

An Overview of ADHD

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ADHD OVERVIEW

Individuals with attention-deficit/hyperactivity disorder (ADHD) experience chronic problems with inattention and/or hyperactivity-impulsivity to a greater degree than the average person. It is a life span disorder, affecting children, adolescents and adults.

Children with ADHD comprise approximately 3–7 percent of the school-age population. While it has long been thought that boys with ADHD outnumber girls by approximately 3 to 1, recent research shows that the actual numbers may be nearly equal.

Although some media coverage questions the validity of the ADHD diagnosis, medical professional groups such as the American Academy of Pediatrics (AAP), American Academy of Child and Adolescent Psychiatry (AACAP), and American Medical Association (AMA) have recognized the strong scientific evidence for this disorder. “ADHD is one of the best-researched disorders in psychiatry, and the overall data on its validity are far more compelling than for most mental disorders and even many medical conditions,” according to the American Medical Association Council on Scientific Affairs.

Multiple studies have been conducted to discover the cause of the disorder. The exact causes of ADHD remain elusive, but research indicates that at least three separate yet interactive brain regions have been associated with the condition. Research also clearly indicates that ADHD tends to run in families. More than 20 genetic studies have shown evidence that the disorder is largely an inherited, neurologically-based condition. ADHD is a complex trait, and complex traits are typically the result of multiple interacting genes. Problems in parenting or life situations may make ADHD better or worse, but they do not cause the disorder.

Without early identification and appropriate treatment, ADHD can have serious consequences that include school failure and drop out, depression, conduct disorder, failed relationships, underachievement in the workplace, and substance abuse. When appropriately treated, persons with ADHD can lead productive and satisfying lives.

TREATMENT FOR ADHD

Getting appropriate treatment for ADHD is very important. There may be very serious negative consequences for persons with ADHD who do not receive adequate treatment. These consequences can include low self esteem, social and academic failure, substance abuse, and a possible increase in the risk of antisocial and criminal behavior.

Treating ADHD in children requires medical, educational, behavioral and psychological interventions. This comprehensive approach to treatment is called “multimodal” and consists of parent and child education about diagnosis and treatment, behavior management techniques, medication, and school programming and supports. Treatment should be tailored to the unique needs of each child and family.

The National Institute of Mental Health conducted a major research study, called the Multimodal Treatment Study of Children with ADHD, involving 579 children with ADHD-combined type. Each child received one of four possible treatments over a 14-month period—medication management, behavioral treatment, combination of the two, or usual community care.

The results of this landmark study showed that children who received both medication management and behavioral treatment had the best outcomes with respect to improvement of ADHD symptoms. This combination

treatment provided the best results in terms of the proportion of children showing excellent response regarding ADHD, oppositional symptoms, and in other areas of functioning (e.g., parenting, academic outcomes). While children receiving behavioral treatment alone lagged behind the other two groups initially, they caught up in regard to improvements within one year. Those who received closely monitored medical management had greater improvement in their ADHD symptoms than children who community care with less carefully monitored medication.

EDUCATIONAL INTERVENTIONS

School success may require a range of interventions. Many children with ADHD can be taught in the regular classroom with minor adjustments to the environment. Sometimes this requires the development of an information school-based plan, and sometimes a formal contract, called a 504 Plan is written. Some children will require additional assistance using special education services and the development of an Individual Education Plan (IEP). This service may be provided within the regular education classroom or may require a special placement outside of the regular classroom that fits the child's unique learning needs.

BEHAVIORAL INTERVENTIONS

Behavior interventions, often called psychosocial interventions, are a major component for children who have ADHD. Important strategies include being consistent, using positive reinforcement, and teaching problem-solving, communication and self-advocacy skills. Children, especially teenagers, should be actively involved as respected members of the school planning and treatment teams. Behavior management includes education about ADHD to the family and child, the implementation of accommodations at home and in the community, the development of behavior plans designed to target specific behaviors, and learning methods of coping with living with ADHD. Behavior management is continuously updated to meet the changing needs of the ADHD child as they age.

MEDICATION INTERVENTIONS

For most children with ADHD, medication is an integral part of treatment. It is not used to control behavior. Medication, which can only be prescribed by certain medical professionals if needed, is used to improve the symptoms of ADHD so that the individual can function more effectively.

Medication does not cure ADHD; when effective, it alleviates ADHD symptoms during the time it is active. Thus it is not like an antibiotic that may cure a bacterial infection, but more like eyeglasses that help to improve vision only during the time the eyeglasses are actually worn.

Psychostimulant compounds are the most widely used medications for the management of ADHD symptoms. Psychostimulant medications were first administered to children with behavior and learning problems in 1937. Despite their name, these medications do not work by increasing stimulation of the person. Rather, they help important networks of nerve cells in the brain to communicate more effectively with each other. Between 70-80 percent of children with ADHD respond positively to these medications. For some, the benefits are extraordinary; for others, medication is quite helpful; and for others, the results are more modest. Attention span, impulsivity, and on-task behavior often improve, especially in structured environments. Some children also demonstrate improvements in frustration tolerance, compliance, and even handwriting. Relationships with parents, peers and teachers may also improve.

