

The Mental Health Care Act, 2017 and The Mental Health Act, 1987

Pearl #PM2046 • Psychiatry

The **Mental Health Care Act, 2017**, was passed to provide for health care and services for persons with mental illness and to protect, promote and fulfill their rights during the delivery of mental health care.

Its main provisions are:

- **Patient autonomy:** The mentally ill patient has the right to make an advance directive about their treatment and their nominated representative.
- If the mental health professional/care-giver does not wish to follow the **advance directive** made by the patient, they can send an application to the Mental Health Board to review/alter/cancel the advance directive.
- **Decriminalization of suicide.**
- **Mental Health Review Commission and Mental Health Authority** set up.

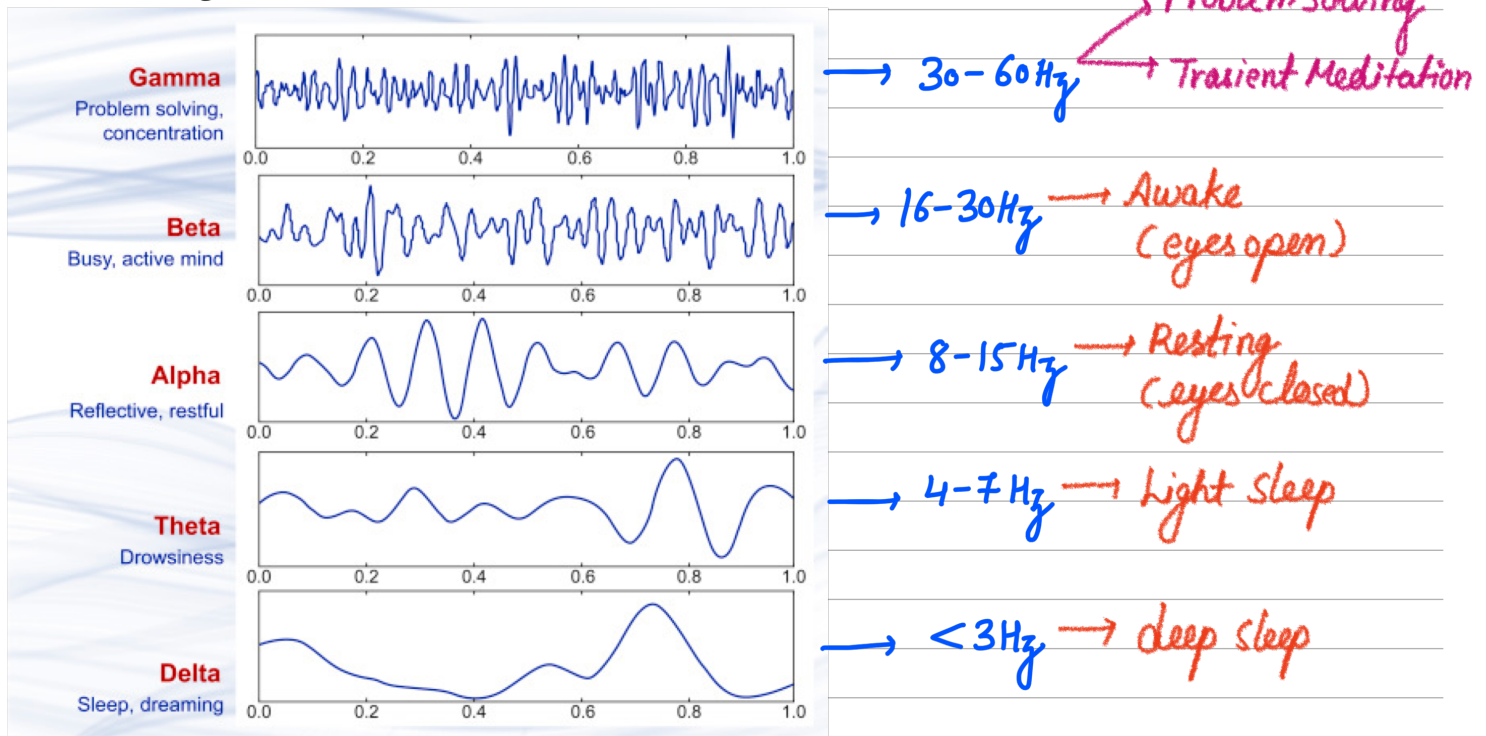
The Mental Health Act, 1987:

The Mental Health Act, 1987 deals with the care of the mentally ill, makes provisions with respect to their property and affairs and states the law for psychiatric hospitals.

