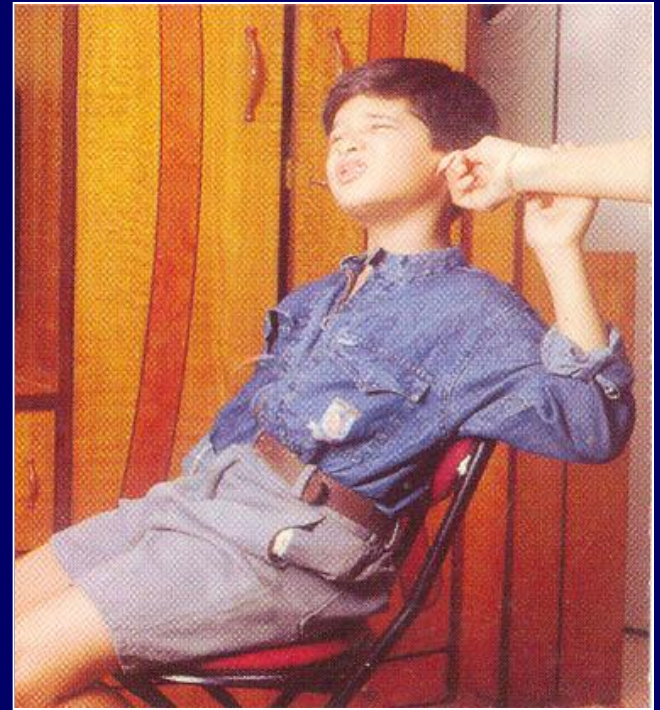


ADHD



PHILIP JOHN, MD

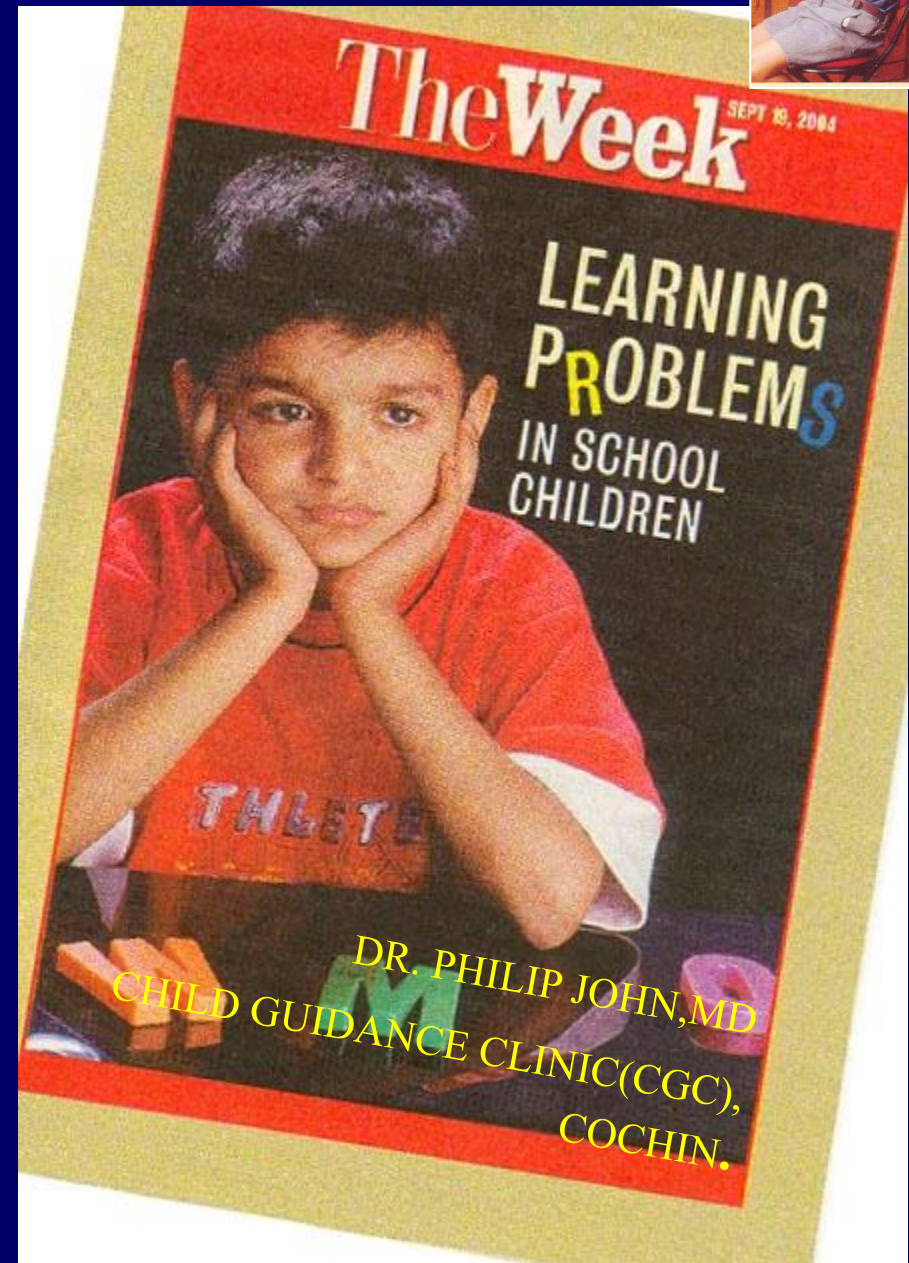
Sr. Consultant Psychiatrist

PEEJAYS Child Guidance Clinic (CGC)

Cochin, S. India.

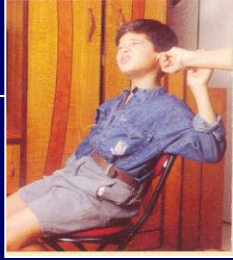


**LEARNING &
BEHAVIOUR
PROBLEMS
INCLUDING
ADHD**



FIDGETTY PHIL

(Hoffman, 1863)



“Phil, stop acting like a worm

The table’s not a place to squirm.”

Mother frowns and looks around,

But Philip will not take advice.

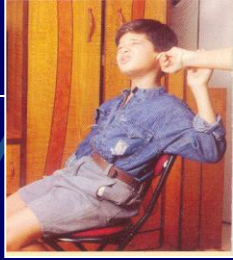
He turns, and churns

He wiggles, and giggles

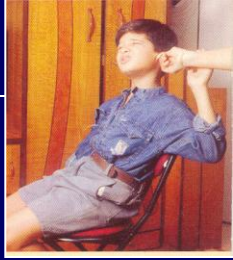
Here and there, on the chair;

“Phil, these twists I cannot bear”.

(After which Philip leans backward in his chair and as he is falling, grabs the tablecloth – tumbling the dishes, and the chair and himself, to the floor!)



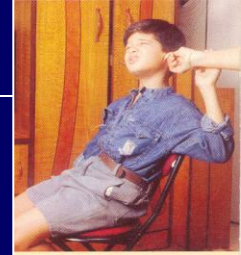
ADHD : CLINICAL ASPECTS



ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD)

CLINICAL ASPECTS

- From Frustration to Focus-
'Behaviour' Disorder to Brain Disorder
- Pharmacotherapy in ADHD-
Exploiting Neuro-transmission of Cognition

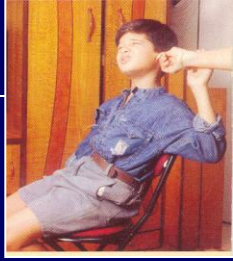


ATTENTION DEFICIT HYPERACTIVITY DISORDERS (ADD / ADHD)

CORE FEATURES (18 Symptoms listed DSM)

1. **INATTENTION** (9 symptoms)
2. **HYPERACTIVITY** (6 symptoms)
3. **IMPULSIVITY** (3 symptoms)

