

Commentary

ADHD in Primary Care

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CHILDREN WITH ADHD IN PRIMARY CARE

Dr. Wolraich: Two major differences can be found between children with attention-deficit/hyperactivity disorder (ADHD) seen in primary care and those seen in psychiatry. ADHD symptoms constitute a spectrum that ranges in severity. Psychiatrists see children whose behavior is dysfunctional enough to warrant their parents taking them to a psychiatrist, whereas primary care physicians see children with less severe behavior. Consequently, a challenge of primary care physicians is determining whether or not the behaviors they see in some children are indicative of ADHD and severe enough to make a diagnosis.

The second difference relates to comorbidity for children. The majority of children with ADHD have at least one other secondary condition or what is referred to in psychiatry as a comorbid condition. In mental health, the comorbid condition will include more disruptive behavior disorders like oppositional defiant disorder or conduct disorder, whereas in primary care the comorbid condition will include more learning disabilities or language disorders.

Because ADHD is a chronic condition, the evidence-based treatments, stimulant medication and behavioral therapy, have not provided a cure. Both, however, effectively ameliorate the symptoms and eliminate much of the dysfunction that children and adults experience. Currently, stimulant medications have the most evidence for efficacy in the treatment of ADHD. They have been used for 40 years, and there does not appear to be any major difficulty with long-term treatment. Similarly, a long history of evidence-based studies shows the effectiveness of behavior modification. Since ADHD is chronic, patients and their families should be educated about the condition in order to engage them in a process of treatment that will be lifelong. Another essential aspect of treatment is estab-

lishing a dialogue between teachers and physicians. Many physicians receive secondary information from parents about a child's progress at school rather than direct input for both diagnosis and ongoing management from teachers. Yet teachers—particularly in elementary school—see children for approximately 6 hours a day in demanding situations and in comparison with 20 to 30 age-matched peers, so their information is extremely valuable in providing a more precise behavioral picture.

ADHD is an important condition to both identify and treat because it causes significant dysfunction. The 18 core behaviors outlined in the DSM-IV have to cause dysfunction in a child for a diagnosis of ADHD to be made. Therefore, how specific behaviors interfere with daily functioning is at the heart of this condition. Unfortunately, at this time few effective criteria exist for measuring function, but as the Saylor et al.¹ article indicates, work is being done to establish ways of objectively measuring functional outcomes. Functional domains for children include progress in school, relationships with family and peers, ability to participate in collective activities, ability to play alone, and satisfaction with life in general. The American Academy of Pediatrics' guidelines² recommend targeting 3 or 4 outcomes to follow and measuring improvement during treatment. For example, if a child causes problems by disrupting class, a target outcome for that child may be how he/she functions in the classroom.

As they age, adolescents tend to want to move from pediatric care to adult care. Unfortunately, adult physicians frequently lack the extensive experience with ADHD that some pediatricians have. This is true even with psychiatrists, although this appears to be changing as treatment for adults with ADHD becomes more common. Unless psychiatrists have had experience treating children with ADHD, many may not be comfortable treating adults with ADHD. Both psychiatrists and primary care physicians who treat the condition in children may hesitate to treat adults due to treatment concerns such as stimulant abuse that arise with adulthood.

ADULTS WITH ADHD IN PRIMARY CARE

Dr. Roth: For decades, primary care physicians considered ADHD a behavioral problem of children and adoles-

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cents, affecting schoolwork and performance of academic pursuits. ADHD was perceived as a disorder that blurred after adolescence and young adulthood. However, ADHD exists throughout the life span of the patient. If recognized in childhood, the diagnosis will persist into adulthood in approximately 90%. Until the last decade, adults who had childhood ADHD seldom received follow-up care, but increasingly, primary care physicians have recognized that adult patients who had performance problems in childhood and adolescence continue to have performance problems in adulthood. Slowly, the psychiatric literature and the DSM-IV, which includes ADHD as an adult disorder, have been accepted in primary care. Meanwhile, generations of children with ADHD have grown into adulthood with dysfunction and discomfort, with no ready diagnosis or treatment in the primary care setting available.

