

ADHD AND COMORBID DISORDERS: AN OVERVIEW

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What is ADHD?

ADHD is developmental disorder seen in both children and adults that is comprised of deficits in behavioral inhibition, sustained attention and resistance to distraction, and the regulation of one's activity level to demands of situation.

Main symptom categories are:

Inattention

Hyperactivity

Impulsivity

Associated symptoms including cognitive difficulties

ADHD occurs in 3-7 percent childhood population and 3-5 percent of adult population.

Gender ratio is 3:1 male to female in children and about 2:1 male to female in adult population.

What causes ADHD?

ADHD is caused by physiological changes in the brain. It is a developmental disorder that disrupts the normal functioning of the brain by impairing normal transmission of signals in the brain.

It is caused mainly by abnormal functioning of two chemicals Dopamine and Nor epinephrine in the brain area called prefrontal cortex that help in attention and impulse control.

A number of genes have been implicated in etiology of ADHD.

A number of non genetic causes are also responsible including use of drugs by mother during pregnancy, premature child, illnesses immediately after birth and some other medical conditions.

Symptoms of ADHD:

Does not pay attention to details or make careless mistakes.

Has trouble keeping attention on task or play activities.

Does not seem to listen when spoken to directly.

Often fails to finish schoolwork or duties in workplace on time.

Has trouble organizing activities.

Avoid activities that takes a lot of mental effort for long period.

Loses things for tasks or activities.

Is easily distracted.

Is forgetful in daily activities.

ADHD symptoms (Contd.):

Fidgets with hands or feet.

Gets up from seat when remaining seated is expected.

Runs about or is restless when it is not appropriate.

Has trouble enjoying leisure activity quietly.

Act as if driven by a motor.

Talks excessively.

Blurts out answers even before question is finished.

Has trouble in waiting for turn.

Interrupts or intrudes on others.

Symptoms are clinically significant.

Other difficulties in ADHD.

Poor working memory that is used to guide one through actions.

Delayed development of internal language that is used to contemplate events and to command our behavior.

Difficulties in regulations of emotions, motivations and arousal that may impair one's ability to internalize their feelings resulting in more externalizing behavior.

Diminished problem solving capacity, ingenuity and flexibility in pursuing long term goals.

Greater than normal variability in work performance.

Other characteristics of ADHD.

Early onset of major features :The symptoms of ADHD on average arise between age 3 and 6. Some may develop later in childhood.

Situational variations of symptoms: Research shows that these children behave better on one to one situations or when doing tasks they enjoy or find interesting.

Relative chronic course: Although symptoms improve with age but they seem to be chronically behind their peers in their capacity to inhibit behavior , sustain attention and regulate their activity.

Red flags about ADHD in Children.

Child cannot sit for long enough to complete his/her homework.

Is always interfering in other's tasks and is disruptive and mischievous.

Teacher complaints often that child is not finishing class work in assigned time.

Is falling behind academically despite normal intelligence.

Is frequently losing and forgetting things.

Is having a lot of difficulty in making and keeping friends because of impulsive behavior.

Getting bored very easily.

Having frequent tantrums in school and at home.

Getting frustrated very easily.

Is very disorganized in daily activities.

Likes more physically active activities.

Co morbid disorders.

Oppositional defiant disorder (ODD) in 50 to 80 percent of patients.

Language or Learning disorder 25 to 35 percent of patients.

Anxiety disorder in about 30 percent of patients.

Depressive disorder in about 20 to 30 percent of patients.

Bipolar disorder in about 15 percent of patients.

Substance use disorder in about 25 percent of patients

Oppositional defiant disorder(ODD)

Features of ODD:

Often loses temper

Often argues with adults.

Often refuses to comply with adults' requests or rules.

Often deliberately annoys people.

Often blame others.

Is often easily annoyed by others.

Is often angry or resentful.

Is often spiteful or vindictive.

Over activation vs Underactivation.

Research has shown that hyperactivity seen in persons with ADHD is not the result of excessive brain activity but is due to under activation of certain parts of brain.

So as a way of compensation body is over activated as way of bringing itself up to the lowest threshold of activity needed to function.

That is the reason the medications used to treat ADHD are called stimulants.

ADHD in adults.

Frequent difficulty in wrapping up the final details of project.

Often difficulty in organizing the task.

Often delay or avoid getting started a task that require a lot of thoughts.

Often trouble remembering appointments or obligations.

Often fidget or squirm with hands or feet when need to sit for long time.

Often feel overly active and compelled to do things.

Assessment for ADHD and co morbid disorders

First step is to establish diagnosis.

Assessment (in case of children) includes:

Interview and observation of child.

Interview with parents or caregivers.

Collecting information from school and other providers.

Use of assessment scales :Various types of scales are used for assessment of ADHD and co morbid disorders. like SNAP, Connor's, CSI, ASI, SCARED, CDI, BDI etc.

Evaluation and management of co occurring disorders including autistic disorders is essential for management of ADHD

Any medical conditions or MR contributing to behavior is ruled out by medical work up or neuropsychological tests if needed.

Behavior modifications in ADHD.

Getting attention

Short and clear instructions

Organizational tools

Frequent breaks

Clarity of behavior expectations

Praise for positive behavior

School accommodations

Social skills training

Building self esteem

Behavior interventions for ODD.

ODD is matter of control between child and adult.

Clarify your expectations and consequences for negative behavior.

Involve the child while making behavior plan.

Be consistent.

Use various interventions that should be discussed with child including time out, response cost, rewards, restitution etc.

Provide a lot of praise for good behavior and be specific.

Expect a 'extinction burst' in behavior after plan is introduced. Be patient.

Avoid power struggle with child that only worsen the behavior.

Medications for ADHD.

Stimulants are first line of medications which are very effective in controlling symptoms of ADHD. Various stimulants are:

Methylphenidate

Dextroamphetamine

Mixed amphetamine salts

Short and long acting forms are available.

Non stimulants:

Strattera

Bupropion

Clonidine

Imipramine