

Adult ADHD: Issues and Answers

NYU School of Medicine Adult ADHD Newsletter

A Note From the Editor:

Welcome to the first edition of the New York University School of Medicine Adult ADHD Newsletter. Attention deficit hyperactivity disorder (ADHD) was originally conceptualized as a disorder of childhood; the adult form of the disorder was not included in diagnostic formulations until 1987 (*DSM-IV*, APA). We now know that approximately 2 out of 3 children with ADHD will go on to become adults with ADHD and that about 80% of the adults with the disorder are undiagnosed and untreated.

- A recent survey of primary care physicians found that they were far less knowledgeable and comfortable in diagnosing and treating adult ADHD compared to depression and anxiety disorders
- Lack of recognition doubles the annual medical costs of an undiagnosed ADHD individual compared to a person without the condition (\$5651 vs \$2771)
- Comorbidities, such as depression and anxiety, can also complicate or mask a diagnosis of ADHD
- Untreated adults with ADHD are more likely to be substance abusers, have marital problems, occupational and school problems, and incur more serious motor vehicle accidents

The lack of diagnosis and treatment of adults is particularly important when taken in the context of the recent approval of both a nonstimulant (atomoxetine [Strattera[®]]) and a stimulant (extended-release mixed amphetamine salts [Adderall XR[®]]) for adult ADHD.

This newsletter will provide you with the most up-to-date information on diagnosing and treating adult ADHD and will be distributed free of charge, in both an electronic format and a print layout. We plan to include a continuing medical education component in alternating issues, and will also have guest editorials from thought leaders, clinical case reviews, journal scans that will review recent pertinent publications in adult ADHD, and questions from the field, in which clinicians can e-mail questions to our staff of experts. Questions can be emailed to us at adultADHD@med.nyu.edu and we will attempt to answer them in upcoming issues. We hope you will find this premiere issue helpful in your care of adults with ADHD.

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Case report

Reason for evaluation: The patient is a 51-year-old financial executive. The patient recently participated in an ADHD evaluation for his 8-year-old son and realized he had similar problems during his own childhood, as early as first grade. Such symptoms included inattentiveness, hyperactivity, and impulsiveness. However, because of his high IQ and a home life that was relatively nurturing, he was able to finish high school and graduate from a good college. As a student, he was viewed by family and friends as driven to succeed.

Upon finding a job on Wall Street, he immediately transformed into a workaholic, spending long hours in his office. While he was superb in his position and promoted to an executive, he had other traits that were beginning to undermine his work, such as difficulty in planning and keeping a calendar, losing office equipment such as laptops and cell phones, and turning in expense accounts late. His projects, while not tardy, were often done at the last minute, causing him some distress. He relied on coffee to help him focus, which exacerbated his irritable bowel syndrome, and has used cigarettes to calm him.

At home, his wife complains of the patient not finishing household tasks, working long hours, and not relaxing while on vacations. His problems at work and at home, plus the diagnosis of one of his 3 children, caused him to request a psychiatric evaluation.

Medical history: Family history is positive for ADHD in one of his 3 children, who is successfully treated with mixed amphetamine salts XR (Adderall XR[®]). There is no other family psychiatric history; no history of head trauma or loss of consciousness; no history consistent with major depression or bipolar disorder. His past psychiatric history includes a simple phobia of heights and bridges; this limits his functioning in that he drives longer distances to avoid going over bridges. He experiences modest distress while flying. He denies any other phobic symptoms; there is no history consistent with panic disorder, generalized anxiety disorder, post-traumatic stress disorder, or obsessive-compulsive disorder.

Initial presentation: At the initial presentation, the patient appeared alert, oriented, well nourished, well developed, dressed in a business suit, made good eye contact, and was cooperative. Speech was normal in rate, volume, and pitch. Affect was full and appropriate to context of ideation. His mood was euthymic. No psychotic symptoms; thought processes were abstract and goal-oriented without loose associations and flight of ideas. No suicidal or homicidal ideation.