Important provisions under it for the diagnosis of mental illness are:

- For the diagnosis of mental illness, an individual can be kept in a psychiatric hospital for **10 days**.
- If the mental health professional needs further time, the magistrate can permit an extension of **10 more days**.
- This extension can be permitted only **twice**.
- Thus, an individual can be detained in a psychiatric hospital for a maximum period of **30 days only**.
- If a mentally ill person is detained against these provisions, the responsible authority can be punished with an imprisonment of upto **2 years**.

Sleep Stages: EEG wave patterns



Q max time spent in which stage of sleep: N₂ stage (45%)

↓
Spindle waves → Sigma / K complexes

Awake (eye open) → β waves

Awake (eyes closed) → α waves

Non-REM sleep

Stage N1 (5%) → θ waves

Stage N2 (45%) → Spindle waves → K complex

Stage N3 (25%) → δ wave

↓
Deep sleep: Restorative

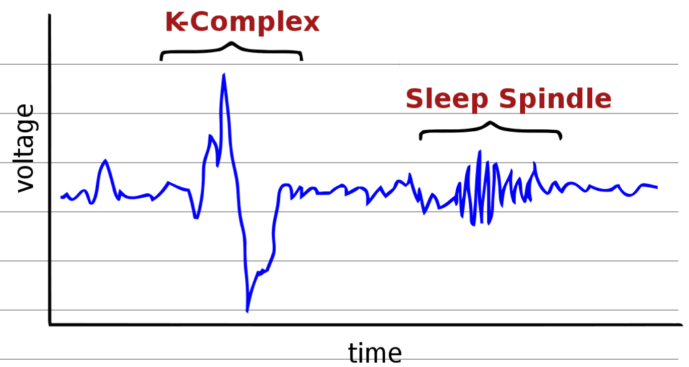
↓
↑GH

↑GnRH

REM sleep: Paradoxical sleep

• β waves / Sawtooth waves

• PGO waves



1 sleep cycle: 90 - 120 mins

Contributions of Sigmund Freud to the field of psychiatry

- Free association
- Interpretation of dreams
- Psychoanalysis
- Psycho-sexual development
- Psychodynamic theory
- Topographic theory of the mind-unconscious, preconscious, conscious
- Structural theory of mind- id, ego, superego
- Cocaine in psychiatry

Bulimia Nervosa

↓
an eating disorder marked by binge eating followed by purging



Varenicline:

↓
is a partial neuronal α -4 β -2 nicotinic receptor agonist. It prevents nicotine stimulation of the mesolimbic dopamine system of nicotine addiction.

- it also binds to 5-HT₃ Receptor with moderate affinity.
- Varenicline stimulates dopamine activity, but to a much smaller degree than nicotine does, resulting in ↓ craving and withdrawal symptoms.

Catharsis : derives from the Greek word katharsis meaning "Purification" or "cleansing".

↳ A release of emotional tension after an overwhelming vicarious experience, resulting in the purging or purification of the emotions.

Abreaction: the expression and consequent release of a previously repressed emotion, achieved through reliving the experience that caused it (typically through hypnosis or suggestion)

Events occurring in sleep: NREM & REM

Events	Description
Bruxism (teeth grinding)	Occurs in stage 2 NREM sleep.
Frontal lobe epilepsy	Occurs in stage 2 NREM sleep.
Sleep talking	Occurs in all stages of sleep and may accompany night terrors and sleepwalking. Common in children. No treatment is necessary.