Adults seen in primary care with career drift and dysfunctional relationships may have undiagnosed ADHD. The pattern of oppositional behavior, impulsivity, mobile mood, quick temper, disorganization, distractibility, and restlessness makes them difficult patients to engage and uneasy, impatient clients for the doctor's office staff. Since ADHD is not new, generations of undiagnosed adults have sought treatment for anxiety and depression as they felt ill at ease in their life, family, and community. Many adults with ADHD have self-medicated with caffeine, nicotine, cocaine, and other habituating substances, leading to the dual diagnosis of ADHD and substance abuse. Adults with ADHD may have experienced a life full of job dysfunction and disruptive relationships with their families and communities. Some people may have adapted to their disorder through obsessive-compulsive disorder-like rituals to maintain control. In fact, statistical overlap exists for adolescents diagnosed with both ADHD and OCD.³

To make a diagnosis of adult ADHD, the following personal histories should be taken: developmental, childhood, school, work, family, and psychiatric. Patients should be specifically asked about previous diagnoses of learning disabilities, coordination disorders, and psychiatric disorders. Lastly, primary care physicians should ask what, if any, treatments patients have had for psychiatric problems, including substance abuse, and if those treatments improved functioning.

Physicians working with patients with substance abuse need to be aware that many complex cocaine abusers have been identified to have had ADHD in childhood.⁴ Until ADHD is detected, these patients are not effectively treated with traditional behavioral approaches to their cocaine addiction as their irritability and restlessness are masked with cocaine withdrawal. These patients need better-defined diagnosis through more effective history-taking and consideration of the adult tests for ADHD.

Family, twin, and adoption studies show ADHD has a substantial genetic component associated with the dopamine D4 gene. Because ADHD is genetic, physicians have

to look at the whole family, not just the child. Frequently, children with ADHD have a parent with undiagnosed ADHD, so if physicians see a parent who is dysfunctional, lacks organization, is restless, and is inattentive, that parent may have ADHD. Observing the parents is important because their behavior can affect the management of the child. A parent who changes jobs frequently may have difficulty with insurance and therefore getting the treatment the child needs. A disorganized parent may not bring the child back for follow-up.

Dysfunctional adults should have their origins and childhood functioning evaluated by the primary care physician so ADHD might be included in the differential diagnosis of adults with behavioral symptoms. Like learning disorders, ADHD does not stop when school is let out but persists, making for a lifetime of discomfort.

TREATING ADHD IN PRIMARY CARE

Dr. Mason: ADHD is commonly compared with asthma. They have similar prevalence, medical costs, and genetic predisposition. Both disorders have the appearance of measurable symptoms in childhood and then variable progress through childhood, adolescence, and adulthood. Some discomfort is found in the medical management of ADHD and asthma because of various side effects. Curiously, however, asthma is a medical condition whose treatment falls within the abilities and the practice of almost all primary care physicians. Most physicians consider themselves trained to treat asthma, but ADHD, because it is a mental disorder, is seen by many as outside their purview of treatment. I recently polled about 500 practitioners regarding their approach to ADHD and found that only 3% considered themselves as having the ability to both diagnose and treat the disorder. Twelve percent actively treated ADHD but did not diagnose the disorder, while 57% co-managed it with the assistance of a psychiatrist. The remaining primary care physicians did not even see ADHD in their practice.

As is the case with asthma, no one but physicians can institute proper treatment for ADHD. Community-based therapies for ADHD have been part of the answer but have frequently fallen short of the ideal of remission. Dietary therapies have been disappointing. Alternative medicine has had little to offer. Counseling has helped some in organization, and, for some people, coaching has been quite helpful in improving their organization, but organization is only a small part of the disorder. Overall, the best therapy for ADHD has been stimulant medication.