Diagnosis: The initial diagnoses were ADHD-combined subtype and a simple phobia. The diagnosis of combined-type ADHD was established based upon the sufficient presence of both inattentive and

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Adult Self-Report Scale-V1.1 (ASRS-V1.1) Screener

from WHO Composite International Diagnostic Interview
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Date

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.

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?

Never	Rarely	Sometimes	Often	Very Often

Add the number of checkmarks that appear in the gray-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.

The 6-question Adult Self-Report Scale-Version1.1 (ASRS-V1.1) Screener is a subset of the WHO's 18-question Adult ADHD Self-Report Scale-Version1.1 (Adult ASRS-V1.1) Symptom Checklist. ASRS-V1.1 Screener COPYRIGHT © 2003 World Health Organization (WHO). Reprinted with permission of WHO. All rights reserved.

hyperactive/impulsive symptoms (eg, disorganization, restlessness), significant impairments from the symptoms at both work and home, childhood onset of the symptoms, and the absence of other mental health disorders, such as major depression, learning disorders, and bipolar disorder, which might better account for the symptoms. The patient screened positive for adult ADHD on the ASRS v1.1 Screener, with 6/6 significant symptoms. Clinician evaluation of ADHD symptoms on the ADHD-RS (DuPaul, 1998) with adult ADHD prompts revealed a similar total score of 45.

DuPaul GJ, Power TJ, Anastopoulos AD, Reid R. ADHD Rating Scale-IV: checklists, norms, and clinical interpretation. New York: Guilford Press; 1998.

Treatment: Patient initially requested a trial of nonstimulants and was prescribed atomoxetine (Strattera[®]) at 25 mg/d. The drug was titrated over a 3-week period to a dose of 75 mg qam. After an additional 3 weeks of therapy at this dose, there was some positive response of ADHD symptoms, but the patient wanted to try stimulant therapy secondary to some agitation and GI upset he experienced with atomoxetine. The atomoxetine was rapidly tapered and discontinued, and treatment with extended-release mixed amphetamine salts (Adderall XR[®]) was initiated. Adderall XR[®] was titrated up to a dose of 15 mg in the morning, with significant and sustained reduction in both inattentive and hyperactive-impulsive symptoms; a repeat ADHD-Rating Scale (ADHD-RS) indicated that there was a 60% overall reduction in ADHD symptoms. The patient reported some significant return of symptoms in the evening, about 11 hours after the initial morning dose; this was successfully treated with the addition of an afternoon dose of immediate-release mixed amphetamine salts (Adderall[®]) 5 mg. The complaints of increased anxiety when exposed to heights or traveling over bridges continued, for which the patient was successfully treated with citalopram (Celexa[®]) 10 mg qam. The patient continues to do well on the above regimen with monthly follow-up sessions.

You Can Evaluate Adult ADHD in Your Practice

A new screening tool is available to help psychologists, child and adult psychiatrists, and primary care physicians identify individuals at risk for having adult ADHD. The Adult ADHD Self-Report Scale (ASRS) v1.1 Screener is a 6-item tool that contains the adult ADHD symptoms most predictive of having the disorder.

The ASRS v1.1 Screener is similar to the standard symptoms described in *DSM-IV* or ADHD-RS (DuPaul, 1998), with modifications in language to reflect the presentation of symptoms in adulthood, to provide context, and to remove questions that ask about 2 domains of symptoms. Self-administration is facilitated through frequency-based scoring of symptoms. The first 4 questions relate to inattentive symptoms and the last 2 questions apply to hyperactive-impulsive symptoms. Significant symptoms are shaded gray and are either rated "sometimes" (n = 3) or "often" (n = 3).

A recent study conducted at Harvard Medical School found that individuals screening positive on the ASRS v1.1 Screener had a 93% chance of actually having the disorder. This 6-item screening tool is useful in identifying individuals at risk for adult ADHD who can then receive a full clinical evaluation to establish the diagnosis.

