

# Hyperkinetic disorder (ADHD)

ADHD = Attention Deficit Hyperactivity Disorders (known as “hyperkinetic disorders” according to ICD-10 classification)

**F90-F98** Behavioural and emotional disorders with onset usually occurring in childhood and adolescence

**F90** Hyperkinetic disorders

F90.0 Disturbance of activity and attention

F90.1 Hyperkinetic conduct disorder

F90.8 Other hyperkinetic disorders

F 90.9 Hyperkinetic disorder, unspecified

**F91** Conduct disorders

**F92** Mixed disorders of conduct and emotions

**F93** Emotional disorders with onset specific to childhood

**F94** Disorders of social functioning with onset specific to childhood and adolescence

**F95** Tic disorders

**F98** Other behavioral and emotional disorders with onset usually occurring in childhood and adolescence

**ICD-10 definition:** Hyperkinetic disorders are a group of disorders characterized by an early onset (usually in the first five years of life), lack of persistence in activities that require cognitive involvement, and a tendency to move from one activity to another without completing any one, together with disorganized, ill-regulated, and excessive activity.

## DSM IV Classification:

- 1) ADHD with a predominance of hyperactivity and impulsivity
- 2) ADHD with predominance of attention deficit
- 3) ADHD combined subtype

(For diagnosis: child is <12 y.o with symptoms present for >6 months and they must cause significant problems in functioning in at least two settings- e.g.: home and school)

ADHD is a syndrome that persists through adult life, but is often diagnosed at age 2-3. Up to 10% of children in primary school have ADHD. In early childhood it often presents as lagging performance at school, problems with conduct at home and/ or school and issues with social relationships. Even though the disorder persists, with increasing age and changing responsibilities ADHD manifests in different/more complex aspects of the patient's life.

## Etiopathogenesis:

- During mother's gravidity: alcohol, drugs, smoking
- D2/D3 ratio increase in basal ganglia, mainly striate
- Prematurity at birth: increases risk of cerebral ischemia, deficit of dopaminergic and noradrenergic transmission
- Reduce in total brain volume, frontal lobe, cerebellar vermis, basal ganglia, corpus callosum
- Altered of REM and non-REM sleep phases

## Common symptomatology according to age group:

- **Pre-school/ school age:** restlessness, increased activity, inability to focus on tasks, inability to finish tasks, social rejection and isolation, reduced performance at school, sleep disorders
- **Adolescence:** oppositional behavior (see below), social withdrawal, reduced self-esteem, possibly self-harm/suicidal behavior, tendency to substance abuse and participation in risk behavior

- **Adulthood:** problems with job maintenance and performance, social problems, dysfunctional romantic relationships (ADHD is not diagnosed de novo in adults that lack relevant history in their childhood)

Oppositional behavior: disobedience, impulsive behavior that is inconsiderate of consequences, anger (especially directed towards adults)

Behavioral disorders: aggression, explosive affect, frequent fights, bullying, lying, destruction of property, etc.

Conduct disorders are more frequently observed in boys.

Other associated problems/sequelae: delayed motor and language development, problems with coordination, lower physical performance compared to children of same age, oppositional defiant disorder, personality disorders, dissocial behavior, low self-esteem, anxiety and depression, specific developmental disorders of speech and language, specific developmental disorders of scholastic skills, problems with sleep

**Treatment:** often combination of **pharmacotherapy** (stimulants: methylphenidate, atomoxetine, amphetamines + treatment of comorbidities with SSRIs, benzodiazepines, etc.) and psychotherapy, including **cognitive-behavioural therapy**, along with proper **parent education** (approach to child, eg: addressing child whilst ensuring eye contact, rewarding positive behavior rather than punishing negative behavior, etc). Additionally: increasing awareness for educators for proper approach to children with ADHD