

Glimpses of

Psychiatry

for

Doctors and
Medical Students



Revised Edition

Chapters, articles, MCQs, crosswords,
myths & facts, narratives

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Psychiatry
for
Doctors and
Medical Students



Revised Edition

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Dedication

To those who have attempted
to alleviate the pain and suffering
of people with psychiatry disorders

To our parents & family members for supporting us.

Special thanks

To Professor Shamasundar .C

whose ideas on human values motivate us..

To Professor Raguram.R

whose teaching in psychiatry inspires many..

To Professor Laksmi V Pandit

who supported our initiative selflessly

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to the authors of chapters on selected topics.

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Preface to Revised Edition 2014

We are immensely thankful to all of you for the kind support and encouragement since 2011. This enjoyable journey has been rewarding, resulting in the first edition of this book being published in 2013. We have gained largely by this process & enjoyed the venture immensely. A revised free e-edition of this book was planned, to enable easy access to psychiatric knowledge. The contents are presented in diverse ways - concise articles, narratives from senior consultants, Myths & Facts, MCQs, Crosswords & chapters on core psychiatric issues. Obviously this is not a textbook on psychiatry as the title rightly conveys "glimpses of psychiatry..."

This revised edition commemorates our fourth year in this venture. Although the revised edition does not see very major changes, some chapters have been added on. The editorial team saw an additional member, Dr Naresh Nebhinani, who invested a great deal of time and energy into this edition. Availability of an electronic version makes access to information much easier, and thankfully "Minds United for Health Sciences & Humanity", which had the copyright, agreed to release it for free. The free e-copy thus compliments the availability of the hard copy. With the support of many we have succeeded in delivering a copy of the book to all medical colleges in India, and a few to Nepal & Sri Lanka. Mr Vinayaka Murthy M. and his son Dr. Arunkumar V. played a key role in this process and we are thankful to them. We are thankful to all authors for their contribution and consent to release this free edition. Dr Shubhangi Dere has taken up the task of leading MINDS for the year 2014-15, she will continue to update the readers.

Once again thanks to all of you, please continue your support & send us your feedback, suggestions & corrections to editormind@gmail.com

Happy Reading

Dr Kishor M
Dr Vinay HR
Dr Kiran Kumar K
Dr Lakshmi V Pandit
Dr Naresh Nebhinani

Preface to the First Edition

For majority of the medical profession, Psychiatry has largely remained a subject where myths and misconceptions have overshadowed scientific knowledge. Numerous issues have contributed to this status: a possible confusion in the delineation of normality from abnormality, a lack of objective signs and symptoms or diagnostic investigations, and an inadequate exposure & training in psychiatry during the undergraduate course, to state a few. This has a negative impact on the ability of the medical fraternity to handle psychiatric morbidity efficiently, exposing individuals with psychiatry disorder to be exploited by those who are not qualified.

With this background, the book has been compiled in order to make an attempt to create awareness among doctors and medical students, regarding psychiatric illnesses. Information has been presented in a simple & educative manner, using an easy and attractive format, for diverse groups of readers in the medical fraternity, ranging from medical students to practitioners in all branches. It also contains a compilation of the issues of 'MINDS' that have been released over the past two years. This unique book has over 20 specialty articles spanning Anatomy to Cardiology in the section on consultation liaison psychiatry written by experts in those fields, stressing the importance of psychiatry in all areas of medical science. Probably, the real joy of the book presentation is the cafeteria approach, wherein readers will have a large variety of material to choose from, ranging from specific chapters, articles, multiple choice questions, solving crosswords, or reading the experiences of experts in the section aptly named 'Down the memory lane...'

This will also be, probably for the first time, that this entire book will be available in an exclusive website www.psychiatry4u.com, www.mindsnewsletter.com

We are also happy to inform all the authors who have contributed to this book and the readers, that the proceedings from the sale of this book will be utilized to strengthen our continued efforts to provide knowledge and create awareness about psychiatry, without any fee.

We look forward to your feedback and support, as always.

We are immensely thankful to all our well wishers, authors and readers who have supported us from the beginning of this initiative.

Dr.Kishor.M, MD

Dr.Vinay.H.R, DPM DNB

Dr.Kiran Kumar.K, MD

Dr.Lakshmi V Pandit, DPM DNB

Dear Readers

One of the most important ways to promote health and wellbeing is by sharing of knowledge. This e-book has been made freely available, in continuation with our initiative since 2011 to create awareness about Psychiatry.

We need your support, if you think this free e-book has benefitted you, please be a part of this "non profit initiative".

You can contact us for more info on this e-mail: mindsmysore@gmail.com

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Foreword

From ages we knew that Mind had vital role and it interacted with body in a complex way. It is only recently that we understand the science behind it. Psychiatry has evolved as a speciality among medical sciences and is now branching out as superspecialities like Neuropsychiatry, Child psychiatry etc. It is becoming increasingly relevant in everyday practice as the knowledge of psychological medicine is having far reaching implications in patient wellbeing and doctor's satisfaction. In this regard it is heartening to announce that the young team is bringing out this book that intends to update our knowledge in psychiatry and will be of utmost benefit to budding doctors.

Remarking on this appropriate occasion, I congratulate and wish the young & dynamic team behind this new venture in making it a grand success. I also urge the faculty and the students to make best use of this for the academic and clinical excellence that we foresee. Surely our wellbeing begins here...in our MINDS.

Dr. Shivaramu M.G.
Principal, Adichunchanagiri Institute of Medical Science

Psychiatry & Medicine: Towards an Effective Liaison

These are exciting and challenging times for an effective integration between psychiatry and medicine. For a long while, psychiatry was perceived to linger in the fringes of medicine. This was unfortunately a consequence of inadequate inputs in the field of mental health in the undergraduate curriculum. However over the past decade, the landscape has changed dramatically. The discipline has witnessed a burgeoning growth in recent years thanks to the Medical Council of India, recognizing the importance of its presence in medical schools. Now without exception most of the medical colleges in the country have full fledged psychiatric units, often staffed by young dynamic professionals. This is a welcome augury for an effective integration between medicine and psychiatry. As Benjamin Rush wrote with remarkable insight in 1811:

"Man is said to be a compound of soul and body. However proper this language may be in religion, it is not so in medicine. [Man] is, in the eye of a physician, a single and indivisible being"

Impact of this indivisibility can be found in each and every person who is afflicted with a medical problem. Persons afflicted with various illnesses, respond and react to their problems in individually distinctive ways. Unless efforts are made to take cognizance of the emotional reaction of patients with medical problems, the response to treatments instituted, however effective they may be will have little impact in changing the course and outcome of the condition. For, it is well known that the perceptions and emotional reactions of patients play a significant role in altering the course of diseases.