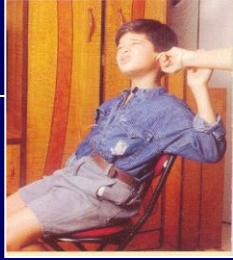
- Most commonly referred disorder
- ADHD as a Brain Disorder
- Child has NO control; not deliberate
- ADD goes undetected



ADD/ADHD : (DSM) CLINICAL FEATURES

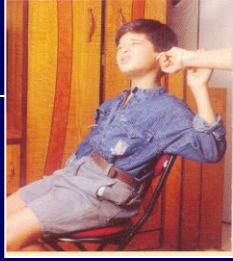
A: INATTENTION CLUSTER (6 or More Symptoms)

- 1. Cannot sustain attention, premature withdrawal of attention- “Distractions”.**
- 2. ‘Careless’ mistakes in school or other work.**
- 3. Seems not to listen when spoken to directly.**
- 4. Does not follow through on instructions and fails to finish school work.**



INATTENTION CLUSTER (CONTD)

- 5. Difficulty organising chores, tasks & activities.**
- 6. Avoids tasks that need sustained mental effort (eg. Home work).**
- 7. Often loses articles needed for tasks (toys, pencils, books).**
- 8. Easily Distracted.**
- 9. Forgetful of daily activities.**

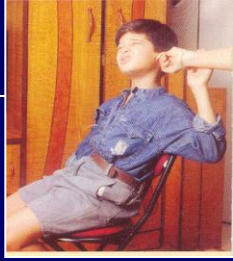


ADD/ADHD : Diagnosis (DSM) (CONTD)

B. **HYPERACTIVITY – IMPULSIVITY CLUSTER**

HYPERACTIVITY

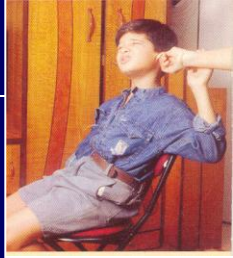
- 1. Fidgets with hands/feet; squirms in seat**
- 2. Leaves seat in class or where seating is norm**
- 3. Runs about/climbs inappropriately**
- 4. Difficulty playing quietly**
- 5. Continuously ‘on the go’, as if ‘driven by motor’ - Accidents -**
- 6. Talks excessively, incongruous for age ‘unthinking breach of rules.’**



IMPULSIVITY

1. **Blurts out answers before questions have been completed.**
2. **Often has difficulty awaiting turn**
3. **Often interrupts or intrudes on others (butts into conversations or games)**

