

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