Events occurring during **NREM stages 3 and 4:**

Events	Description
Somnambulism	<p>Sleepwalking</p> <p>Also called pavor nocturnus.</p> <p>Awakens with a scream or intense anxiety. Has increased autonomic disturbances.</p>
Sleep terror or Night terror	<p><u>They do not have a memory of this when they wake up.</u></p> <p>Runs in families and seen more frequently in childhood and boys.</p> <p>Treatment with benzodiazepines is rarely required.</p>
Nocturnal enuresis	<p>Behavioral therapy is the mainstay.</p> <p>Drugs like desmopressin and imipramine are used.</p>

Nightmares → REM sleep
 Night terrors → NREM, 3 & 4

Events occurring in **REM sleep:**

Events	Description
Nightmares	<p>Fearful sleep without autonomic disturbances that are <u>well remembered in the morning.</u></p> <p>TCAs may be used for treatment.</p>
Nocturnal penile tumescence	<p>A normal phenomenon that can be used to differentiate between psychogenic and organic impotence.</p>
Narcolepsy	<p>A disorder of the REM sleep characterized by disturbed sleep in the night, leading to excessive sleep in the morning.</p> <p>Associated with symptoms such as cataplexy, hypnogogic and hypnopompic hallucination, and sleep paralysis.</p>

***Hypnogogic hallucinations** are those that occur at the start of sleep and **hypnopompic hallucinations** are those that occur at the end of sleep.

THE TYPES OF DELUSIONS

Delusion of control

False belief that a person's will, thoughts, or feelings are being controlled by external forces.

Delusion of grandeur or Megalomania

Exaggerated conception of one's importance, power, or identity.

Delusion of infidelity or morbid jealousy or Othello syndrome

False belief that one's lover is unfaithful. Sometimes called pathological jealousy.

Delusion of love or erotomania

False belief that another person is in love with them. In **De Clerambault syndrome**, the woman believes that a man, frequently older and of higher status, is in love with her.

Delusion of misidentification

Capgras syndrome: Belief that a familiar person has been replaced by an exact double i.e. an **impostor**.

Fregoli syndrome: Person holds a delusional belief that different people are in fact a single person who changes his or her appearance or is in **disguise**.

Nihilistic delusion

False belief that oneself, others or the world, is non-existent or about to end. When nihilistic delusion is accompanied by ideas concerning bodily function failure e.g. putrefaction of intestine etc, it is called **Cotard syndrome**.

Delusion of infestation

False belief that one is infested with small but visible organisms. As a monosymptomatic delusional disorder, this is called **Ekbom syndrome**.

Delusion of persecution

The most **common delusion**. False belief of being harassed or persecuted.

Delusion of poverty

The person strongly believes they are financially incapacitated.

Delusion of reference

False belief that the behavior of others has a particular and unusual significance, usually of a negative nature. The person may falsely feel that others are talking about them (e.g. the people on television are talking to or about the person).

Delusion of self-accusation

False feeling of remorse and guilt. Seen in depression with psychotic features.

Delirium Vs Dementia

Features	Delirium	Dementia
Presentation	Hallmark is impaired consciousness	Loss of memory and intellectual abilities
Commonly seen in	Children and elderly	Elderly
Associated physical findings	<ul style="list-style-type: none"> • Acute medical illness • Autonomic dysfunction • Abnormal EEG • Carphologia or floccillation (picking movements at cover-sheets and clothes) 	<ul style="list-style-type: none"> • No medical illness • Little autonomic dysfunction • Normal EEG
Psychological findings	<ul style="list-style-type: none"> • Impaired consciousness • Illusion, delusion • Sundowning (symptoms much worse at night) 	<ul style="list-style-type: none"> • Normal consciousness • Depressed mood • Personality changes in early stages in Pick's disease
Course	<ul style="list-style-type: none"> • Develops quickly • Fluctuating course with lucid intervals (waxing and waning) 	<ul style="list-style-type: none"> • Insidious-onset • Progressive downhill course
Etiology	<ul style="list-style-type: none"> • CNS disease (E.g: Huntington or Parkinson disease) • CNS trauma • CNS infection (E.g: Meningitis) • Systemic disease (E.g., hepatic, cardiovascular) • Substance abuse/withdrawal • HIV infection • Prescription drug overdose (E.g: atropine) 	<ul style="list-style-type: none"> • Alzheimer's disease • Vascular disease (15-30% of all dementias) • CNS disease (E.g., Huntingtons or Parkinsons disease) • CNS infection (HIV, Prion diseases) • Lewy body dementia • Pick's disease (Frontotemporal dementia)