Convincing primary care doctors that diagnosing and treating ADHD is entirely within their capabilities is of the utmost importance. Stimulant medications, which are the current mainstay of ADHD treatment, are effective and well within the primary care treatment realm. New medications such as selective norepinephrine reuptake

inhibitors will soon be approved for ADHD and will be easier to administer and effective throughout more of the day than stimulants. These new treatments should ease the perceived burden of scheduled stimulant prescriptions.

Given the estimated prevalence of adult ADHD is approximately 4.5% of the population, the average primary care physician with 2500 patients probably has 100 or more individuals in his or her practice that he or she can help. Of all the possible areas in which these people are suffering, work performance is going to impact them broadly. An inability to maintain jobs for any length of time, to organize well, or to work to the best of one's ability will create a huge economic burden over a lifetime in most cases. Primary care physicians are urged to recognize the importance of ADHD and to diagnose and treat this disorder.

Dr. Roth: Should parallels between ADHD and asthma be drawn? There is an increased death rate from asthma in children, especially college-aged adolescents, and while ADHD is important, children do not die of ADHD. Their dreams or their academic futures may die from ADHD, but they do not lose their lives to it.

Dr. Wolraich: The major parallel is that both are common so the prevalence rate is high. Even if primary care physicians wanted to force the care of patients with ADHD onto the mental health community, they could not because there are too many people with the disorder. Physicians have to expect to treat them in their practice. Further, ADHD is a condition that has effective symptomatic treatments as does asthma, so most patients can be managed fairly well with appropriate treatment.

Dr. Mason: Death rates have been reported as substantially higher in people with ADHD aged 5 through 24 than in people without ADHD in the same age group. The death certificates do not say ADHD because the death was accidental in most cases. Determining the cause of death can be difficult because ADHD does not show up as a finding on an autopsy. Therefore, the death is attributed to a motorcycle or car accident, a drowning, or a fall, not ADHD. ADHD is equally or more fatal to children than asthma is, so the parallel does hold. The misconception about the severity or consequences of ADHD allows physicians to avoid actively screening and treating this disorder.

Dr. Wolraich: Another useful analogy for ADHD is depression, which many internists and family practitioners have become comfortable treating with antidepressants and manage quite well. Meanwhile, pediatricians are not yet diagnosing and treating children with depression despite the availability of safe, efficacious medications. The treatment of depression in the primary care setting is the opposite of the treatment of ADHD: physicians will treat it in adults but not children.

Dr. Roth: I was part of the movement to get primary care physicians to initiate treatment for depression. The premise was that they could intervene in the morbidity and

potential mortality of depression by using medications that were safe. We told them that treating depression in the elderly saves lives because morbidity becomes mortality. The same premise is true for ADHD. By intervening in ADHD, primary care physicians can lower their patients' morbidity and perhaps mortality. Intervention, whether for an adult or child, will not worsen the situation. This point is of particular importance for primary care physicians in rural areas where they may be the only doctors available to diagnose and manage ADHD. Physicians rarely send their patients hundreds of miles away for a psychiatric consultation. Unfortunately, physicians are forced to treat ADHD with stimulants—drugs that have street value and are dangerous. In depression, the availability of safer treatments made physicians more willing to diagnose and treat it. The breakthrough for primary care physicians treating ADHD will come when the disorder can be managed with non-habit-forming drugs.

Dr. Wolraich: New, longer-acting preparations of methylphenidate and dextroamphetamine are on the treatment horizon. The methylphenidate is not easily extracted from the formulation to create street drugs, so the high is not as fast or as long. Selective norepinephrine reuptake inhibitors like atomoxetine will probably become a new class of medications, and they do not have the same abuse potential as stimulants. Long-acting formulations are especially advantageous because they will eliminate the need for children to take medication during the school day, which adds an extra level of administration and complication to managing ADHD.

Dr. Roth: Unfortunately, schools are eliminating school nurses to lower costs.

Dr. Wolraich: In many schools, the secretary has to administer the medication, and then there is the stigma children face of having to go to the office for their medication.