Once a patient screens positive, additional tools can assist the clinician in establishing the diagnosis when performing a full diagnostic assessment. The clinician can use the adult ADHD prompts with an ADHD symptom checklist, such as the ADHD-RS or *DSM-IV* checklist. The prompts with a checklist focus attention on the core impairments of adult ADHD during the assessment process and course of treatment. These probes have been validated in clinical trials over the last 15 years at Massachusetts General

Hospital and NYU School of Medicine (Adler & Cohen, 2001). The ASRS v1.1 Screener is presented on [page 2](#), and the adult ADHD probes are available through NYU School of Medicine (adultADHD@med.nyu.edu).

DuPaul GJ, Power TJ, Anastopoulos AD, Reid R. ADHD Rating Scale-IV: Checklists, norms, and clinical interpretation. New York, NY: Guilford Press; 1998.

Adler L, Cohen J. Diagnosis and evaluation of adults with attention-deficit/hyperactivity disorder. *Psychiatr Clin N Am*. 2004;27:187-201.

Journal Reviews

- 1) Spencer T, Biederman J, Wilens T, et al. A large, double-blind, randomized clinical trial of methylphenidate in the treatment of adults with attention-deficit/hyperactivity disorder. *Biol Psychiatry*. 2005;57:456-463.

This study showed that robust doses of methylphenidate (MPH) are effective in the treatment of adult ADHD. Here, a randomized, 6-week, placebo-controlled, parallel study of MPH was performed on 146 adult patients with *DSM-IV* ADHD, using standardized instruments for diagnosis, separate assessments of ADHD with adult ADHD prompts, depressive and anxiety symptoms, and a robust average oral daily dose of 1.1 mg/kg/d. A marked therapeutic response for the MPH treatment of ADHD symptoms was observed, which exceeded the placebo response (76% vs 19%). Treatment was safe and well tolerated. Response to MPH was independent of socioeconomic status, gender, and lifetime history of psychiatric comorbidity.

- 2) Secnik K, Swensen A, Lage MJ. Comorbidities and costs of adult patients diagnosed with attention-deficit hyperactivity disorder. *Pharmacoeconomics*. 2005;23:93-102.

This economic analysis used a large claims database that captures inpatient, outpatient, and prescription drug services, and matched 2252 patients with ADHD to the same number of non-ADHD cohorts. Adults diagnosed with ADHD were significantly more likely to have a comorbid diagnosis of asthma ($P = .0014$), anxiety ($P < .0001$), bipolar disorder ($P < .0001$), depression ($P < .0001$), drug or alcohol abuse ($P < .0001$), antisocial disorder ($P = .0081$), or oppositional disorder ($P = .0022$) compared with the control group. Also, adults diagnosed with ADHD had significantly higher outpatient costs (\$3009 vs \$1492), inpatient costs (\$1259 vs \$514), prescription drug costs (\$1673 vs \$1008), and total medical costs (\$5651 vs \$2771) compared with the non-ADHD cohort; $P < .0001$ for all comparisons. Employees diagnosed with ADHD missed significantly more days due to 'unofficial' absences (4.33 days vs 1.13 days; $P < .0001$). These findings suggest that there may be an opportunity for the effective treatment of ADHD to lead to cost offsets.

- 3) Eakin L, Minde K, Hechtman L, et al. The marital and family functioning of adults with ADHD and their spouses. *J Atten Disord*. 2004;8:1-10.

The marital adjustment and family functioning of 33 married adults with ADHD and their spouses was compared to 26 non-ADHD control participants and their spouses. Results revealed that married adults with ADHD reported poorer overall marital adjustment on the Dyadic Adjustment Scale and more family dysfunction on the Family Assessment Device than control adults. The spouses of adults with ADHD did not differ from control spouses in reports of overall marital adjustment and family dysfunction. However, a greater proportion of their marital adjustment scores fell within the maladjusted range. The perceptions of adults with ADHD of the health of their marriages and families were more negative than the spouses' perceptions. The findings in this study underscore the need for assessments and treatments to address marital and family functioning of adults with ADHD.

