem to be at greater risk for having comorbid or co-occurring neurodevelopmental conditions like autism. Additionally, siblings of girls with ADHD were at slightly higher risk for having ADHD themselves compared to siblings of boys with ADHD. The researchers concluded that there may be some increased familial risk for ADHD among females, as well as some clinical and genetic variability, but that the sex bias in ADHD is likely not due to increases in common genetic risk variants in girls.

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Martin, J., et al. (in press). A genetic investigation of sex bias in the prevalence of attention-deficit/hyperactivity disorder. *Biological Psychiatry*, epub ahead of print.

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