Dr. Mason: There has been a growing recognition that the interpersonal problems of the family are at least as important as the problems faced during the day at work or school, so limiting our concerns to what works well for the school day is shortsighted. Adults treated with stimulants commonly need a second dose of a shorter-acting stimulant in the evening because of responsibilities that continue beyond 8 to 12 hours and that may be more taxing than those of the day. Establishing the therapeutic benefit of slow-release stimulants and then complementing them with additional immediate-release stimulants later in the day is difficult, especially with side effects like insomnia and anorexia that may continue after the therapeutic effect has waned. The advances in medication thus far have been revolutionary, but new medications are still anticipated. Atomoxetine is probably the next agent, and it will give a round-the-clock effect without the cycling effects seen with the stimulants.

Dr. Roth: The presumption has been that children can be made into little soldiers during school hours and that

any disruption at home is not of concern. The same has been presumed of adults.

Dr. Wolraich: Children with the predominantly inattentive type of ADHD may need medication only during the day; their dysfunction may well occur exclusively during school hours. Therefore, physicians need to meet with patients and their families to determine when medication should be administered. Behavior both at school and at home should be reviewed when making this decision.

Most patients cannot be covered with the current medications 24 hours a day because serious insomnia problems can occur or patients can develop tolerance. At night, a break from the medication is necessary. Patients taking stimulants do not develop a steady state as they do when taking seizure medication or other long-acting psychotropic agents.

Dr. Roth: An ideal treatment would allow patients to function at work or school and home without the side effect of sleep disorders.

Dr. Mason: Yes, and again we should reiterate the importance of establishing goals in treatment for both medication and functional outcomes. For example, a patient may need stimulant medication during school or work, but keeping lists, setting up frequent reminders and alarms, and having an organized parent or spouse enables that individual to get through the rest of the day's tasks. However ADHD is managed, it is a round-the-clock job.

Dr. Roth: Is there any specific diet either of you recommends for children or adults with ADHD?

Dr. Wolraich: Not at this time. Three dietary interventions for ADHD have been proposed.⁵ The Feingold diet restricted additives and preservatives and was extensively researched in controlled studies. Approximately 1% to 2% of participants seemed to respond to certain food dyes, but the overall response to the diet was not dramatic. The second diet restricted sugar, and the 23 rigorous studies of this diet have been consistently negative. A relationship between sugar intake and behavior has not been identified. The third diet has been referred to as an elimination diet. It incorporated eliminating additives and preservatives and most foods except for 2 vegetables and 2 meats. Food was then gradually added back into the diet to determine which foods caused behavior problems. Several studies have shown some effects, but all the studies had methodological problems. Compared with the evidence for the effectiveness of both behavior modification and medication, diets, thus far, do not justify being recommended for treatment.

CONCLUSION

Dr. Roth: Physicians need to recognize that ADHD is for life and life means 24 hours a day, 7 days a week.

Dr. Wolraich: In the last hundred years, medicine has been extremely successful in life-and-death issues. A number of diseases have been prevented and eradicated by primary care physicians. Today, physicians have moved from worrying about if individuals will live to worrying about what their quality and longevity of life will be. ADHD is a quality of life issue that can be successfully managed in primary care.

Dr. Mason: The pervasiveness of ADHD makes it especially challenging, and many people with ADHD do not know they have it because it is not episodic. ADHD is a chronic, lifelong disorder, so people with this disorder frequently do not have a basis of reference to say that their thoughts should be more ordered or that their lives should be better. They develop so many compensations and defenses for their disorderliness that they often do not recognize how good life could be. It takes someone objective, like a physician, to point out the impaired work or school performance, the unstable or chaotic family relationships, the interpersonal issues, and the lack of self-esteem and to say life does not have to be this way.

Drug names: dextroamphetamine (Dexedrine, Dextrostat, and others), methylphenidate (Concerta, Ritalin, and others).

Disclosure of off-label usage: Dr. Mason has determined that, to the best of his knowledge, dextroamphetamine and methylphenidate are not approved by the U.S. Food and Drug Administration for the treatment of ADHD in adults, and atomoxetine is not approved for use in the United States.

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