

Understanding the add and adhd



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Attention Deficit Disorder Kam Bisel Attention Deficit Disorder (ADD) is a problem that affects 5% to 10% of all children. ADD affect more children than any other childhood problems except asthma. It is estimated to be the largest single cause for first referrals to child guidance clinics throughout the country, making up as many as 40% of those cases. Many ADD cases are not diagnosed because the problem most often does not show in the doctors office. Current estimates suggest that approximately 50 to 65% of the children with ADD will have symptoms of the disorder as adolescents and adults.

Although ADD has just recently been discovered and there is still relatively little known about it. In 1902, George Frederick Still believed the dilemma of the problem child was linked to a biological defect inherited from an injury at birth and not the result of the environment. Through 1930-40's stimulant drugs were first used to successfully treat many behavior problems due in part by Still's hypothesis. In 1960, Stella Chess researched in the field by writing about the " hyperactive child syndrome.

She took Still's hypothesis further stating that the resulting behavior problems stem from a biological cause, although it is linked to a genetic inheritance rather than a birth defect from an injury. Finally, in 1980, the syndrome was named Attention Deficit Disorder, due in large part to Virginia Douglas's work to find accurate ways to diagnose it (Hallowell 2). This is currently how it stands in the axis two of the DSM-IV today, with the addition of a new category Attention Deficit Hyperactivity Disorder and there sub types.

Most scientist now believe that an abnormality in brain chemistry could be to blame for the symptoms of Attention Deficit Disorder. The frontal lobes of the brain are believed to be responsible for the regulation of behavior and attention. They receive information from the lower brain, which regulates arousal and screens incoming messages from within and outside of the body. The limbic system which is a group of related nervous system structures located in the midbrain and linked to emotions and feelings then sends the messages to the frontal lobes.

Finally, the frontal lobes are suspected to be the site of working memory, the place where information about the immediate environment is considered for memory storage, planning, and future-directed behavior. Scientist believe the activity in the frontal lobes is depressed in people with ADD. Studies also show, a decrease in the ability of the Attention Deficit Disorder brain to use glucose, the body's main source of energy, leading to slower and less efficient activity. Neurotransmitter provide the connection between one nerve cell and another.

It is also now suspected that people with Attention Deficit Disorder have a chemical imbalance of a class of neurotransmitter called catecholamine. Dopamine, helps to form a pathway between the motor center of the midbrain and the frontal lobes, as well as a pathway between the limbic system and the frontal lobes. Without enough dopamine and related catecholamine, such as serotonin and norepinephrine, the frontal lobes are under stimulated and thus unable to perform their complex functions efficiently. Attention Deficit Disorder is primarily considered a genetic disorder. Which is why it is labeled a axis two in the DSM-IV.

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Studies show that 20-30% of all hyperactive children have at least one parent with ADD. However, not all cases of ADD are genetically linked. Some studies show that a small percentage of ADD cases were influenced by smoking, drinking alcohol, and using drugs during pregnancy. Exposure to toxins, such as lead, may also alter the brain chemistry and function. Both of these issues are cause for concern for the at-risk population. ADD generally affects males more often than females, in a 3: 1 ratio. Because this disorder affects the brain detection of this condition is difficult.

The accepted test, although today there has been an increase in research into ADD and subsequently now other tests. The test requires a nine month observation of the person, as well as EEGs, MRIs, or a PET scan. During the nine months, the person has to show a certain number of the classic traits associated with the disorder. The EEG are used to record the amount of electrical activity that is happening in the brain. An MRI is an x-ray that shows the brain's anatomy however it is not a routine assessment. More recently, the way to diagnose ADD is the use of a PET scan, which measure the amount activity in the brain.

There are two general categories for those diagnosed with Attention Deficit Disorder. One is ADHD (Attention Deficit Hyperactivity Disorder), this is the more prevalent of the two. A person with ADHD will show certain characteristics. Characteristics like, fidgeting, squirming, difficulty remaining seated, easily distracted, difficulty awaiting turn, interrupting, difficulty following directions, sustaining attention, shifting from one uncompleted task to another, not listening, following multiple directions, and frequently engaging in dangerous actions.