In spite of considerable occurrence of emotional problems among medically ill patients, the referral rates for psychiatric consultations are alarmingly low. Patients admitted to a general hospital with emotional disorders are said to account for 25% of all admissions, yet referrals to consultation-liaison services rarely exceed 5%! There could be many reasons for this phenomenon. Prominent among them are: the sensitivity of medical professionals to mental health issues, their skills in detecting emotional distress, their attitude to psychiatry and the perceived stigma in referring to a mental health professional. Many of these factors can be effectively redressed by sensitization through training programs and an effective personal rapport between the physician and the psychiatrist. Initiating consultation-liaison bedside rounds will go a long way in consolidating this alliance. It is equally important to inculcate this orientation among medical students through structured lecture sessions and individual case discussions.

Most importantly, the publication of MINDS is a step in the right direction to forge a mutually enriching professional linkage between psychiatry and rest of the medical Sciences.

Dr. Raguram R., MBBS, MD, MRCPsych
Professor & HOD of Psychiatry, Kempegowda Institute of Medical Sciences (KIMS), Bengaluru

Postpartum Depression

Postpartum Depression (PPD) is a form of clinical depression which can affect women after childbirth. Though the incidence of PPD is 15-20% in our country, it is not considered seriously in the rural population & it may not be noticed till it becomes serious. Instead, the parturient mother is blamed for not properly taking care of future heir of the family.

The cause of PPD could be due to hormonal fluctuation especially thyroid hormones, estrogen, and progesterone. The other major factors of aetiological importance are largely of psychosocial nature. The affected person may manifest with mood swings, loss of interest, fatigue, eating disorders, lack of joy of the motherhood and persistent sadness. They may become irritable and prefer loneliness. Some women may feel guilty and blame themselves for all the misery. Their food intake reduces & there may be sleep disturbances. Severely depressed women may even think of ending their life.

These symptoms are seen within 4 weeks post partum or as late as after 3-6 months. The associated risk factors at the level of family are unplanned pregnancy, illegitimate child, family discord, single parentage, young child at home, etc. Obstetric factors responsible are operative intervention, PIH & other pregnancy complications. At a personal level, substance abuse, smoking and contributory factors from the baby like temperament of the baby, sleep, feeding problems & abrupt weaning of the baby play a role. If PPD is not recognized, it may lead to dysfunction in the family & the mother may harm or kill the newborn. On the other side, there may be delay in cognitive, emotional and social development of the baby. However PPD needs to be differentiated from 'Postpartum blues', a self remitting milder condition considered as normal part of motherhood; and 'Postpartum Psychosis', a severe form of illness wherein the person loses touch with the reality and develops symptoms like hallucinations, paranoid or grandiose beliefs, poor self hygiene & aggressiveness.

There are few scales used in the screening of PPD like the Edinburgh Postnatal Depression Scale (EPDS) and the NIMHANS scale which can be used by obstetricians or the primary health care givers to recognize the cases early. Post Partum Depression can be managed by judicious use of antidepressants like SSRIs (Selective Serotonin Reuptake Inhibitors) and supportive psychotherapy. The latter includes support from the family & community; teaching skills to cope up with the new responsibility and psychoeducation in the

prenatal period. Early recognition & prompt treatment brings happiness in the family, increases the joy of motherhood and ensures good health of the newborn.

Dr. Sunanda Kulakarni, MS., (OBG)
Former Professor in Obstetrics & Gynecology,
Bangalore Medical College & Research Centre

Reframe : Myths & Facts about - Electroconvulsive Therapy (ECT):

- ✗ ECT is an old and outdated mode of treatment
- ✓ ECT is a cost effective, Evidence based treatment option even today and is also one of the life saving option in patients with high suicidal ideations
- ✗ ECT works by instilling fear in patients
- ✓ ECT works by its action on number of neurotransmitters and has no placebo effect.
- ✗ ECT is Painful procedure which can damage Brain
- ✓ Modified ECT is carried out under General Anesthesia (Short Acting) without any pain/evidence of brain damage
- ✗ ECT has many contraindications and is a not a safe procedure
- ✓ ECT has only one contraindication, which is raised intracranial tension
- ✗ ECT is used only in patients with psychiatric disorders
- ✓ ECT has been used in other neurological disorders as well like Parkinson's disease and Status Epilepticus.
- ✗ ECT is costly inpatient procedure and carried out only in specialty hospital
- ✓ ECT can be carried out as outpatient procedure and costs as less as Rs.600-900/- in Medical college Hospitals.
- ✗ ECT is not carried out in developed nations and not recommended in any of International Guidelines.
- ✓ ECT is recommended in almost all International Guidelines and carried out even in UK, US.

- ✗ ECT causes irreversible memory loss.
- ✓ ECT causes minimal memory loss, especially immediate memory but that recovers within few weeks.

Compiled By - Dr. Kiran Kantanavar

Minds Quiz

1. Drug of choice in management of alcohol withdrawal features _____
2. Which is the biological marker for true seizures?
3. Only recommended drug in Alzheimer Dementia, moderate to severe stages _____
4. Which is the Drug of choice in Attention Deficit Hyperactive Disorder (ADHD)?
5. Most important risk factor for Cardiac restenosis, when all confounding factors are controlled _____

Answers

1. Chlordiazepoxide
2. Raised Serum Prolactin Levels
3. Memantine
4. Methyl Phenidate
5. Depressive disorder

Dear Readers

One of the most important ways to promote health and wellbeing is by sharing of knowledge. This e-book has been made freely available, in continuation with our initiative since 2011 to create awareness about Psychiatry.

