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## **Attention-Deficit/Hyperactivity Disorder: Advances in Diagnostic and Therapeutic Approaches**

**A**ttention-deficit/hyperactivity disorder (ADHD) is one of the most common childhood-onset psychiatric disorders, with a prevalence rate that ranges from 5% to 10%. Fortunately, children and adolescents with ADHD who are accurately diagnosed and whose symptoms are effectively treated may have favorable outcomes. In this issue of "Focus on Childhood and Adolescent Mental Health," we present 3 studies that illustrate ongoing research aimed at exploring some of the obstacles to accurate diagnosis and effective treatment of children and adolescents with ADHD. Additionally, these reports propose strategies to ensure that diagnostic assessments and therapeutic approaches are optimized.

Gau and colleagues examined factors that contributed to adherence in a large sample of children and adolescents with ADHD who were treated with immediate-release, short-acting methylphenidate in Taiwan. The authors identified that multiple daily doses of medication was 1 of several predictors of poor adherence, which, in this sample, was associated with more severe ADHD symptoms. To address this further, the authors then switched a subset of the nonadherent youth to osmotic-release oral system methylphenidate and found that treatment adherence and several measures of outcome improved. This article highlights the clinical relevance of assessing adherence in youth with mental health disorders and the need for future research to identify determinants of poor adherence and strategies to improve treatment adherence in this population.

In the next article, Colins and colleagues examined the need for multiple informants in performing diagnostic assessments of disruptive behavior disorders in incarcerated youth. Specifically, the authors interviewed over 100 adolescent boys in Youth Detention Centers in Belgium and, separately, their parents or caretakers using a structured diagnostic interview, the Diagnostic Interview Schedule for Children, Version IV. Overall, there was poor agreement between parent/caretaker and child interviews. Parents/caretakers reported more ADHD- and oppositional defiant disorder-related symptoms and higher rates of ADHD and oppositional defiant disorder. In contrast, adolescents reported more conduct disorder-related symptoms and greater rates of conduct disorder. The findings of this study suggest that parental or caretaker input is essential to accurately determine whether an incarcerated youth has ADHD, so that appropriate treatment may be implemented.

A novel delivery mechanism for methylphenidate that may also lead to improved adherence is the transdermal system (i.e., patch). Findling and colleagues reported the results of 1 of the 2 registration trials that led to the U.S. Food and Drug Administration approval of the methylphenidate transdermal system (MTS) for the treatment of ADHD in children. The authors conducted a 7-week randomized, double-blind, placebo-controlled study of MTS in 270 children with ADHD who were assigned to MTS, osmotic-release oral system methylphenidate, or placebo and found that the mean change in ADHD symptoms was greater in children receiving either form of methylphenidate than in those receiving placebo. However, a numerically greater number of dropouts were present in the MTS group than in the other groups. Additional investigations with an adequate sample size of youth with ADHD are needed to compare the effectiveness and tolerability of, as well as adherence rates to, the different delivery mechanisms of stimulants.

The 3 articles that we highlight provide important insights into the diagnosis and state-of-the-art treatment of youth with ADHD.

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