The general diagnosis of ADD, as opposed to ADHD, has some, but not all of the above characteristics. There are people who have been diagnosed with ADD whose characteristics are not hyperactive but the complete opposite, they are underactive. This goes against the general notion that only kids who are hyperactive have ADD. These children often daydream and are never mentally present anywhere. They constantly drift off into their own world during classes or conversations. This type is more prevalent in females with ADD than in males. The underlying issues with these children are the inability to focus, they are too easily distracted.

This form of ADD is the hardest to diagnose since it seems that these people simply need to "apply themselves more" or "get their act together." Attention Deficit Disorder not only affects those afflicted in the classroom but at home as well. The rest of the family's daily routine may become a distraction to those afflicted with ADD. Sometimes a television or radio that is turned on in another room may become a distraction. What the ADD person needs is a sound screen. A sound screen is some form of constant noise that plays in the background, commonly a television or a radio.

At first it may seem like a distraction, but in reality, if the TV or music forms a kind of "white noise" with an even level of intensity, which actually covers up discrepant noises that can be a distraction. "The hum of a ceiling fan or motor can do wonders to soothe and focus you" (Weiss, 7). Getting a family household to function smoothly is challenging for any family, with or without the presence of ADD. Adults and children suffering from Attention Deficit Disorder have trouble establishing and maintaining physical order,

coordinating schedules and activities, and accepting and meeting responsibilities.

Parents with children suffering with ADD have to learn how to deal with the obstacles that they will have while raising their child. Since ADD is genetically passed through to children the tendency is to have more than just the child with ADD but the parents too. Not only does the child have a problem with rules and schedules but so does the parent. Adults dealing with ADD often have chronic employment problems, impulsive spending, and erratic bookkeeping and bill paying. Raising healthy, well-adjusted children requires patience, sound judgment, good humor, and, discipline which is difficult for a parent with ADD to do.

The presence of ADD often hinders the development of intimate relationships for a variety of reasons. Although many adults with ADD enjoy successful, satisfying marriages, the disorder almost always adds a certain amount of extra tension and pressure to the union. The non-ADD spouse bears an additional burden of responsibility for keeping the household running smoothly and meeting the needs of the children, the spouse with ADD, and, if he or she has time, his or her own priorities. Raising a child who has ADD can be an exhausting and, at times, frustrating experience. Parents play a key role in managing the disability.

They usually need specialized training in behavior management and benefit greatly from parent support groups. Parents often find that approaches to raising that work well with children who do not have ADD, do not work as well with children who have ADD. Parents often feel helpless, frustrated and

exhausted. Especially if the child's condition is unknown at the time. It could seem to the parent that the child is just bad. Too often, family members become angry and withdraw from each other. If untreated, the situation only worsens. Parent training can be one of the most important and effective interventions for a child with ADD.

Effective training will teach parents how to apply strategies to manage their child's behavior and improve their relationship with their child. Without consistent structure and clearly defined expectations and limits, children with ADD can become quite confused about the behaviors that are expected of them. Making and keeping friends is a difficult task for children with ADD. A variety of behavioral excesses and deficits common to these children get in the way of friendships. They may talk too much, dominate activities, intrude in others' games, or quit a game before its done.

They may be unable to pay attention to what another child is saying, not respond when someone else tries to initiate an activity, or exhibit inappropriate behavior. There is no cure for Attention Deficit Disorder. "

Along with increasing awareness of the problem, a better understanding of its causes and treatment has developed" (Wender 3). There is medication for ADD which will only alleviate the symptoms. The medication will not permanently restore the chemical imbalance. Approximately 70% of adults with ADD find that their symptoms significantly improve after they take medication prescribed by their doctors.