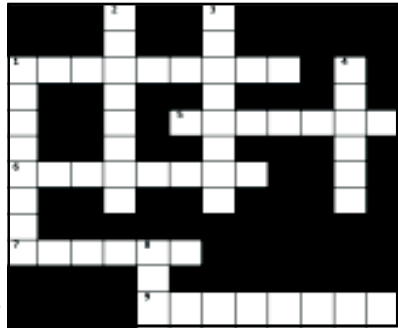
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Crossword**Across:**

1. An unpleasant or disturbed state of Mood
5. Apprehension or Fear without reason.
6. One who does not socialize & is emotionally cold.
7. Functional Unit of CNS
9. Irreversible deterioration of mental functions

**Down:**

1. A firm belief which is not true
 2. Exaggerated feeling of wellbeing
 3. One who is very suspicious
 4. A solitary playful child doesn't make eye to eye contact even with mother and does not relate to others
 8. Can't stop washing hands even though they are reasonably clean!
- Created by Malavika, Pradeep & Ranjitha (Interns), AIMS

Answer**Across**

1. Dysphoria
5. Anxiety
6. Schizoid
7. Neuron
9. Dementia

Down:

1. Delusion
2. Euphoria
3. Paranoid
4. Autism
8. OCD (Obsessive compulsive disorder)

Ethics & Medicine

Ethics relate to code of conduct according moral principles that have been the product of gradual evolution and refinement of man's quest to discover ways and means to safeguard the welfare of a society and its individual members. The core principles, transmitted from generation to generation, happen to be similar across cultures as different societies and religions seem to have arrived at similar conclusions. A cardinal feature of the ethical principles is its pervasive influence on all areas of society's functioning as well as on the life of each of its members. For example, judicial principles, principles of governance, medical ethics, and even code of ideal human behavior are all based on ethics.

Most of its core features, broken down into 'micro-components,' are currently being marketed as principles of 'business management' and 'public relations.' These micro-components also happen to be same as, or similar to the 'coping-skills' or 'life-skills' that are emerging in the current medical literature as contributors to human wellbeing. Moreover, the components of ideal human behavior have already appeared in the guise of "desirable therapist qualities" or 'non-specific therapeutic factors' in psychotherapy outcome research. It has been established that the effectiveness of a therapist, irrespective of the method adapted, correlates with certain of his/her personal qualities called desirable therapist qualities. Examples of them are respect for the other's individuality, good will for others, empathy, honesty, genuinity (un-pretentiousness), tolerance, etc. The patients of very successful and popular general practitioners will consistently experience these qualities in their doctors.

Thus, whether we like it or not, it would be in our own interest to safeguard our own mental health or wellbeing by sincerely following ethical values. Our ethics would also help our patients to get better.

- Dr.C.Shamasundar

Professor of Psychiatry at National Institute of Mental Health & Neurosciences. He is a pioneer, who introduced formal Psychotherapy training at NIMHANS and also psychiatry training for general practitioners. He is well known for his keen interest in ethics.

Psychiatric Manifestations of Hypothyroidism

A clinical syndrome of thyroid hormone deficiency is represented in the literature as a stereo typical cluster of symptoms and signs. But the clinical presentation is diverse, complicated and often overlooked. The hypothyroid state serves as a potential basis for multiple somatic complaints and psychological disturbances. At times psychiatric manifestations may be the presenting feature.

Brain has a unique sensitivity to thyroid hormones and to utilize it differently than from other system with hormone receptors being located within neural network throughout the brain. High concentration of T3 receptors are found in the amygdala and hippocampus. The effects of thyroid hormone deficiency on brain function are variable at different stages of life. The psychiatric disturbances may be in the form of affective disorders, anxiety disorders, cognitive dysfunction and even psychosis.

Affective disorders: (a) Depression: is one of the commonest forms of psychiatric manifestations. The origin of depression in hypothyroidism appears to relate to the role of thyroxine in serotonergic transmission, such that reduced thyroid input reduces serotonergic tone & lowers the threshold toward the development of depressive symptoms. Low mood, fatigue, anhedonia, reduced concentration, and hypersomnolence are the most commonly described features of the depressive syndrome in hypothyroidism. Thyroid hormone abnormalities may occur without overt functional hypothyroidism. Designated as 'Subclinical Hypothyroidism', these scenarios can be further classified into elevated TSH without changes in thyroid hormones (grade II hypothyroidism), abnormal TSH response to stimulation with TRH (grade III), & the presence of antithyroid antibodies with no thyroid hormone system abnormalities (grade IV) . Grade II hypothyroidism has been associated with depressive disorders.

(b) Bipolar disorder: Hypothyroidism adversely affects the course of bipolar disorder and it may serve as a risk factor for the development of the rapid cycling form of bipolar disorder. There is also evidence that significant number of patients on lithium therapy for bipolar disorder have hypothyroid states which ranges from 'Minimal Thyroid Insufficiency (MTI)' to frank hypothyroidism.

The probability of underlying hypothyroid status is more when the presentation is only subsyndromal depressive symptoms; treatment resistant depression; rapid cycling affective disorder or atypical depression.

Anxiety disorders - though less common than seen in hyperthyroidism, around 30 % of hypothyroid patients tend to have anxiety symptoms in them, which should be probed.

Psychosis: The first description of myxoedema madness, a typical example of hypothyroid induced psychosis was given by Ashes (1949). There is considerable variation in clinical psychotic presentation. Psychosis typically occurs after the onset of physical symptoms, after a period of months to years. It can occur even in sub-clinical hypothyroidism indicating that psychosis maybe unrelated to the absolute degree of thyroid hormone deficiency. Onset is usually acute/subacute, fluctuating course with predominant paranoid feature. In clinical practice, it is likely that most of the psychotic symptoms in hypothyroidism will accompany a mood disorder (depression or mania), dementia or delirium.

Cognitive disorders: Cognitive decline due to hypothyroidism state can cause significant functional disability and it represents one of the reversible forms of dementia in the older age group.

Management: Investigations that would help in managing such cases are Thyroid profile - Measurement of thyroid hormones TSH, Free T4 & Free T3; Antimicrosomal & Antithyroglobulin for Autoimmune thyroid disease. The EEG-reduction in alpha wave activity and PET-decrease in cerebral blood flow and cerebral glucose metabolism serve as research tools to further understand the pathogenesis. While thyroid replacement (Thyroxine) forms the definitive treatment for overt hypothyroidism and selected cases of subclinical states, judicious use of antianxiety, antipsychotic and antidepressants carries significance in managing relevant psychiatric co-morbidity. Thyroid replacement should be started early as delay results in incomplete remission. Low starting dose and gradual titration of thyroid hormone is recommended or else an exacerbation of psychosis may occur.