Confusion Assessment Method (CAM) Diagnostic Algorithm

- 1) Acute onset and fluctuating course
- 2) Inattention, distractibility
- 3) Disorganized thinking, illogical or unclear ideas
- 4) Alteration in consciousness

The diagnosis of delirium requires the presence of both features 1 AND 2, plus EITHER feature 3 or 4.

WERNICKE-KORSAKOFF SYNDROME

* VITAMIN B1 or THIAMINE DEFICIENCY
SPECTRUM of DISEASE

Wernicke-Korsakoff's psychosis

COAT RACK

C - Confusion
O - Ophthalmoplegia
A - Ataxia
T - Thiamine deficiency

R - Retrograde amnesia
A - Anterograde amnesia
C - Confabulation
K - Korsakoff's psychosis

Wernicke's encephalopathy

Acute Phase

Korsakoff's psychosis

Chronic Phase

WERNICKE'S ENCEPHALOPATHY

* ACUTE, REVERSIBLE STAGE



KORSAKOFF SYNDROME

* CHRONIC, IRREVERSIBLE

Alcohol withdrawal symptoms

- **Minor** - 6-24 hrs after last drink → Tremor, anxiety, Nausea/vomiting, insomnia.
- **Major** - 10-72 hours → visual, auditory hallucinations, ↑BP, tachycardia
- **Seizures** - 2 days after, 2/3-10 days after
- **Delirium Tremens** - confused disoriented stages
↑ Temp → fever

Rx: Magnesium Thiamin

- IV fluids
- Benzodiazepines
 - Lorazepam
 - Diazepam
 - Librium

According to DSM, features to diagnose depression.

Mnemonic "SIGECAPS"

- 1 Depressed mood (>2 wks of sadness)
- 2 Sleep disorder (increased or decreased)
- 3 Interest deficit (anhedonia): loss of interest in previously pleasurable activities
- 4 Guilt (worthlessness, hopelessness, regret)
- 5 Energy deficit
- 6 Concentration deficit
- 7 Appetite disorder (increased or decreased)
- 8 Psychomotor retardation or agitation
- 9 Suicidal tendency

5 out of 9 is required for diagnosis of depression and either depressed mood or anhedonia must be present

Postpartum blues

Mood swings, crying spells, anxiety and difficulty sleeping. These usually begins within the first 2-3 days after delivery and may last upto two weeks.

Restless Leg Syndrome

aka Ekbom Syndrome / delusional Parasitosis.

↳ patient c/o: insects crawling on their skin.

• Seen in female, commonly around 40 years of age.

C/F: • Lower limb movements.

• Sensorimotor condition → some sensation in legs causes urge to move the legs.

• Nocturnal worsening is common leading to ↓ sleep quality.

• 1° RLS → Idiopathic

• 2° RLS → Anemia, Uricemia and pregnancy.

Rx: • Ropinirole

• Gabapentin Enacarbil

• Pramipexole.