The specific dose and timing of medication must be determined for each individual. However, there are no consistent relationships between height, age and clinical response to a medication. A medication trial is often used to determine the most beneficial dosage.

Common psychostimulant medications used in the treatment of ADHD include methylphenidate (Ritalin, Concerta, Metadate, Focalin XR, Daytrana) and mixed salts of a single-entity amphetamine product (Adderall, Adderall XR, Vyvanse). Non-psychostimulant medications are also used in the treatment of ADHD and include Strattera and Intuniv. Some of these medications are short-acting, meaning they work for approximately 4 hours; others are long-acting. The long-acting preparations are more variable in duration, with some

preparations lasting 6-8 hours, and newer preparations lasting 10-12 hours. The non-psychostimulant medications last about 24 hours, but usually take weeks before they are fully active. Of course, there can be wide individual variation that cannot be predicted and will only become evident once the medication is tried.

POSSIBLE SIDE EFFECTS OF MEDICATION

Most immediate side effects related to these medications are mild and typically short-term. The most common side effects are reduction in appetite and difficulty sleeping. Some children experience “stimulant rebound,” a brief period of negative mood, fatigue, or increased activity when the medication is wearing off. These side effects are usually managed by changing the dose and scheduling for short-acting medications, or by changing to a prolonged-release formulation. Headache and stomachache are occasionally seen; these often disappear with time or, if necessary, a dose reduction. There may be an initial, slight effect on height and weight gain, but studies suggest that ultimate height and weight are rarely affected. In fact, research shows that shortening of height during the developmental years is related to having ADHD, not to the use of medication. For any questions about possible side effects, consult a physician or other medical professional.

A relatively uncommon side effect of medication is the unmasking of latent tics—the medical term for involuntary motor movements, such as eye blinking, shrugging and clearing of the throat. Medications can facilitate the emergence of a tic disorder in susceptible individuals. Often, but not always, the tic will disappear when the medication is stopped. For many youth with ADHD, vocal tics (throat clearing, sniffing, or coughing beyond what is normal) or motor tics (blinking, facial grimacing, shrugging, or head-turning) will occur as a time-limited phenomenon. The medications may bring them to notice earlier, or make them more prominent than they would be without medication, but they often eventually go away, even while the individual is still on medication.

FREQUENTLY ASKED QUESTIONS ABOUT THE USE OF MEDICATION

Q. How long does it take to achieve a therapeutic dose of medication?

a. The effects of psychostimulant medications are usually noticeable within 30-60 minutes once an appropriate dose for that individual has been found. However, determining the proper dosage and medication schedule for each individual often takes a few weeks. Nonstimulant medications often require several weeks before their full effects can be observed.

Q. As a child grows, will the dosage need to be changed?

a. Not necessarily. Many adolescents and adults continue to respond well to the same doses of medication. Some children may respond well initially to a low dose of medication and then require a modest dose increase after a few weeks or months once a “honeymoon period” has passed.

Q. Will my child need to take medication forever, even into adulthood?

a. Not necessarily. These medications can be stopped at any time. However, ADHD is a chronic condition. Up to 67 percent of children with ADHD continue to exhibit problematic symptoms into adolescence and adulthood. For these individuals, continuing treatment modalities, including medication, can be helpful.

Q. Should medication only be taken when the child is in school?

a. This should be decided with the prescribing medical professional and the therapeutic team. Children can often benefit from medication outside of school because it can help them succeed in social settings, peer relations, home environment, and with homework. Medication can be of help to children who participate in organized sports and activities that require sustained attention, such as musical programs, debate, or public speaking activities.

Q. What about individuals who do not respond to medication?

a. In general, two or three different stimulant medications should be tried before determining that this group of medications is not helpful. Similarly, several different antidepressant medications can also be tried. Most individuals will respond positively to one of these medication regimens. Some individuals, because of the severity of their disability or the presence of other conditions, will not respond. And some individuals will exhibit adverse side effects. In such cases, the entire treatment team—family, medical doctor, mental health professional, and educator—must work together to develop an effective intervention plan.

Q. Are children who take psychostimulant medications more likely to have substance abuse problems later in life?

a. No. Multiple studies that have followed children with ADHD for 10 years or more support the conclusion that the clinical use of stimulant medications does not increase the risk of later substance abuse. In fact, many studies have shown that individuals with ADHD who are not effectively treated with medication during childhood and adolescence have a greatly increased— though not inevitable—risk of developing significant alcohol or drug abuse problems later in life. When treated, the risk of later drug or alcohol problems is reduced to that of non-ADHD individuals. Unfortunately, research does show that children who demonstrate conduct disorders (delinquent behaviors) by age 10, and who are smoking cigarettes by age 12, are at higher risk for substance abuse in the teenage years, possibly persisting into mid-life. Therefore it is important to recognize this subgroup early and get them involved in an effective multimodal therapeutic program.

Although there is potential for abuse when misused, psychostimulant medications do not cause addictions to develop in those being treated appropriately.

For further information, contact:

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