Hypothyroidism has protean psychiatric manifestations which needs to explored and managed. Routine thyroid function testing of psychiatric patients is not necessary but certain population should be screened like:

- a) Patient with signs and symptoms of overt hypothyroidism
- b) Rapid cycling bipolar disorder
- c) Treatment refractory depression
- d) Patient on Lithium
- e) Within 6 months of delivery or women older than 44years

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Reframe : Myths & Facts about - Suicide

- ✗ Suicide is more common in women
- ✓ Suicide attempts are three times more common in women but men complete suicide more often.
- ✗ People who talk about suicide don't complete suicide
- ✓ Many people who die by suicide would have given definite warnings of their intentions. Any comment about suicide should be explored seriously.
- ✗ Suicidal people are fully intent on dying.
- ✓ Most suicidal people are undecided about living or dying, which is called suicidal ambivalence. This ambivalence can be used in suicide prevention strategies to build Hope.
- ✗ Suicidal acts are 'out of blue' and risky, cannot be assessed.
- ✓ Risk factors for suicide that can be assessed are Past attempt, Family history of suicide, Psychiatric disorder especially Depression, Alcoholism, Chronic illness like cancer, Recent life events like death/loss of close ones.
- ✗ Enquiring about death wishes and suicidal ideas will increase risk of suicide
- ✓ Most patients wish to talk about their feelings, which should be actively explored in patients at risk.
- ✗ There are no protective factors against suicide
- ✓ Apart from absence of said risk factors, additional protective factors are: Hopefulness, access to health care that is also oriented about mental health issues, having responsibility of children less than 18yrs & having good social support.

Compiled By - Dr. B.N.Hanumanthappa

Minds Quiz

1. Drug of choice among SSRI in management of Obsessive Compulsive Disorder (OCD) _____
2. Who won Noble prize for using surgical intervention in Psychiatric illness?
3. World Mental Health Day is on _____

4. Which is the official Indexed journal of Indian Psychiatry?
5. Disulfiram, a drug used in Alcohol De-addiction acts by inhibiting _____

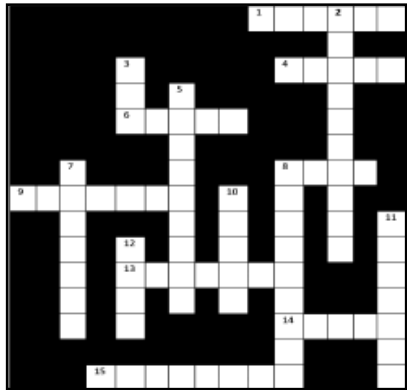
Answers :

- | | |
|---------------------------|---------------------------------|
| 1. Fluvoxamine | 2. Egas Moniz |
| 3. 10th Oct | 4. Indian Journal of Psychiatry |
| 5. Aldehyde dehydrogenase | |

Crossword

Across:

1. Stagger after getting drunk
4. Sudden appearance of anxiety
6. Disorder of inappropriate of answers.
8. Depression a disorder of.....
9. Lightest metal used for treatment of Bipolar disorder
13. The most common Psychiatry emergency condition
14. Latin word for seizure
15. A state of confusion with clouding of consciousness



Down:

2. Fear of strangers
3. Electrical activity of Brain
5. Compulsive buying, a Impulse control disorder?
7. Morbid Jealousy also called
8. Franz Mesmer described it
10. Opposite of Depression
11. Loss of Memory
12. Commonly used Class of drug in Depression

Answer

Across : 1) Ataxia 4) Panic 6) Ganser 8) Mood
 9) Lithium 13) Suicide 14) Ictus 15) Delirium

Down : 2) Xenophobia 3) EEG 5) Oniomania 7) Othello 8)
 Mesmerism 10) Mania 11) Amnésia 12) SSRI

Disulfiram: Old! YCet a Beautiful drug of use?

Alcohol dependence or alcoholism is often a progressive chronic disorder which has significant adverse implications on patients, their families, and the society. Treating alcoholism involves several stages. In the initial stage, acute withdrawal is treated by detoxification with benzodiazepines especially Chlordiazepoxide. Later stages attempt to maintain patients in abstinence or controlled drinking. This latter aspect of patient management traditionally involves pharmacological modalities like Disulfiram for complete abstinence or psycho-social interventions including Motivational Interviewing, option of Alcoholics Anonymous and various counseling approaches or combinations of both. Drugs used to manage alcohol dependence includes Disulfiram, the opioid antagonists like Naltrexone & Nalmefene, Acamprosate, various serotonergic agents (including SSRIs), Topiramate, Baclofen etc. Though many drugs are being marketed, Disulfiram is still a better option considering its efficacy & cost effectiveness.

Disulfiram (Tetraethylthiuram disulfide) is an aldehyde dehydrogenase inhibitor that interferes with the metabolism of alcohol by producing a marked increase in blood acetaldehyde levels leading to unpleasant symptom referred to as the disulfiram-ethanol reaction. Thus Disulfiram is used as an aversive conditioning agent. Either the fear of having a Disulfiram-Ethanol Reaction or the memory of having had one is meant to condition the patient not to use alcohol. Disulfiram has a half-life estimated at 60 to 120 hours because of which it may produce symptoms even 1 or 2 weeks after the last dose! Disulfiram-Ethanol Reaction can occur within 10 mins of taking alcohol & features can be sweating, palpitation, facial flushing, throbbing headache, nausea, vomiting, chest pain, dyspnea, hyperventilation, tachycardia, hypertension, syncope, marked uneasiness, vertigo, blurred vision, & confusion. In severe cases, there may be respiratory depression, cardiovascular collapse, arrhythmias, myocardial infarction, acute congestive heart failure, unconsciousness, convulsions, and even death. The intensity of the reaction may vary with each individual but is generally proportional to the amount of Disulfiram and alcohol ingested. In severe reactions, supportive measures to restore blood pressure & to treat shock should be instituted. Other measures such as

the administration of oxygen, massive intravenous doses of vitamin C (1 g), ephedrine sulfate or antihistamines might be helpful.