The patient is able to concentrate on difficult and time-consuming tasks, stop impulsive behavior , and time the restless twitches that have been

experienced in the past. Some ADD patient's psychological and behavioral problems are not solved by medication alone, and are required more therapy or training. Adult patients have the burden of the past that often hinders their progress. The patient then needs help with the relief of disappointment, frustration, and nagging sense of self-doubt that often weighs upon the ADD patient.

Some ADD patients suffer from low-graded depression or anxiety, others with a dependence on alcohol or drugs, and most with low self-esteem and feelings of helplessness. There are two types of drugs that work to balance the neurotransmitter and have been found to be most effective in treating ADD, stimulants and antidepressants. Stimulants work by increasing the amount of dopamine either produced in the brain or used by the frontal lobes of the brain. Antidepressants also stimulate brain activity in the frontal lobes, but they affect the production and use of other chemicals, usually norepinephrine and serotonin.

All the drugs used to treat ADD have the same goal, to provide the brain with the raw materials it needs to concentrate over a sustained period of time, control impulses, and regulate motor activity. The drug or combination of drugs that work best for the patient depends on the individual's brain chemistry and constellation of symptoms. The process of finding the right drug can be tricky for each individual. The psychologists are not able to accurately predict how any one individual will respond to various doses or types of Attention Deficit Disorder medication. However, the drug of choice for Attention Deficit Disorder is Ritalin.

Ritalan (Methylphenidate) is a mild CNS stimulant. In medicine, Ritalan's primary use is treatment of Attention Deficit Hyperactive Disorder (ADHD). The reason why this drug works so well is not completely understood, but Ritalan presumably activates the arousal system of the brain stem and the cortex to produce its stimulant effect. According to the Drug Enforcement Agency (DEA), prescriptions for Ritalan have increased more than 600% in the past five years. Ritalan (Methylphenidate) is manufactured by CIBA-Geigy Corporation.

It is supplied in 5 mg. , 10 mg. , and 20 mg. tablets, and in a sustained release form, Ritalan SR, in 20 mg. tablets. It is readily water soluble and is intended for oral use. It is a Schedule II Controlled Substance under both the Federal and Vermont Controlled Substance Acts (Bailey 5). As stated before, ADHD is a condition most likely based in an inefficiency and inadequacy of Dopamine and Norepinephrine hormone availability, typically occurring when a person with ADHD tries to concentrate. Ritalan improves the efficiency of the hormones Dopamine and Norepinephrine, increasing the resources for memory, focus, concentration and attention (Clark 6).

Ritalan exhibits pharmacological activity similar to that of amphetamines. Ritalan's exact mechanism of action in the CNS is not fully understood, but the primary sites of activity appear to be in the cerebral cortex and the subcortical structures including the thalamus. Ritalan blocks the re-uptake mechanism present in dopaminergic neurons. As a result, sympathomimetic activity in the central nervous system and in the peripheral nervous system increases. Ritalan-induced CNS stimulation produces a decreased sense of

fatigue, an increase in motor activity and mental alertness, mild euphoria, and brighter spirits.

In the PNS, the actions of Ritalin are minimal at therapeutic doses (Clark 2).

Ritalin is the quickest of all oral ADHD stimulant medications in onset of action: it starts to achieve benefit in 20 - 30 minutes after administration, and is most effective during the upward 'slope' and peak serum levels.

Ritalin's effect is brief: Most people experience 2-3 hours of benefit, but after 3 hours, benefits drop off rapidly. Some individuals, especially children, may obtain 4 or even 5 hours of positive effect (Clark 1). Attention Deficit

Disorder is very prevalent throughout this country and the world. There is no cure.

Those afflicted with the disorder must learn to compensate for it and live regardless of it's affects. There are drugs and therapy available for those with this disorder to help them maintain there life. It is very frustrating to live with ADD or ADHD and even harder to live with it and not know it. Since ADD's detection is difficult, often the symptoms are likened to some other cause in an effort to explain the behaviors. This has lead to many misdiagnoses. However, new studies on ADD and ADHD are in the works and with the Human Genome Project's completion in 2003 there is hope more light will be shed on this disorder.