Are You Overlooking Adult ADHD?

Prevalence is high, but its overlap with sleep disorders often confounds diagnosis. Here’s how to identify the presentation and address it therapeutically.

By Lenard Adler, MD and Vatsal Thakkar, MD

A 28-year-old male presents for ADHD evaluation, accompanied by his fiancé. He carries no former psychiatric diagnosis. He is currently in graduate school and reports that he has experienced symptoms of ADHD most of his life, including easy distractibility, restlessness, disorganization, procrastination and difficulty reading. He reports that he was able to manage his symptoms through college but the extra demands of graduate school have caused his functioning to deteriorate. He has trouble keeping up with the workload and completing projects on time. Reading is trouble keeping up with the workload and completing projects on time. Reading is

his biggest complaint: he reports that only

reading is a symptom of intermittent hypersomnia: he is a

rarely can he read straight through an

assignment; rather, he gets lost in his

hands and feet several times a minute. His closest

friends have also commented on this—he

will “tune out” of any conversation that

lasts longer than a minute. His closest

friends have also commented on this—he

has become the butt of jokes on the matter.

Another pertinent positive finding is that of intermittent hypersonmia: he is a

fitful sleeper, often has difficulty waking, sometimes requires naps during the day, and can sleep in on weekends for 10-12 hours in a stretch. His girlfriend describes him as a “sleepaholic.” While his energy is usually on the low side, he denies any mood symptoms such as sadness, anhedonia or appetite changes. He ascribes his

sleep problems to a chronically busy schedule and being an inefficient worker. He says it often takes him more than an hour to wind up his activities to get ready for bed because he usually has several ongoing projects in the evenings.

The patient meets full DSM-IV-TR criteria for ADHD through clinical interview and use of the ACDS diagnostic scale, though a medical cause cannot yet be ruled out—a possible sleep disorder is a consideration. The patient and his partner deny symptoms of snoring, restless legs, sleep paralysis or hypnagogic or hypnopompic hallucinations. They do endorse that he has a very short sleep latency and can usually be asleep within 10 minutes of going to bed. Mental status exam is mostly normal, except for regular fidgeting with his hands and feet several times a minute. Neurological exam is nonfocal.

While the patient’s history seems consistent with undiagnosed ADHD, you feel that his sleep symptoms require further evaluation. He is referred to a sleep specialist and undergoes polysomnography and a multiple sleep-latency test. The only findings of note are periodic awakenings during the main sleep episode, several hypopneas (deemed insignificant with normal oxygen saturation) and shortened sleep latency on two of the five scheduled nap periods during the MSLT (seven and eight minutes, respectively). The findings reveal no evidence of organic sleep disturbance in the form of apnea, leg movements, or shortened REM latency on MSLT. His ECG, sleep efficiency and sleep stage analysis is normal. Proper sleep hygiene is the only recommendation from the sleep medicine physician.

Upon reconsultation with the patient, the diagnosis of ADHD is made and treatment is initiated using mixed-amphetamine salts XR (Adderall XR) as well as psychoeducational and cognitive-behavioral therapy sessions. He responds very well to treatment and his social and scholastic functioning improves greatly.

Expert Opinion

Adult attention-deficit hyperactivity disorder (ADHD) is a common and highly impairing disorder affecting over eight million adults in the United States. The original conception of ADHD was that it only afflicted children and did not persist into the adult years. In fact, it was not until the mid-1970s, when Dr. Paul Wender treated adult patients who presented with ADHD-like symptoms (and had been diagnosed with ADHD as children) with psychostimulants, that the clinical foundations of adult ADHD took hold. The Diagnostic and Statistical Manual did not consider ADHD as an active adult disorder until DSM-III in 1987; prior editions either did not allow for an adult diagnosis or considered the presentation in adults to be a residual state from childhood.

Data from the National Co-morbidity Survey, a large epidemiologic survey which established ADHD and other mental health disorder diagnoses via structured interviews, found the prevalence of ADHD in the adult population to be quite high at 4.4 percent. The importance of identifying ADHD is further highlighted by the fact that only one-quarter of adults with the disorder are diagnosed and treated. The consequences of adult ADHD not being diagnosed or treated are significant, with higher rates of divorce/separation, unemployment, driving accidents, cigarette smoking (twice as high) and substance use.

The case example given above illus-
trates an interesting diagnostic dilemma between ADHD and sleep pathology in adults. Are they two independent phenomena or somehow interrelated? Is one the primary cause of the other, and if so, which? The comorbidity raises interest because the symptoms overlap and can appear to be causative (i.e., poor sleep may impair attention). Data surrounding this potential comorbidity are fairly scant for adults, but preliminary data exist for children with ADHD. A study using a parental survey of the sleep of children with ADHD revealed that 33 percent of the children exhibited habitual snoring compared to 11 percent of non-ADHD controls in a psychiatric clinic.⁸

There have been case reports of a similar comorbidity of breathing-related sleep disorders and ADHD in adults, with an improvement in ADHD symptoms after treatment of the sleep pathology.⁹ A cross-sectional study of 866 children showed that ADHD symptoms were associated with increased rates of both snoring and daytime sleepiness, especially for boys.¹⁰ French researchers found a similar association between ADHD and daytime sleepiness and slower reaction times, unrelated to the quality of the nocturnal sleep episode.¹¹

Pertaining to the comorbidity of hypersomnia and ADHD in adults, a Dutch study compared two groups, one with ADHD and the other with either narcolepsy or idiopathic hypersomnia (IH). Of the group with hypersomnia, 18.9 percent met threshold criteria on a self-report scale for ADHD. Conversely, 37.7 percent of the individuals diagnosed with ADHD met criteria for excessive daytime sleepiness using the self-report Epworth Sleepiness Scale.¹² Though limited by solely utilizing self-reported data, this does raise the interesting possibility of a perhaps often overlooked comorbidity in adults with ADHD. Other studies in adults consist of mostly case reports, including some which included full polysomnography. Surman et al. conducted polysomnography on six adults with ADHD (all of whom reported sleep-related complaints), and found that all six revealed abnormal PSMs, either related to disordered breathing or sleep efficiency.¹³

In our case example, the results for a primary sleep disorder are inconclusive at best. As with so many adults with ADHD, there does not appear to be any other medical or psychiatric diagnosis which can account for the symptoms. So how is adult ADHD diagnosed?