Facts About Adult ADHD

- A preliminary report from the US National Comorbidity Survey Replication found an adult prevalence of 4.4% using conservative diagnostic criteria.

Kessler RC, Adler L, Ames M, et al. The World Health Organization adult ADHD self-report scale (ASRS): a short screening scale for use in the general population. *Psychol Med*. 2005;35:245-256.

- Rather than having a psychological basis, ADHD is a neurobiological disorder, mainly of dopadrenergic and noradrenergic pathways, supported by imaging evidence

Faraone SV, Biederman J, Spencer T, Wilens T, Seidman LJ, Mick E, Doyle AE. Attention-deficit/hyperactivity disorder in adults: an overview. *Biol Psychiatry*. 2000;48:9-20.

Wilens T, Faraone SV, Biederman J. Attention-deficit/hyperactivity disorder in adults. *JAMA*. 2004;292:619-623.

- Family history is important in diagnosis because a strong genetic component exists, with a 50% concordance rate for ADHD in first-degree relatives.

Biederman J, Faraone SV, Mick E, et al. High risk for attention deficit hyperactivity disorder among children of parents with childhood onset of the disorder: a pilot study. *Am J Psychiatry*. 1995;152:431-435.

- Adults with ADHD suffer from comorbid psychiatric disorders, such as depression, and impairments like school failure, job problems, and traffic accidents.

Adler LA, Chua HC. Management of ADHD in adults. *J Clin Psychiatry*. 2002;63 (suppl 12):29-35.

- Adults with suspected ADHD frequently present to primary care physicians who are often uncomfortable evaluating these patients, particularly those without a previously established ADHD diagnosis, for several reasons:

- Criteria are not objectively verifiable; thus, diagnosis may be based upon patients' subjective reports of symptoms.
- The available *DSM-IV* criteria do not describe the more subtle cognitive behavioral symptoms that primarily affect adults.
- ADHD was previously conceptualized as a childhood disorder and was not included as a full active adult diagnosis in *DSM (DSM-IV, APA)* until 1987.

American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. Washington DC: American Psychiatric Association; 2000.

- The primary care physician's role is further complicated by the high number of adults who self diagnose ADHD, many of whom have been influenced by the popular press. Studies of self-referral suggest that only one third of adults who believe they have ADHD actually meet formal diagnostic criteria.

Roy-Byrne P, Scheele L, Brinkley J, et al. Adult attention-deficit hyperactivity disorder: assessment guidelines based on clinical presentation to a specialty clinic. *Compr Psychiatry*. 1997;38:133-140.

- 4) Kessler RC, Adler L, Ames M, et al. The World Health Organization adult ADHD self-report scale (ASRS): a short screening scale for use in the general population. *Psycholog Med.* 2005;35:245–256.

The World Health Organization (WHO) Adult ADHD Self-Report Scale (ASRS)—a self-report, 18-question, screening scale of adult ADHD—was compared to a short-form, 6-question, screening scale in a community sample. Both scales include questions about frequency of recent *DSM-IV* criterion A symptoms of adult ADHD. Optimal scoring to predict clinical syndrome classifications was the sum of the unweighted dichotomous responses across all 18 ASRS questions. However, because of the wide variation in symptom-level concordance, the results showed that the 6-question scale outperformed the 18-question ASRS with respect to sensitivity (68.7% vs 56.3%), specificity (99.5% vs 98.3%), and total classification accuracy (97.9% vs 96.2%) and K (0.76 vs 0.58). The investigators concluded that clinical calibration in larger samples might show that a weighted version of the 18-question ASRS outperforms the 6-question ASRS screener. Until that time, however, the unweighted screener should be preferred to the full ASRS, both in community surveys and in clinical outreach and case-finding initiatives.

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