For reasons explained above every patient is educated about Disulfiram & written consent taken. Disulfiram like reaction can occur in patients who are taking metronidazole, cephalosporins, sulphonylureas or griseofulvin when alcohol is ingested. The patients on Disulfiram also need to be aware that alcohol-containing preparations i.e., in sauces, vinegars, cough & cold mixtures, and even aftershave lotions or liniments can also trigger off such reactions! Since Disulfiram-alcohol reactions could aggravate some medical conditions such as diabetes mellitus, hypothyroidism, epilepsy, cerebral damage, chronic & acute nephritis, hepatic cirrhosis or hepatic insufficiency, they need to be warned. Extreme care should be taken in such patients or avoid Disulfiram altogether. Disulfiram inhibits enzyme induction, thus interfere with the metabolism of drugs & enhances the effects of Coumarin anticoagulants, diazepam, paraldehyde, caffeine, tetrahydrocannabinol, barbiturates, isoniazid, tricyclic drugs & phenytoin. In a small number of patients, a transient mild drowsiness, fatigue, impotence, headache, acneiform eruptions, allergic dermatitis, or a metallic or garlic-like aftertaste may be experienced during the first 2 weeks of therapy. Disulfiram is supplied in tablets of 250 mg and 500 mg. Average maintenance dose is 125 to 250 mg / day but should not exceed 500 mg daily. Disulfiram does not produce tolerance. Daily uninterrupted administration continued until the patient has self-control. Although implants of disulfiram appear to be an attractive method to ensure compliance in future but has its own drawbacks.

Disulfiram is certainly an old drug in use and data available on it for more than 50 years now. Although many individuals do achieve long-term sobriety, few others continue to relapse and deteriorate despite multiple courses of treatment. However, with proper motivation and supportive therapy, Disulfiram is an old (in terms of years of use & data available) and beautiful Drug (in terms efficacy & cost effectiveness) which wins hands down.

Dr. Harisha Delanthabettu
HOD, Department of Psychiatry
K V G Medical College, Sullia

Headache - When to seek opinion from psychiatrist?

Headache is not new to anybody, in fact I had one yesterday, which subsided with a small nap! Well most of the people suffer from headache one day or the other, so it won't be surprising that this symptom is taken very lightly by the people. Only when the symptom is unbearable or does not subside with over the counter analgesics, the patients would approach a doctor. Available literature says that most of the patients with unexplained headache do have a cause which is not properly evaluated.

Headache can be due to recognizable causes like tension headache, cluster headache, sinusitis, migraine, thunderclap headache, temporal arteritis, ophthalmic causes like glaucoma. Headache due to sinus disease usually follows a rhinitis or secondary to toothache and usually localised and easily diagnosed by radiological investigations. Cluster headache usually occurs in early morning, will be unilateral, dull aching and responds spontaneously to analgesics. Migraine usually presents as a unilateral pulsating headache aggravated by movement and associated with nausea and photophobia, triggers being sleep deprivation or caffeine usage or fasting. Thunderclap headache occurs following exertion or sexual activity and presents as a sharp agonising pain, but subsides spontaneously without medication. Temporal arteritis usually manifests as a localised temporal headache, occasionally associated with visual symptoms and has good response to steroids. Ophthalmic causes of headache like glaucoma present as throbbing pain around the eyes which can be confirmed by tonometry. It should also be noted that most of these conditions have high rates of co-morbid Psychiatric diagnosis especially those associated with Migraine.

When the doctor feels that the patient's symptoms are not corroborating with the associated signs known to him or the symptoms do not subside with well planned management, the suspicion of a non-organic cause should be explored. This is where awareness of common psychiatric disorders comes into picture. Many psychiatric disorders like depression with typical early morning headache, somatisation disorder with multiple complaints & numerous consultations, anxiety disorders, interpersonal problems, do present with headache or heaviness of head.

The diagnosis of a psychiatric disorder cannot be made only on the basis of non-organic headache, but should be considered with other symptoms. So cross consultation with the psychiatrist should be a smooth affair, because the word psychiatrist rings many bells in

Indian society, particularly with respect to stigma. The patient should be educated that opinion from psychiatrist may ease his headache without the use of unnecessary medications and investigations. Hence it should also be wise to address co-morbid psychiatric conditions while taking a detailed history and in management of organic causes of headache.

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Asso. Professor of ENT

Adichunchanagiri Institute of Medical Sciences

Reframe : Myths & Facts about - Mental Health Act 1987

- ✗ Mental Retardation is covered under this Act
- ✓ Mental Retardation does not come under this Act as Mental Retardation is not a mental illness.
- ✗ Mental Health Act deals with regulation of admission & discharge of mentally ill and nothing else
- ✓ MHA 1987 covers wide areas & includes definition of various authority, rights of mentally ill, their property management, regulations of their care, rules & regulations governing their admission, discharge, treatment etc
- ✗ Legal definition of mental illness is as defined in medical textbooks
- ✓ Legal definition of mental illness is interpreted by law and includes 'unsound mind' which is again interpreted by court of law with particular case in hand.
Mentally ill cannot claim their property
- ✗ Rights of mentally ill are protected by law and are governed by defined authority.
- ✓ Admission and discharge of mentally ill is considered only when patient himself or his relatives request so.
- ✗ Even a friend or well wisher or NGO can request the same under MHA 1987.
- ✓ Anybody can admit the mentally ill and treat them, anywhere.
The definitions of treating doctor, his qualification and place of care/ treatment has to be according to MHA 1987

For more information: <http://nhrc.nic.in/Publications/Disability/annexure3.html>

Compiled By - Dr.Mahesh Rathod,

Minds Quiz

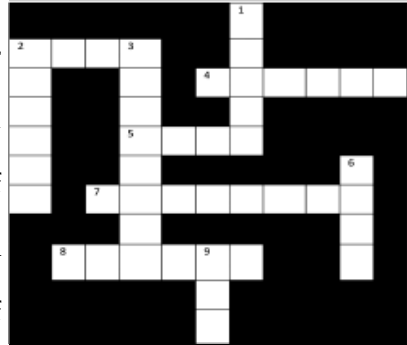
1. Most Common Psychiatric Disorder is _____
2. Delusion is a disorder of _____
3. According to WHO ICD-10 classification diagnostic duration criteria for depressive disorder is _____
4. Mitral Valve Prolapse is a differential diagnosis for which psychiatric disorder?
5. Drug of choice for treatment resistant Schizophrenia?

Answers : 1) Depressive Disorder 2) Thought
 3) Two weeks 4) Panic, Disorder, 5) Clozapine

Crossword

Across:

2. Disorder that can occur after major disasters like Tsunami
4. Feeling of having experienced a situation before
5. Methylphenidate is drug of choice in _____
7. Addictive substance found in cigarettes
8. Most common feature of alcohol withdrawal



Down:

1. Father of psychoanalysis
2. Infectious protein particles
3. Predominant neurotransmitter increased in psychotic disorders
6. _____ neuronal bodies are found in Parkinson's disease
9. Irresistible urge to hoard things of no significance causing distress!

