# ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD)

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# INTRODUCTION :

¶ ADHD is the most common neurobehavioral disorder of childhood, among the most prevalent chronic health conditions affecting school-aged children, and the most extensively studied mental disorder of childhood.

¶ ADHD is characterized by inattention, including increased distractibility and difficulty sustaining attention; poor impulse control and decreased self- inhibitory capacity; and motor over activity and motor restlessness. ¶ Affected children commonly experience

- academic underachievement,
- problems with interpersonal relationships with family members and peers.
- low self-esteem.

¶ ADHD often co-occurs with other emotional, behavioral, language, and learning disorders

# EPIDEMIOLOGY:

- Studies of the prevalence of ADHD across the globe have generally reported that 9% of school- age children are affected, although rates vary considerably by country.
- The prevalence rate in adolescent samples is 2-6%.

# HISTORY OF ADHD:

- Mid-1800s: Minimal Brain Damage
- Mid 1900s: Minimal Brain Dysfunction
- 1960s: Hyperkinesia
- 1980: Attention-Deficit Disorder
  - With or Without Hyperactivity
- 1987: Attention Deficit Hyperactivity Disorder
- 1994 (DSM IV): ADHD
  - Primarily Inattentive
  - Primarily Hyperactive
  - Combined Type

# DIAGNOSING ADHD:

DSM-V

☐ Inattention: (A1)

☐ Lacks attention to detail; makes careless mistakes.

☐ has difficulty sustaining attention

☐ doesn't seem to listen.

☐ fails to follow through/fails to finish instructions or schoolwork.

☐ has difficulty organizing tasks.

☐ avoids tasks requiring mental effort.

☐ often loses items necessary for completing a task.

☐ easily distracted.

☐ is forgetful in daily activities. Persisted for at least 6 months to a degree that is inconsistent with developmental level and that negatively impacts directly on social and academic/occupati onal activities

# DIAGNOSING ADHD:

DSM-V

☐Hyperactivity/ Impulsivity:(A2)

☐ Fidgets or squirms excessively

☐ leaves seat when inappropriate

☐ runs about/climbs extensively when inappropriate

☐ has difficulty playing quietly

☐ often “on the go” or “driven by a motor”

☐ talks excessively

☐ blurts out answers before question is finished

☐ cannot await turn

☐ interrupts or intrudes on others Persisted for at least 6 months to a degree that is inconsistent with developmental level and that negatively impacts directly on social and academic/occupatio nal activities

# DIAGNOSING ADHD:

DSM-V

B. Several inattentive or hyperactive-impulsive symptoms were present prior to age 12 years.

C. Several inattentive or hyperactive-impulsive symptoms are present in two or more settings.

D. There must be clear evidence of clinically significant impairment in social, academic, or occupational functioning.

E. Symptoms do not occur exclusively during the course of a pervasive developmental disorder, schizophrenia, or other psychotic disorder, and are not better accounted for by another mental disorder (e.g., mood disorder, anxiety disorder, dissociative disorder, personality disorder).

# ETIOLOGY :

- No single factor determines the expression of ADHD;
- Mothers of children with ADHD are more likely to experience birth complications, such as toxaemia, lengthy labour, and complicated delivery.
- Maternal smoking and alcohol use during pregnancy and prenatal or postnatal exposure to lead are commonly linked the development of ADHD.
- There is a strong genetic component to ADHD. [dopamine transporter gene (DAT1) and a particular form of the dopamine 4 receptor gene (DRD4)]. There are some other genes that might contribute to ADHD.

# ETIOLOGY : (CONT.)

• Severe traumatic brain injury with subsequent onset of substantial symptoms of impulsivity and inattention are reported in some children.

• Structural or functional abnormalities have been identified in children with ADHD without pre-existing identifiable brain injury. These include dysregulation of the frontal subcortical circuits, small cortical volumes in this region, widespread small-volume reduction throughout the brain. abnormalities of the cerebellum.

• Psychosocial family stressors can also contribute to or exacerbate the symptoms of ADHD.

# ETIOLOGY : (CONT.)

☐ Lower activity in brain regions associated with executive function (particularly abnormalities in frontostriatal circuit):

☐ Prefrontal cortex

☐ Basal ganglia

☐ Cerebellum(vermis)

☐ These areas of the brain are associated with executive function abilities:

☐ Attention, spatial working memory, and short-term memory.

☐ Response inhibition and set shifting.

# ETIOLOGY : (CONT.)

Abnormal central dopaminergic and noradrenergic tone.

¶ Dopamine has been associated with approach and pleasure-seeking behaviors.

¶ Norepinephrine plays a role in emotional/ behavioral regulation.

• Smaller brain volume in prefrontal cortex, caudate nucleus, and vermis of the cerebellum. (a 5-10% reduction in these brain structures) Cont.


Thank you!
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