Present before age 7 years, and have persisted for at least 6 months



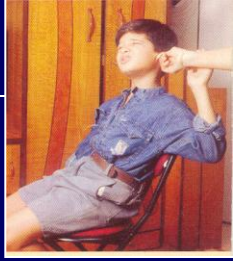
ADHD – PREVALANCE IN CHILDREN

Western average 5 -7%

Cochin 4.5%

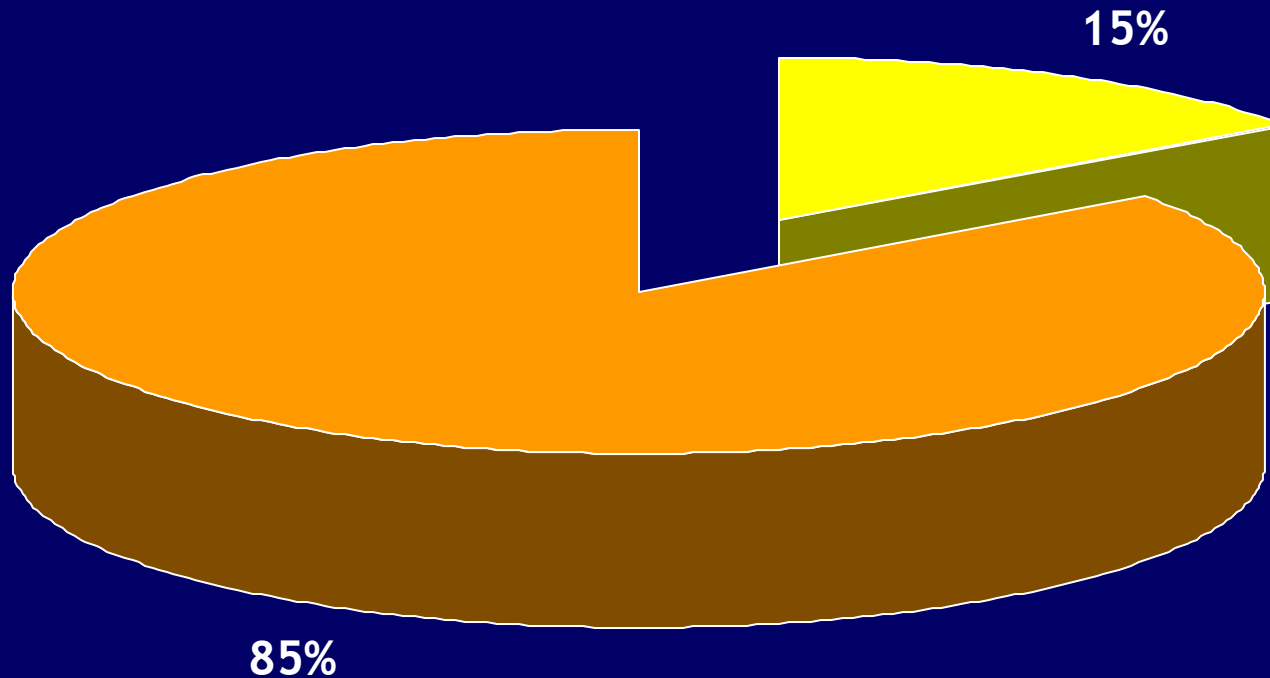
Child Guidance Clinic (clinic population)

62% of children referred for PSP, and diagnosed LD have comorbid ADHD.