Answer

- Across :** 2) PTSD (Post Traumatic Stress Disorder,
4) Dejavu
5) ADHD (Attention Deficit Hyperactive Disorder)
7) Nicotine
8) Tremor

- Down :** 1) Freud
2) Prions
3) Dopamine
6) Lewy
9) OCD (Obsessive Compulsive Disorder)

Responsibility of Teachers

September is a memorable month in Indian calendar wherein we celebrate Teachers Day. As we know Doctor means "to teach". As doctors, we are not sure where a hand of healer ends and role of teacher begins. A Teacher may not be the one who just taught us "What to learn?" But also "How to live?". Over a period of time we may join teaching hospitals and then some of us may reflect upon, what does it mean to be a teacher? What is the "Responsibility of Teacher?". In search of the answers, we wrote to Dr. APJ Abdul Kalam, former President of India who inspired millions, and he obliged with an exclusive article which is reproduced here unedited.

Dr. Kishor M., MD.,

From: Abdulkalam APJ apj@abdulkalam.com Date: Wed, Sep 21, 2011 at 1:18 PM

To: editor mind <editormind@gmail.com>

Dear Doctor,

Thank you for your mail. I have met many teachers who have become a role model to their students. I asked them, what was the secret of their success? They told me the following:

- a) They have been able to adopt themselves to the age of the student.
- b) As a teacher, they make sure that they take two to three classes per day.
- c) They practice everything they expect the students to do. Their real life itself is a message to the students.
- d) They ensure transparency in all their transactions and treat all students alike, irrespective of their religion, caste, language and economic status.
- e) They have a foresight and they visualize the student's growth in long term perspective.

Based on my association with teachers, I have designed an eleven point oath which brings out the responsibilities of a great teacher.

Eleven Point Oath for Teachers

1. First and foremost, I will love teaching. Teaching will be my soul.
2. I realize that I am responsible for shaping not just students but ignited youths who are the most powerful resource under the earth,

on the earth and above the earth. I will be fully committed for the great mission of teaching.

3. I will consider myself to be a great teacher for I can lift the average to the best performance by way of my special teaching.
4. All my actions with my students will be with kindness and affection like a mother, sister, father or brother.
5. I will organize and conduct my life, in such a way that my life itself is a message for my students.
6. I will encourage my students to ask questions and develop the spirit of enquiry, so that they blossom into creative enlightened citizens.
7. I will treat all the students equally and will not support any differentiation on account of religion, community or language.
8. I will continuously build the capacities in teaching so that I can impart quality education to my students.
9. I will celebrate the success of my students, with great élan.
10. I realize by being a teacher, I am making an important contribution to all the national development initiatives.
11. I will constantly Endeavour to fill my mind, with great thoughts and spread the nobility in thinking and action.

Greetings and best wishes

Kalam

Developmental Regression in children

Two cases seen in our hospital recently are briefly described. These lead to increased discussions within us on the approach to such cases. The focus in this brief write up is to encourage the readers to inform themselves about autism when faced with such clinical scenarios. Recognizing that information is easily done in today's age, we have instead touched upon various thought processes in such instances.

Case-1 5 year 3month old boy, with normal development till 2 year 5 months of age presented with regression of language and complete cessation of speech by 3 years along with few repetitive motor behaviours, poor non verbal communication and impaired social interaction. He shows some inclination to social imitative play and ill sustained eye contact. He also has increased activity levels needing

constant supervision and is restless and fidgety since the age of 3 years.

Case-2 5 year old boy, born of second degree consanguineous marriage, had delay in language milestones since birth. He presented with poor social interaction, poor imitative play and repetitive motor behaviours since three months with gradual decline and complete cessation of speech since 20 days associated with significant loss of motor skills.

The two large streams of neurodegenerative disorders one considers in such a situation include: Grey matter diseases and white matter diseases. A good summary of each of these diseases may be obtained from the following sources: http://www.pediatriconcall.com/for-doctor/Conference_abstracts/NEUROGENETICSDEL/Greymat.asp and also at <http://www.vumc.com/afdeling/Children-White-Matter-Disorders>. On the other hand, the number of children with gradual onset of socio-communication difficulties after an apparent period of 'normal' development leading to a diagnosis of Autism and other pervasive developmental disorders has been very common in our hospital. Also, the children with autism are more likely to improve with intensive early interventions. We were faced with different possible courses of action as getting clear diagnosis was going to involve a lot of expense and time. Often awaiting diagnostic clarifications leads to reduced energy towards possible interventions.

A majority of children may not fall into the category of neurodegenerative disorders. Autism Spectrum Disorders (ASD) are an increasingly recognized group of childhood disorders where regression may be seen in nearly a third to half of cases before 3 years of age. Many other children with ASD may show delayed development from the beginning. All regressive disorders may not be ASD, but ASD is more likely to improve substantially with intensive early intervention. Recent studies following up siblings of children with Autism has suggested that regression may be in much higher proportion and may involve subtle losses in motor functions too (John Constantino, The Genetics of Autism, April 2010, UC Davis, MIND lectures available free on iTunes).

Families may end up spending a lot of money ruling out a long list of storage disorders. They may also be losing valuable time when early intervention must be getting started. Secondly, there is also a strong urge to provide reassurance to families amongst the medical profession. Some of the delay in availing intervention can be traced to the family doing nothing because the doctors were reassuring.

A lot of information on autism is available today easily. (www.autismspeaks.org and www.autism-india.org, www.autismsocietyofindia.org). A global autism convention was held at Bangalore recently. A whole lot of interventions as is practiced in India (and overseas) were presented and discussed. Anyone wishing to have a copy of the book of abstracts may write to autismseminar2011@gmail.com. A book with full text articles from this meeting will be published soon. The scope for establishing specialized training programmes at every taluk level is very high. We urge the readers to develop special education units locally with help of technical inputs available with several organisations within the state. The results will be gratifying indeed.

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Department of Psychiatry, St.John's Medical College Hospital

***Professor Ashok M V has keen interest in child psychiatry and he can be contacted at mysoreashok@gmail.com**

Brain of Schizophrenia ! what's inside?