Anxiety Disorders

1. Panic Disorder
2. Phobias
3. Social anxiety disorder (Social phobia)
4. Generalized anxiety disorder

Disorder	Features
Panic disorder	<p>1. Recurrent and unexpected panic attacks with ≥ 4 of the following:</p> <ul style="list-style-type: none"> • Dyspnea • Tachypnea • Palpitations • Sweating • Dizziness • Chest pain • Tightness • Paresthesias • Emotional and cognitive symptoms • Feeling that something catastrophic is about to happen. <p>2. At least 1 attack followed by one or both of the following > 1 month:</p> <ul style="list-style-type: none"> • Worry about an additional panic attack or consequences • Changes in behaviour related to attacks (ex: avoidance) <p>3. Panic attack not attributable to substance abuse or another medical condition.</p> <p>4. Panic attack not explained by another mental disorder.</p> <p>Treatment of Panic disorder:</p> <p>Immediate: Benzodiazepines Long term: SSRI/ SNRI and or cognitive behavioural therapy</p>
Phobias	<p>Exaggerated anxiety responses that occur during exposure to relatively innocuous stimuli or situations. Specific phobias entail phobic responses to particular stimuli or situations.</p>
Social anxiety disorder (Social phobia)	<p>Phobic responses to specific social situations.</p>
Generalized anxiety disorder	<p>Excessive worry about a variety of topics (job, health, finances, etc.) > 6 months.</p> <p>3 or more of the following symptoms:</p> <ul style="list-style-type: none"> • Restlessness • Fatigue • Difficulty concentrating • Irritability • Muscle tension • Sleep disturbance <p>Treatment:</p> <p>First line: CBT, SSRIs or SNRIs</p>

Phobia: C/F: • Marked anxiety about a specific object or situation (the phobic stimulus) for > 6 months.

- Usually develops in childhood, can develop after a traumatic event
- Avoidance behavior.

Rx: Behavioral therapy (exposure-based), Systemic desensitization may help acutely

Phobia	Object
Acarophobia	Small objects
Acrophobia	High places
Agoraphobia	Open or crowded places, leaving familiar setting of home
Aichmophobia	Pointed objects
Ailurophobia	Cats
Algophobia	Pain
Androphobia	Men
Astraphobia or astrapophobia	Thunder and lightning
Autophobia	Being alone, or of self
Bathophobia	Depths
Claustrophobia	Closed or confined places
Coprophia	Excreta
Cynophobia	Dogs
Demophobia	Crowds
Erythrophobia	Blushing
Gynophobia	Women
Haphephobia	Being touched
Hematophobia	Sight of blood
Hydrophobia	Water
Hypnophobia	Sleep
Lalophobia or glossophobia	Speaking
Mysophobia	Dirt, contamination
Necrophobia	Dead bodies
Nyctophobia	Darkness, night
Panphobia	Everything
Pathophobia or nosophobia	Disease, suffering

Management of Depression

1. **SSRIs (Selective Serotonin Reuptake Inhibitors):** Increased 5-HT levels (most commonly Prescribed)

- Escitalopram / citalopram
- Fluoxetine
- Paroxetine
- Sertraline
- Fluvoxamine

SSRIs are well tolerated and effective.

2. **Dual acting antidepressants:** SNRIs ↑ 5-HT and NE levels.

- Duloxetine
- Desvenlafaxine
- Venlafaxine
- milnacipran
- Levomilnacipran

S/E of SSRIs:

- GI bleed (rare effect that can be prevented by adding PPI with SSRI during initial days).
- Sexual dysfunction
- Nausea / vomiting / diarrhoea.
- Insomnia / Sedation / vivid dreams.

- Used when the patient's drive, motivation, energy levels are low.

- Long term use of venlafaxine and Desvenlafaxine: may lead hypertension by increasing noradrenergic tone.

Sedative antidepressants

↓
These include: • Tricyclic Antidepressants (TCAs)
• Mirtazapine.
• Trazadone.

A. Antidepressants causing weight gain: SSRIs
SNRIs
TCAs

B. Antidepressant that causes lesser weight gain: Bupropion > Fluoxetine

Melancholic Depression

is a form of Major depressive disorder that is characterized by a profound presentation of severe depression.

Melancholic depression

- Melancholic depression is characterized by a loss of pleasure (anhedonia) in most or all activities, a failure of reactivity to pleasurable stimuli, a quality of depressed mood more pronounced than that of grief or loss, a worsening of symptoms in the morning hours, early-morning waking, psychomotor retardation, excessive weight loss (not to be confused with anorexia nervosa), or excessive guilt.^[11]

Mania : Happy / elated / euphoric mood or Irritable mood.

mnemonic : DIGFAST



Distractibility

Impulsivity

Grandiosity (idea → delusions)

Flight of ideas / Racing thoughts.