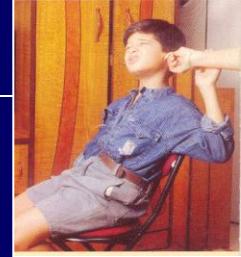


PERSISTENCE OF ADHD

ADULT ADHD LARGELY UNDERDIAGNOSED

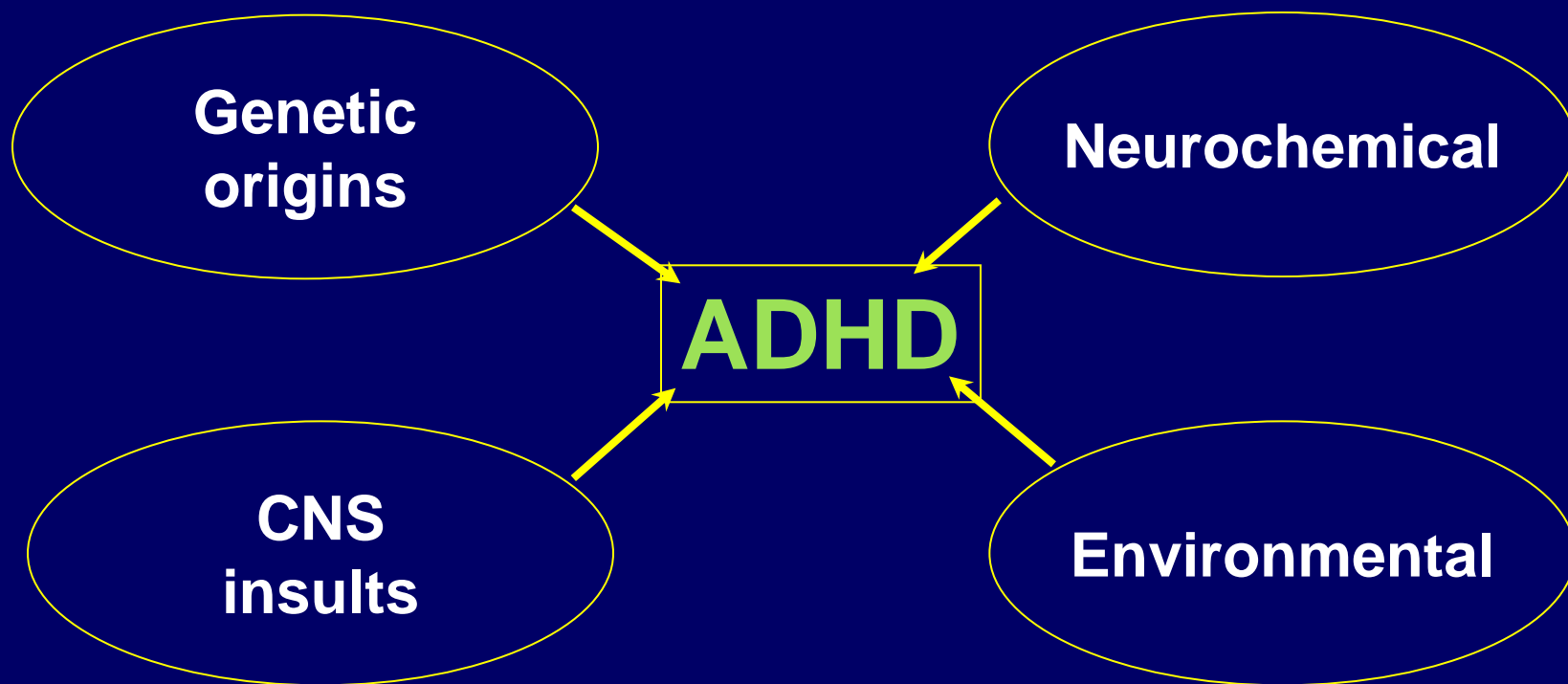


1999 analysis of a 1000 adult patient epidemiological data

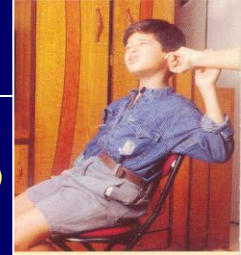


ADHD: MULTI FACTORIAL ETIOLOGY

ADHD is a heterogeneous behavioral disorder
with multiple possible etiologies

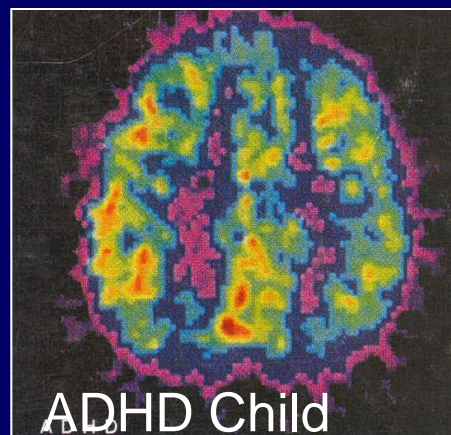
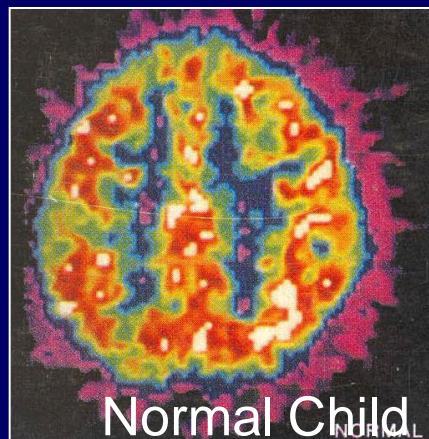


