SPECIAL REPORT | ADHD and SUBSTANCE ABUSE

Treating ADHD and Cannabis Use Disorder

Joyce Cooper-Kahn, PhD, interviews Kevin M. Gray, MD
KEVIN M. GRAY, MD, is professor of psychiatry and behavioral sciences and assistant provost for research advancement at the Medical University of South Carolina in Charleston. As a child and adolescent psychiatrist and physician-scientist, Dr. Gray is dedicated to addressing youth substance use and related problems by advancing research and clinical care. Via this work, he hopes to improve real-world outcomes for youth and families.

**DR. COOPER-KAHN: Research shows that there is a higher rate of cannabis use disorder among those with ADHD than in the general population. Can you break that down? Is there a higher rate in both males and females? At all ages?**

**DR. GRAY:** A recent publication highlights the genetic overlap and causal relationship between ADHD and cannabis use:


This group’s research, drawn from the largest available meta-analyses of genome-wide association studies, indicates that having “ADHD is causal for lifetime cannabis use, with an odds ratio of 7.9 for cannabis use in individuals with ADHD in comparison to individuals without ADHD.”

Generally speaking, the increased risk for cannabis use, and progression to cannabis use disorders, cuts across demographics among those with ADHD. The age of use tends to parallel general rates of use in the general population, with peak onset during adolescence and peak use (and peak rates of cannabis use disorder) during young adulthood.

**COOPER-KAHN: How do you explain the over-representation of cannabis use disorder in the ADHD population?**

**GRAY:** The abovementioned article suggests shared genetic risk, which is likely an important factor. Beyond that, it is well established that rates of substance use and substance use disorders, in general, are higher among those with ADHD than those without ADHD. A number of clinical observations help place this in context. Impulsivity, a core symptom of ADHD, reliably predicts substance use. Interestingly, another recent article suggested sex differences in ADHD symptom profiles that predict problematic cannabis use:


While hyperactive symptoms predicted problems with cannabis use in men, inattentive symptoms predicted problems with cannabis use in women. In contrast, an earlier adolescent-focused study indicated that hyperactivity/impulsivity predicted later substance problems in both males and females, with inattention posing less risk:


Cannabis can appear to be desirable for individuals with ADHD, given a general “calming” effect. However, while this may reduce the appearance of hyperactivity/impulsivity, cannabis impairs cognition and may compound issues with inattention. The only randomized controlled trial of cannabinoids for ADHD investigated nabiximols (an orally administered combination of tetrahydrocannabinol and cannabidiol) revealed no overall improvement, though secondary findings appeared to suggest possible mild improvement in hyperactivity but not inattention:


**COOPER-KAHN: How would parents or other individuals distinguish between cannabis use and overuse in their children or loved ones?**

**GRAY:** The term used clinically for problematic use is cannabis use disorder, which involves a constellation of symptoms related to functional impairment. Cannabis use disorder ranges from mild to moderate to severe, depending on the number of symptoms present. Symptoms may include giving up other important activities and dedicating excessive time to use, continued use despite adverse consequences, and evidence of physiological dependence (for example, tolerance and withdrawal). In general, there should be particular concern with adolescents using any amount of cannabis, as it can be cognitively impairing. Additionally, adolescents are known to have about double the risk, compared to adults, of progressing to cannabis use disorder. Overall, if a loved one’s cannabis use is adversely impacting school/work performance, affecting relationships, and/or leading to other impairments, this suggests that use has become problematic.

**COOPER-KAHN: Can you identify factors within the ADHD population that put individuals at greater risk?**

**GRAY:** As noted above, the core symptoms of ADHD may lead to increased risk for initiating cannabis use, and some individuals with ADHD may perceive the “calming” effect of cannabis as desirable. Additionally, there are shared genetic risks for ADHD and cannabis use.

**COOPER-KAHN: On the other hand, are there protective factors?**

COOPER-KAHN: Are there ways that you adapt the treatment for adolescents and young adults?

Gray: Young people are often brought into treatment because someone else (family, school, law enforcement) perceive a problem, while the individual may not be motivated for change or even perceive a problem. We are sensitive to this, as well as the counterproductive nature of aggressive confrontation. For youth, we are particularly fond of incorporating motivational interviewing and contingency management to complement cognitive-behavioral therapy. We are also focused on incorporating family into treatment in a positive way (working on natural rewards for desired behavior, for example, rather than maintaining a negative/sole focus on punishing unwanted behavior). Ultimately, the hope is that goals between the youth and the family can merge, as that helps create an alliance (in what otherwise might be a conflictual relationship) and predicts success.

COOPER-KAHN: Are there any specific practical considerations to know about when working with individuals with both ADHD and cannabis use disorder?

Gray: I generally advise working on addressing ADHD and cannabis use disorder in tandem, rather than in sequence. There are, of course, complexities when considering ADHD pharmacotherapy in the context of active substance use, but in general we know that ADHD and cannabis use disorder are related both genetically and behaviorally, and in the end we want to treat the “whole patient” rather than picking one condition or another. This is a more reasonable approach when building a positive therapeutic alliance and seeking longer-term improved functional outcomes.

Joyce Cooper-Kahn, PhD, is a clinical child psychologist and coauthor of *Late, Lost, and Unprepared: A Parent’s Guide to Helping Children with Executive Functioning* (Woodbine, 2012). She is deputy co-chair of Attention’s editorial advisory board.