The ADHD Diagnosis in Adults

DSM-IV requires four major criteria to be met to diagnose adult ADHD:¹⁴

1. six of nine inattentive or six of nine hyperactive-impulsive symptoms for at least six months
2. impairment in at least 2/3 realms of the individuals life: home/work or school/social settings
3. a childhood onset (age of seven years) of significant symptoms
4. being certain symptoms are from ADHD and not a co-occurring disorder

It is important to recognize that the criteria do not require the individual to meet full criteria for ADHD in childhood, as many bright individuals will have some symptoms, but not the full spectrum, in their youth. Their symptoms may blossom with the increased cognitive demands of school or employment (i.e., middle, high school or college, or first job/promotion). Furthermore, the documentation of impairment from the symptoms is critical, as many individuals will have some symptoms consistent with ADHD at some point in their lives; the impairment can be underperformance or impairment relative to an individual’s capacity—symptoms alone are not sufficient to make the diagnosis.

It is imperative to take a longitudinal history as adult ADHD commonly occurs with other psychiatric disorders, up to 80 percent of the time.¹⁵,¹⁶ These co-morbid disorders with untreated ADHD include major depression, chronic depression (dysthymia), bipolar disorder, anxiety disorders (generalized anxiety disorder, obsessive-compulsive disorder, post-traumatic stress disorder and panic disorder), substance use disorders (marijuana, cocaine and cigarette smoking) and antisocial personality disorder. The longitudinal history is critical in establishing the diagnosis of ADHD versus a co-morbid disorder. ADHD symptoms tend to be present more or less throughout the individual’s life, whereas mood disorders tend to be more episodic and substance use disorders have an age of

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**Table: Adult Self-Report Scale-V1.1 Screener**

<table>
<thead>
<tr>
<th>Date</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Very Often</th>
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<tbody>
<tr>
<td>Check the box that best describes how you have felt and conducted yourself over the past 6 months. Please give the completed questionnaire to your healthcare professional during your next appointment to discuss the results.</td>
<td></td>
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</tr>
</tbody>
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1. How often do you have trouble wrapping up the final details of a project, once the challenging parts have been done?
2. How often do you have difficulty getting things in order when you have to do a task that requires organization?
3. How often do you have problems remembering appointments or obligations?
4. When you have a task that requires a lot of thought, how often do you avoid or delay getting started?
5. How often do you fidget or squirm with your hands or feet when you have to sit down for a long time?
6. How often do you feel overly active and compelled to do things, like you were driven by a motor?

Add the number of checkmarks that appear in the darkly shaded area. Four (4) or more checkmarks indicate that your symptoms may be consistent with Adult ADHD. It may be beneficial for you to talk with your healthcare provider about an evaluation.

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ASRS-V1.1 Screener COPYRIGHT © 2003 World Health Organization (WHO). Reprinted with permission of WHO. All rights reserved.
Many clinicians find that combining psychotherapy and medication has effects on either nor-epinephrine, dopamine or both. The major pharmacologic agents approved for the treatment of ADHD have effects on either nor-epinephrine, dopamine or both. The longer-acting stimulant medications tend to be used preferentially as adults have longer days than children and treatment throughout the day is the desired treatment course. FDa-approved longer-acting stimulants for adult ADHD include both methylphenidate (d-methylphenidate XR (Focalin XR)) and amphetamine (mixed amphetamine salts XR (Adderall XR) preparations. The FDA approved non-stimulant is atomoxetine (Strattera).

It is important whenever initiating pharmacotherapy for adult ADHD to start at a low dose and titrate the medication based upon therapeutic response and possible side-effects. The time to response may be longer and effect size may be smaller for atomoxetine compared to the stimulant medications, but it should be noted that atomoxetine is not classified as a controlled substance by the US Drug Enforcement Agency, and therefore can usually be prescribed with refills with less regard to diversion or abuse.

Psychotherapies for adults with ADHD have shown results, primarily when combined with medication. There is no data studying the use of psychotherapy as monotherapy in adults with ADHD. When studied in children, a large multimodal treatment study showed that the clinical effect of psychotherapy alone was marginal when compared to pharmacotherapy alone. The study also showed that combining the two treatments produced the best results.

More comprehensive diagnostic scales, such as the Adult ADHD Clinician Diagnostic Scale (ACDS) v1.2, often include specific structured questions to help with the retrospective recall of childhood ADHD symptoms and explore the severity and breadth of current adult ADHD symptoms.

**Treatment Options**

Once the diagnosis is made, it is important to initiate treatment—there is a substantial chance of response, especially with pharmacotherapy (up to 70 percent response rate). The major pharmacologic agents include stimulant and non-stimulant medications. All agents approved for the treatment of ADHD have effects on either nor-epinephrine, dopamine or both. The longer-acting stimulant medications tend to be used preferentially as adults have longer days than children and treatment throughout the day is the desired treatment course. FDA-approved longer-acting stimulants for adult ADHD include both methylphenidate (d-methylphenidate XR (Focalin XR)) and amphetamine (mixed amphetamine salts XR (Adderall XR) preparations. The FDA approved non-stimulant is atomoxetine (Strattera).

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