Neuro-genetic, Neuro-psychiatric Disorder

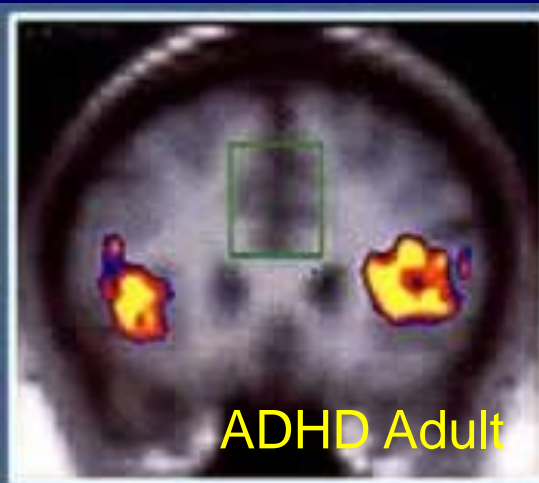


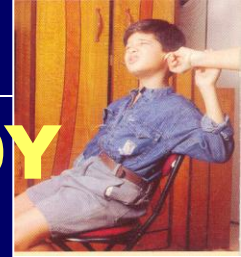
ADHD HAS NEURO ANATOMICAL BASIS

PET Data Implicates Frontal-Striatal Dysfunction



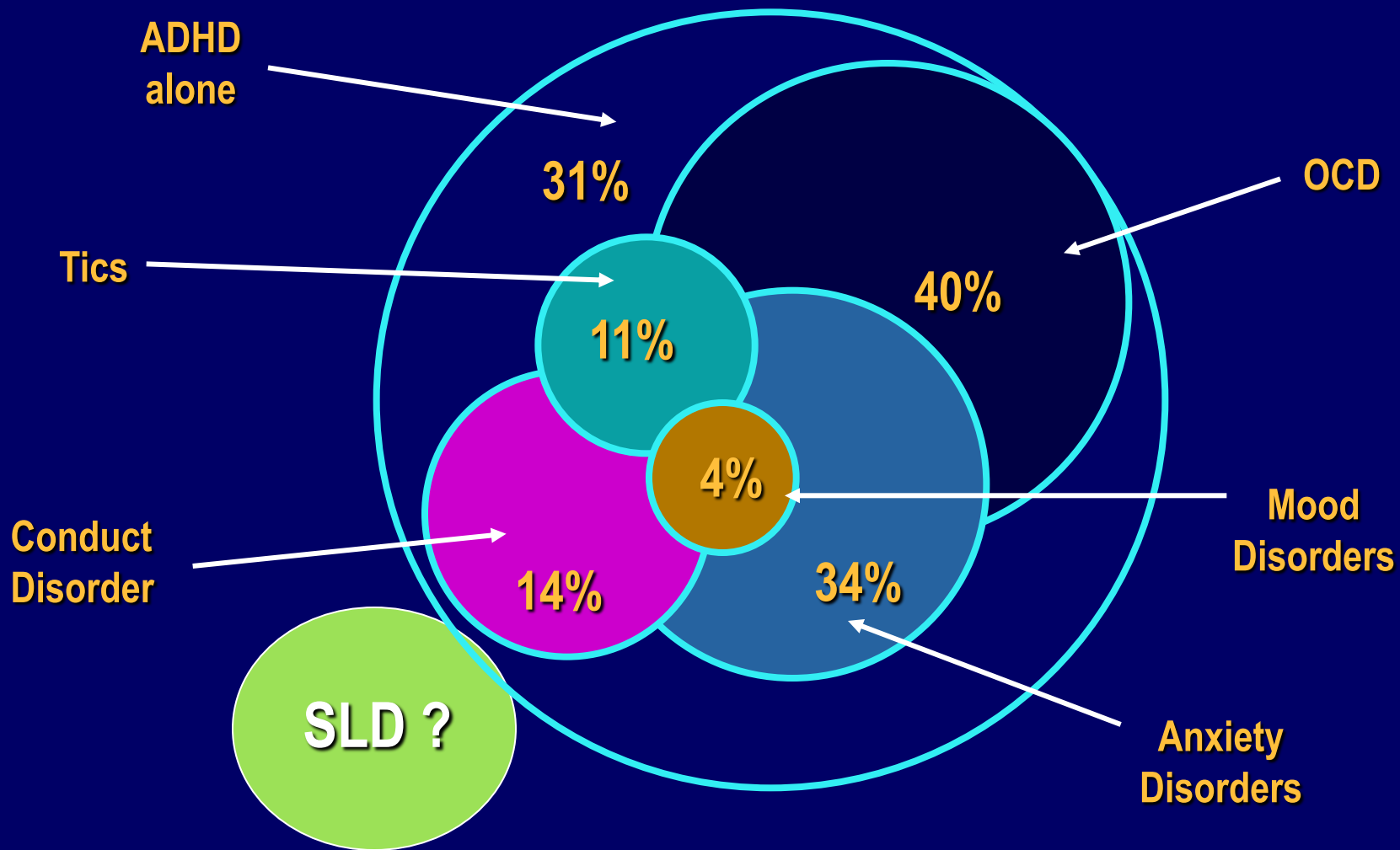
ADHD brains fail to utilize pathways of Information Processing
- Thought to be disorder of NE and DA Pathways