Schizophrenia is a fascinating disorder for clinicians & researchers in various field of medicine as it is a complex psychiatric disorder characterized by delusions, hallucinations and or negative symptoms, with high personal and societal costs. Even the patients and their relatives are curious to know the reason behind altered behavior, they may insist upon clinician to investigate the Brain!

The illness has prevalence rate of less than 1% in the general population. Efforts to understand its etiology is not new. Over hundred years ago, Emil Kraepelin & Bleuler described schizophrenia. They were convinced that it was an organic brain disease, and Alzheimer who worked with Kraepelin, began the neuropathological investigation, before moving to a more fruitful research area. Subsequently the subject has continued to exasperate researchers in equal measure, generating more heat than light and being notable for memorable quotes rather than durable data. Of all the methods used to investigate biologic abnormalities in psychiatric illnesses, neuroanatomical studies have provided some of the most consistent evidence for brain abnormalities in schizophrenia.

Lateral ventricular & sulcal enlargement particularly in the anterior and temporal horns is the best replicated anatomic abnormality detected in the brains of patients with schizophrenia, both in earlier CT studies and in many MRI investigations. With volumetric analysis,

reductions found more often for the hippocampus than for any other brain region. Grey matter appears to be reduced more than white matter. Volumes in specific frontal, temporal, & parietal cortical sub regions appear to be disproportionately smaller. However, like widespread abnormalities, the significance of focal cortical volume deficits in schizophrenia remains unknown. There are some gender differences among patients with Schizophrenia, ventricular size larger in men; however brain volume reduction more marked in women. Planum temporal volume & other asymmetry reversals marked in men but corpus callosum thickness is in women.

Heteromodal association cortex (HASC) is a highly organized and interconnected neocortical system comprised of the planum temporale (PT), the dorsolateral prefrontal cortex (DLPFC), Broca's area, and the inferior parietal lobule (IPL). Several neurodevelopmental features of HASC may be especially vulnerable to disruptions in neuronal function or connectivity during brain development, which are also implicated in schizophrenia.

Many structures are normally lateralized in the human brain, with surface areas or volumes being consistently larger in one or the other hemisphere, on occasion in conjunction with lateralized functions such as language. Studies have demonstrated the absence or reversal of such normal cerebral structural asymmetries in schizophrenia. Recent discussions have focused on disturbed connectivity between different brain regions in schizophrenia. Across hemispheres, the disruption was most pronounced in medial and lateral temporal lobes structures, including entorhinal cortex and anterior and posterior superior temporal gyri.

All the data available currently kindles our interest to understand this illness with more sophisticated investigations like fMRI, SPECT & PET scans. Hope we will know more about, "Brain of Schizophrenia! What's inside?"

Dr. Anupama.M.P, Asst. Prof in Anatomy
Adichunchanagiri Institute of Medical Sciences

Reframe : Myths & Facts about - Schizophrenia

× Individuals affected with Schizophrenia are dangerous & violent

- ✓ Violence is uncommon among patients with Schizophrenia in comparison to general population. They tend to be more distressed, frightened, confused & lack insight about their condition.
- ✗ Patients with Schizophrenia are mad
- ✓ Patients with Schizophrenia are neither mad nor mentally retarded. In fact Prof John Nash who suffered from Schizophrenia won Nobel Prize! Beautiful Mind is a movie made on true story of his life
- ✗ Schizophrenia has no treatment
- ✓ It can be treated with combination of antipsychotic medications, social support and evidence based therapy.
- ✗ Schizophrenia affected patients suffer lifelong without remission
- ✓ Nearly one third have remission after an episode with treatment, another one third can carry out daily activities with partial remission and only remaining one third need continuous comprehensive management.
- ✗ Schizophrenia can be managed with just counseling.
- ✓ Most disorders are best understood by Bio-Psycho-Social model & counseling or therapies are integral part of all management protocol, which needs to be continued with necessary medication.

Compiled by - Dr. Harish.H.S

Minds Quiz

1. Approximate percentage of alcohol in spirits like whisky, gin, brandy, vodka is _____
2. Hallucination is a disorder of _____
3. According to WHO ICD-10 classification Diagnostic Duration Criteria for Schizophrenia is _____
4. Most common type of Delusion is _____
5. Biological marker of a recent seizure episode is _____

Answers

- 1) 30 - 40 % 2) Perception 3) 4 weeks
4) Persecutory or paranoid 5) Raised serum prolactin

Altered behaviour in adolescence - need for early Recognition

The transitional stage of physical and mental human development occurring between puberty and legal adulthood is 'adolescence'. It is derived from a Latin word 'adolescere', meaning 'to grow up'. It is characterized by a number of cognitive, emotional, physical and attitudinal changes. These changes promote personality development on the one hand, and conflict with the surrounding adults, on the other. It is at this phase of life that they begin to view friends and peers as being more influential than their parents. In search of a social identity, they tend to drift away from parents and home in many ways. The stress imposed on them at this stage is immense, making them more susceptible to imbalances in mental health. Sometimes, it becomes difficult to differentiate between normal reaction to their stress, and the onset of mental illness. It thus becomes important for the parent to be vigilant when any altered behaviour emerges.

A healthy adolescent usually copes with most issues that he is challenged with, functioning adequately academically, as well as being socially comfortable with peers and family alike. Some adolescents exhibit irritability, resistance to parental desires, or disregard towards family decisions. Such changes in behaviour, in excess, could well indicate a need for early evaluation.

A withdrawn adolescent, who appears sad and may be found crying at times, with a declining academic performance, could be suffering from a depressive illness. At times, they could be abusive, irritable, quarrelsome and refuse to fall in with family regulations. As opposed to this, if the student were to be making plans well beyond his reach is seen to be excessively happy and cheerful, or overactive, irritable, spending much more money than usual, it is possible that a mood disorder, mania, might be causal.

Despite an average or even good academic performance, some adolescents begin to decline in performance in their late teens. This could be due a variety of causes. However, if this feature is compounded with the person becoming progressively withdrawn, remaining secluded or exhibiting any altered behaviour, it could be a matter of concern. It is possible that they would develop suspiciousness and experience others being against him in some way; abnormal belief's

about others controlling him, or hearing voices when no one is around. They would then need a detailed evaluation as they are likely to have a psychotic illness, possibly schizophrenia.

