

ADHD: Attention Deficit & Hyperactivity Disorder

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Do watch videos on ADHD by Dr. Suneel Godbole at chiranjeevgodbole@youtube

ADHD: Definition

“A neurological condition that involves problems with inattention and hyperactivity-impulsivity that are developmentally inconsistent with the age of the child.”

Prevalence & Impact

World wide prevalence: Children: 5 – 10 %, Adult: 2.5 %

Male – Female Ratio: Children: 3:1, Adult: 1:1

Referral to CDC: 50% of all developmental disorders

Diagnosis: DSM V Criteria

	DSM IV	DSM V
Age of onset	<7 yr	<12 yr
Number of symptoms		
Inattention	Six of nine	Children: six of nine Adolescents (≥17 yr) and adults: five of nine
Hyperactivity - Impulsivity	Six of nine	Children: six of nine Adolescents (≥17 yr) and adults: five of nine
Other	ADHD types	ADHD presentations

Persistent (>6 months), *Impairment > 2 Settings: social, academic, occupational. No other psychiatric disorder*

DSM-V: Inattention: Six or more of the following

- Often fails to give close attention to details or makes careless mistakes
- Difficulty sustaining attention in: Tasks, Play activities
- Does not seem to listen, Mind seems elsewhere
- Unable to finish Schoolwork chores, Duties in workplace
- Difficulty organizing – Tasks, Activities
- Avoids tasks that require mental effort, older adolescents and adults: Paperwork
- Often loses things necessary for tasks or activities
- Is often easily distracted by minor stimuli, Adults: unrelated thoughts
- Often forgetful in daily activities, Adults: responding calls, keeping appointments

DSM-V: Hyperactivity & Impulsivity: Six or more of the following

Hyperactivity

- Squirms and fidgets
- Can't stay seated
- Runs/climbs excessively
- Can't play quietly
- "On the go"/ "Driven by a motor"
- Talks excessively

Impulsivity

- Blurts out answers
- Can't wait turn
- Intrudes/interrupts others

ADHD: Diagnosis — DSM-V presentations

- Predominantly inattentive
- Predominantly hyperactive-impulsive
- Combined Type

ADHD: Co-morbidities: Learning Difficulties, Oppositional Defiant Disorders, Anxiety, Mood Disorders, Conduct Disorders, Habits

ADHD: Differential Diagnosis: LD, Autism Spectrum D., ID, Movement d., chorea, Epilepsy, Hyperthyroidism, Drugs: Theophylline, Amphetamine, AEDs..., Substance abuse

ADHD Complications: Academic problems, social issues, Peer rejection, Criminal tendencies, Inferiority Complex. Disturbed family

Diagnosis: Interview

- Teacher and parent questionnaires
- Structured clinical interview with parent(s)
- Behavioral observations at home and school

Assessments

- Vanderbilt Assessment Scale
- CBCL
- Connors
- DSM V ADHD criteria
- IQ testing, LD assessment

Investigations

- Hemogram and/or serum iron status: iron deficiency may cause symptoms similar to ADHD.
- Thyroid function tests: [cold intolerance, constipation, short stature in hypothyroidism].
- Blood lead level: [residence in an industrial area with likelihood of chronic lead exposure].
- Research MRI brain: decreased volume of brain, especially PFC, basal ganglia, cerebellum
- Research fMRI: hypoactivation of right inferior frontal cortex

Management

4 principles: IEP, Behavior management, Diet, Medications

[A] IEP

Activation: Initiation, prioritization of task

- Interact by: eye contact,
- Call by name, touching

Focus: Sustained attention to task

- Place student: in front, near positive peers
- Well-lit area, away from the window, door!

Action Monitoring, Self-regulating

- Help student check work at regular intervals
- Planned ignoring / Attending / rewards

Memory: Working memory, short recall

- Use visual aids, rehearsal strategies,
- Mnemonics, Visualization

Emotion: Managing frustrations

- Psycho-education about ADHD
- Meditation, Yoga

Regulating alertness, sustained effort & speed

- Breaking into chunks, short breaks
- Planned transitions, 5-minute warnings

Computer games & programs - Use cautiously!

[B] Behavioural interventions:

- These are based on the principles of A-B-C of behavior, positive and negative reinforcement, social learning and parent-child relationships.
- CBT (e.g., self-control training, problem-solving, use of compensatory strategies, time schedules).
- CBT helps reduce impairments resulting from executive dysfunction.

[C] Diet Planning

- Reduce: Fast food, Coldrinks
- Replace: Complex Carbohydrates, Omega3FA
- Replenish: Zn, Mg, Fe, B12
- Rebalance: Curds, Probiotics

[D] Medication (To be used with consultation of Developmental Pediatrician)

- Stimulants: Methylphenidate
- Non-stimulants: Atomoxetine
- Anti-depressants

Summary

- ADHD is a highly prevalent, brain-based disorder associated with lifelong impairment in functioning
- Environmental factors can contribute to the expression, severity, course, & comorbid conditions
- Stimulant medications and behavior therapy are useful for management of ADHD
- Reducing JUNCs & Supplementing Omega 3 FA is useful to limit severity

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