Activities (↑)

Sleep (↓)

Talkativeness.

Mania	Hypomania
Symptoms for at least 1 week	Symptoms for at least 4 days
Marked impairment in social or occupational functioning	No impairment in social or occupational functioning
May need hospitalization	Doesn't need hospitalization

Cocaine Dependence



• Cocaine ↑ both Dopamine and NE.

• ↑ in NE ;

Causes S/E such as HTN and MI.

• ↑ Dopamine : It stimulates D_2 receptors and gives the user kick / High.
- Causes dependence.

DOC → for dependence is Bromocriptine.

Lithium Toxicity

- When the level of Lithium is $>1.5\text{meq/L}$, the patient presents with Lithium Toxicity.
- Coarse Tremors are seen commonly. Fine tremors are seen as benign side effect of Lithium (not indicative of toxicity).

Other features include:

- Ataxia
- Nystagmus
- Myoclonic Jerks
- Urinary incontinence.
- Seizures.
- Coma
- Death.

if the level of Lithium $\geq 4\text{meq/L}$, then dialysis must be considered.

Magnan Syndrome

- Tactile Hallucination due to Cocaine use.
- Cocaine use may result in the sensation that something is crawling on the body or under the skin (formication) which can result in skin-picking.

- m/c psychotropic substance used: Caffeine
- m/c psychotropic substance abused: Nicotine
- m/c illegal psychotropic substance used: Cannabis
- m/c substance for which Rx is sought: Alcohol
- M/c over the counter drug abused: NSAIDs
- m/c prescription drug abused: Benzodiazepines.

Drug of abuse	Common name
Cocaine	White lady, Coke, Blow, Snow
Cannabis	Weed, Pot, Reefer, Ganja, Mary Jane, Hash, Indian hemp
Heroin	Smack, Dope, Brown sugar, Snowball
Ketamine	Vitamin K, Special K, Super K
LSD	Acid
Methamphetamine	Ice, Meth, Crystal,
MDMA	Ecstasy
Phencyclidine	Angel dust

Alzheimer's disease:

- Age of onset > 60 years
- Mini-mental state examination (MMSE) < 24
- Diagnosis: Clinical
 - 2 or more areas of cognitive deficits
 - Progressive worsening of memory and other cognitive function
 - No disturbance in consciousness
 - Other systemic causes must be ruled out

Risk Factors:

- Most important risk factor: Old age
- Other risk factors – Family history, presenilin-1, presenilin-2, Apolipoprotein E4 (**ApoE ε4 allele**), Ubiquitin, Down syndrome and smoking.

Protective factors: NSAIDs and Apolipoprotein E2

Causes: Decrease in **acetylcholine** causing depletion of the cholinergic neurons in the **nucleus basalis of Meynert** resulting in short-term memory defects.

Early findings:

- **Anterograde** memory loss (immediate recall affected, distant memories preserved)
- **Visuospatial deficits** (lost in own neighborhood)
- **Language difficulties** (difficulty finding words)
- **Cognitive impairment** with a progressive decline
- Anosognosia
- Visual processing dysfunction (posterior cortical atrophy syndrome)
- Difficulties with naming and repetition (logopenic aphasia)

Late findings:

- Psychotic symptoms: **delusions**
- **Apraxia:** Difficulty to perform learned motor tasks
- **Lack of insight** regarding deficits
- Non-cognitive neurologic deficits: Pyramidal and extrapyramidal, myoclonus and seizures
- disrupted sleep - wake pattern.
- **Urinary incontinence.**
- Loss of procedural memory

Histopathology:

- **Senile plaques** (amyloid deposits), **neurofibrillary tangles** (composed of **tau** proteins), neuronal loss, synaptic loss, and granulovacuolar degeneration of neurons.

The image below shows neurofibrillary tangles in Alzheimer's disease.



Image Attribution and License

CT/MRI:

- Later stages: Cortical and subcortical atrophy prominent in parietal and temporal lobes, particularly **hippocampus**.