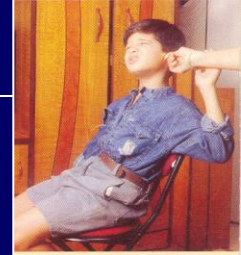




ADHD: COMORBIDITY IN THE MTA STUDY

MTA, Multimodal Treatment Study of Children with ADHD





THE CGC COCHIN EXPERIENCE

(OF CHILDREN WHO REPORTED FIRST WITH PSP)

SPECIFIC DEVELOPMENTAL DISORDERS (S.D.D.)

CO-MORBIDITY

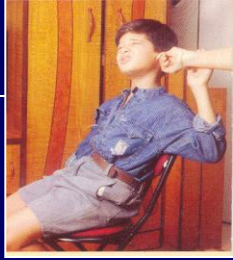




ADHD: DOMAINS OF FUNCTIONAL IMPAIRMENT

PERSISTENCE INTO ADULTHOOD -





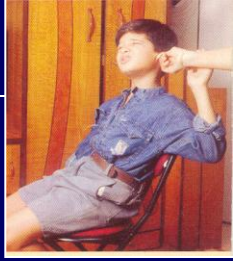
PERSISTENCE INTO ADULTHOOD

Everyday you see adults with ADHD

- 60 % of children with ADHD carry the disease into adulthood



- 85% of adults with ADHD are not diagnosed



PERSISTENCE INTO ADULTHOOD

IMAGES OF ADULT ADHD -

Lack of focus

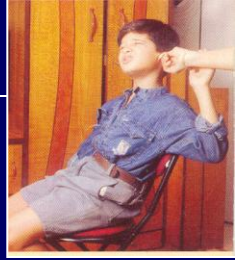
Disorganized

Restless (within)

Starts projects, but does not finish etc.



Recognition of ADHD in Adults - ADHD TO ADD

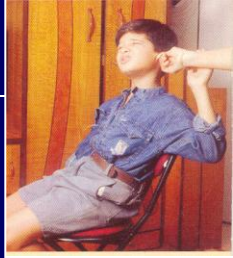


● Hallmark of disorder

- Lack of focus
- Disorganized
- Restlessness

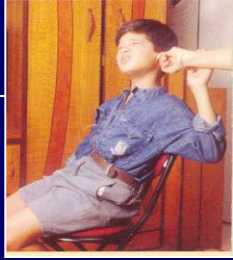
● Impairments

- Performing poorly on job/ organisational difficulties.
- Others report not listening when talked to.
- Poorly consistent relationships etc.



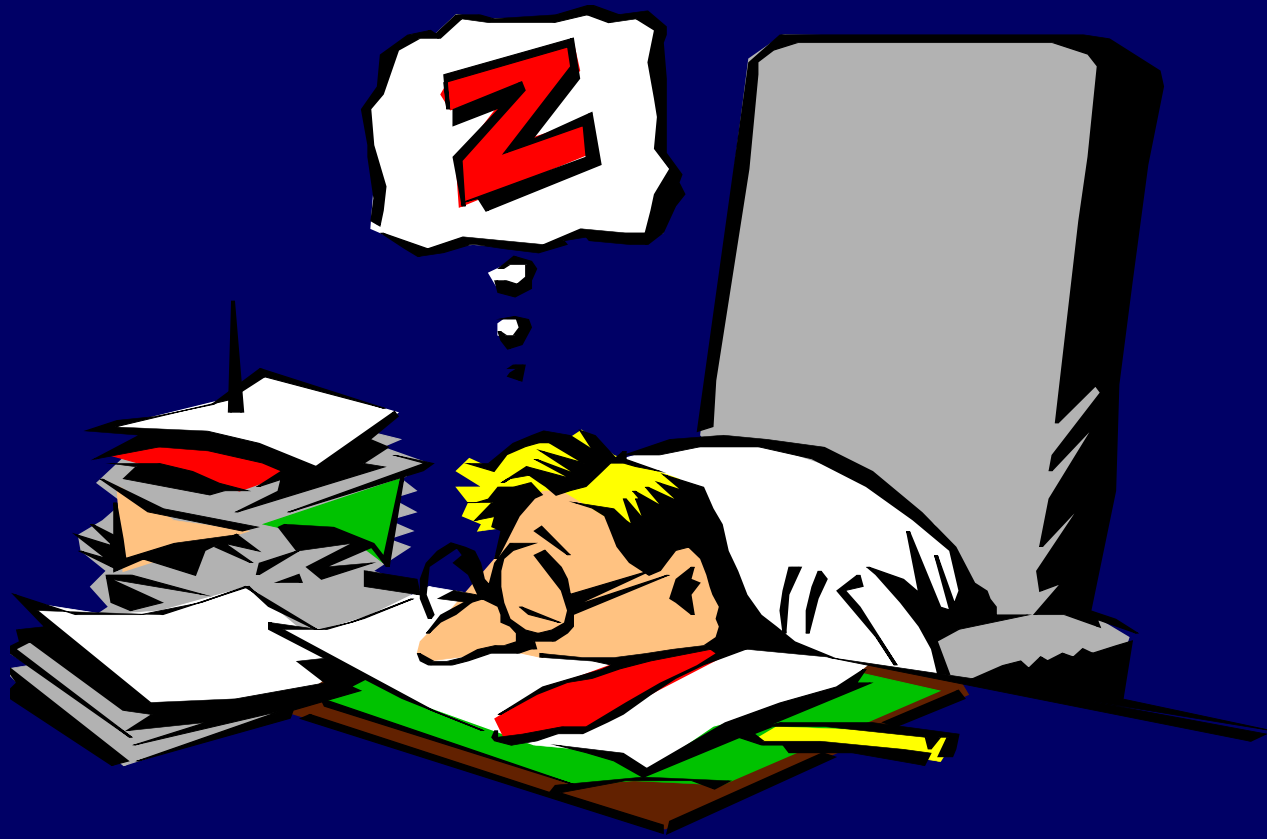
ADHD : Considerations for the Adult Diagnosis

- As children mature into adulthood, the DSM-IV-TR diagnostic threshold (>6 symptoms of hyperactivity/impulsivity and/or inattention) often manifest differently.
- The evolution of symptoms is not reflected in the current DSM-IV-TR criteria.
- Potential for under-diagnosis of adult ADHD if symptom changes are not taken into account.
- Revolutionary potential for treatment of Adult ADHD with the introduction of Atomoxetine.



Diagnostic Tools in ADHD

- **Connors' ADHD Rating Scale (CARS)**
- **Kiddie-Schedule for Affective Disorders and Schizophrenia for School-Age Children (K-SADS)**
- **Barkley's ADHD Scale**
- **Attention-Deficit/Hyperactivity Disorder Rating Scale (ADHD-RS)**
- **Wender Reimherr Adult Attention Deficit Disorder Scale (WRAADS)**
- **Brown Attention-Deficit Disorder Scale**



THANK YOU
FOR YOUR ATTENTION