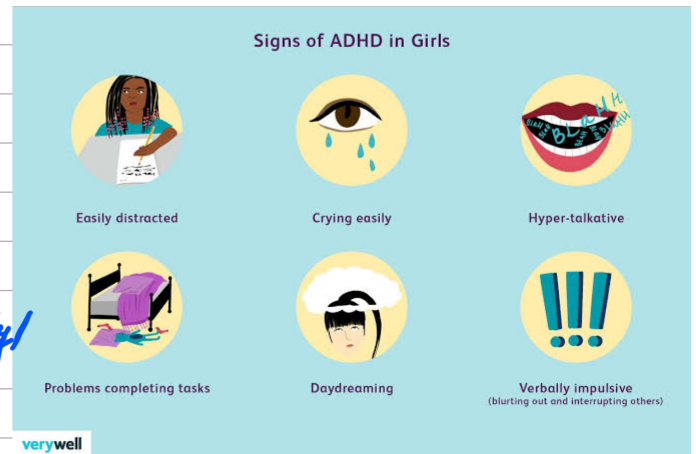
Treatment:

- NMDA antagonist: **memantine**
- Cholinesterase inhibitors: **donepezil**, **galantamine**, **rivastigmine**.
- Monoclonal antibody against the N-terminus of the A β peptide - **aducanumab**

ADHD : Attention-deficit / Hyperactivity disorder

- ↓
- 3 core features** :
- Attention deficit
 - Hyperactivity
 - Impulsivity

At least **6 symptoms** should be positive for attention deficit and **6 symptoms** for hyperactivity/impulsivity.



Onset of symptoms should be **<12 years of age**.
ADHD symptoms should be positive in **>2 settings**

Symptoms :

- **Attention deficit** :
 - Difficulty in looking at details.
 - Difficulty in focusing on single aspect.
 - Easy distraction.
 - Organization problems.
 - Avoids slower tasks
 - Gets lost in conversation
 - fail to finish.
 - forgetful.
- **Losing objects.**

Hyperactivity / impulsivity :

- Restlessness.
- Unable to wait for their turn.
- Jump / run / fall (injuries are common)
- interruption.
- High energy
- Agitation

Learning : Process of acquiring information.

↓

• **Classical Learning (Pavlovian Conditioning)** : Learning happens because of pairing.

- Conditioned stimuli is paired with unconditioned stimuli over a period of time in order to obtain conditioned response.

• **Operant Learning (Skinnerian Conditioning)** : Operate and learn. Learning by the results.

- **Learning** is any relative or permanent change in behaviour as a result of practice or experience.
- It includes acquiring **knowledge and skills**, formation of **habits** and development of **perception**.
- The conditions that affect learning are as follows:
 - Intelligence
 - Age
 - Learning situation
 - Motivation
 - Physical and mental health
- Types of learning:
 - **Cognitive** learning – **knowledge**
 - **Affective** learning – **attitudes**
 - **Psychomotor** learning – **skills**
- Theories of learning:
 - Learning by conditioned reflex
 - Trial and error
 - Learning by observation and imitation
 - Learning by doing
 - Learning by remembering
 - Learning by insight
 - Demonstration
 - Field experience
 - Problem solving

Stages of Normal Sexual Response Cycle (mnemonic: DEOR)

Desire

Excitement

± Plateau (seen in between excitement and orgasm)

Orgasm

Resolution

In males, there exists a significant **Refractory time** between orgasm and next excitement stage as compared to females.

Therefore, multiple orgasms are **not seen in males**. Seen only in females.

Obsessive Compulsive disorder

↓
Obsessions Seen in OCD:

- Cleanliness related: very common.

- Aggressive: Believe they will involve in **violent action** like killing/hitting someone.

- Symmetry related: Always looking for symmetry, walk in a particular direction, keep everything in symmetry.

Rx:- SSRIs

- TCA

- Augmentation (combine multiple antidepressants)

- CBT

- ERP (Exposure Response prevention)

Classification of disorders of thought