Anxiety is a normal phenomena experienced by most students during their examinations. When it is so severe as to affect their daily routine or their academics, they would need to be brought for help. Excessive cleanliness, much more than the adolescent is used to, repeated washing, checking, or orderliness that hinders his daily routine or affects the family members needs a detailed evaluation for obsessive compulsive disorder or personality disorder.

Missing classes in college regularly, lying about their whereabouts, requiring more money than usual, should raise a suspicion of whether the adolescent has turned to the use of substances (drugs). The current trend through all classes alike is the use of solvent substances, due the easy availability and the affordability.

The fact that adolescents perceive themselves as adults and as 'I do not need guidance of any sort', and the fact that they seek independence at this phase of life, makes any intervention by the family very difficult. Parents should however stay tuned to their adolescent and pick up any issues early in order to deal with them effectively.

**Prof. & Dr. Lakshmi V Pandit , DPM DNB
Kempegowda Institute of Medical Sciences**

Clinically relevant interface between Dermatology & Psychiatry

For generations people have been aware of profound impact the skin disorders have on psychosocial aspects of individuals and vice versa. It is recently that we have been able understand the biological connection between them. Psychocutaneous disorders encompass a wide variety of dermatological diseases that may be affected by the presence of psychiatric symptoms or stress and psychiatric illnesses in which the skin is the target of disordered thinking, behavior, or perception. Important among them are Atopic dermatitis, Psoriasis, Utricularia, Alopecia Areata, Acne Vulgaris, Seborrheic Dermatitis, Trichotillomania and Delusion of parasitosis.

Considering the brevity of space here, only pruritic lesions have been discussed especially the ITCH part! Scratching in response to the pruritus can lead to lichenification, excoriations, and infections.

Stressful life events often precede the onset and exacerbation. How stress affects the disorder is unclear, but it may involve interactions between the CNS and the immune system. For example, there is evidence in animal models that corticotropin-releasing hormone (CRH), a principal coordinator of the stress response system, also has pro-inflammatory actions through its activation of mast cells and subsequent release of vasoactive and pro-inflammatory mediators. Well-controlled studies have found adult patients with pruritic lesions tend to be more anxious and depressed than clinical and disease-free control groups. Anxiety or depression may exacerbate lesions by eliciting scratching behavior. In another study of pruritus associated dermatological conditions, depressive symptoms appeared to amplify the itch perception. Many patients report that pruritus is aggravated by emotional distress. Stress-induced pruritus may result from a perturbation of the epidermal barrier function resulting in inflammation and pruritus.

Psychiatric evaluation and treatment is recommended for patients who have comorbid anxiety and depressive symptoms or stressors that may contribute to difficulties in management of the disorder. Different modalities of psychiatric treatment for exist. Some strive to reduce stress and interrupt the vicious circle of itching and scratching. Controlled studies have established that relaxation training, habit reversal training, cognitive-behavioral techniques, and stress management training lead to significant and stable adjunctive treatment responses beyond those of standard medical care, as well as reduce anxiety and depression. Controlled trials of psychotropic drug treatment found that topical doxepin cream was effective in reducing pruritus in dermatitis patients, probably related to doxepin's potent histamine antagonism. Amitriptyline, another antidepressant with histamine receptor antagonism, decreased the fragmentation of sleep and reduced the time spent in stage 1 sleep, which secondarily reduced the amount of scratching during the night.

Overall, liaison with Psychiatry will likely to have better quality of life in such patients & clinicians satisfaction.

Dr. Umashankar., DVD.,
Adichunchanagiri Institute of Medical Sciences

Reframe : Myths & Facts about - Alcohol De-addiction

- ✗ Once a person quits alcohol after de-addiction he will never relapse again.
- ✓ Majority of patients have recurrent relapses & hence treating team should develop rapport with patients
- ✗ Disulfiram is given immediately once the patient or their relatives seek help for problems due to alcohol.
- ✓ Patients are assessed, whether they are dependent or abusing the alcohol & examined for intoxication, if so then they are detoxified with tapering dose of benzodiazepine & then de-addiction is considered.
- ✗ Alcohol de-addiction can be done without patients knowledge as widely publicized with Disulfiram
- ✓ It is not only unethical & illegal but also dangerous to treat a person without his knowledge with Disulfiram.
- ✗ Alcohol De-addiction involves use of only Disulfiram.
- ✓ Most important aspect of management is Motivational Interview wherein patient gets the feedback & decides from the option of medications like Disulfiram/Acamprosate/ Naltrexone etc & Evidence based Counseling.
- ✗ Alcohol De-addiction is a costly process and needs specialized centers.
- ✓ De-addiction can be carried out in any medical institutions at very affordable price.
- ✗ Disulfiram is unsafe and should never be prescribed for Alcohol De-addicmtion.
- ✓ Disulfiram is the most cost effective drug available when it is used in recommended way & tailored to patient.

Compiled By - Dr. Pampi Majumder

Minds Quiz

1. The first antipsychotic drug discovered was _____
2. Treatment of choice in post partum depression with high suicidal behaviour_____

Demystifying Electro Convulsive Therapy!

ECT : How is it given? What happens during ECT administration? Is ECT painful?

In the contemporary practice of ECT it is administered under general anaesthesia, which is called modified ECT and is the standard recommended by many International Guidelines. The central point is to induce a seizure. As convulsions of a seizure can be violent and may cause fractures, particularly of the vertebrae and rarely other bones, generally a muscle relaxant (e.g. succinylcholine) is used. In order to mask the unpleasant sensation of muscle relaxant, a short-acting general anaesthetic agent (e.g. thiopentone) is administered just before succinylcholine. When the patient is fully under sedation & when complete muscle relaxation is achieved, ventilation support is provided with oxygen and electrical stimulus is applied. So it is not a traumatic or painful procedure. The amount of electricity used is just enough to light a 100 W bulb for about 1 second. Specifically, most devices deliver about 60-500 millicoulombs of electrical charge in one session. Electricity is delivered for 0.4 to about 5 seconds. It should be noted that because of the resistance of the skull, only a small part of the electricity passes through the brain, without any burn marks on skin.

Typically the patient convulses for about a minute following stimulus administration. Ventilation support is continued till the patient resumes spontaneous breathing, which may take about 5-10 minutes time. Overall, the procedure lasts for about 20-30 minutes per patient. The patient then recovers in a recovery room supervised by the nursing staff. After about 1 hour, he/she would recover completely from the effect of anesthesia and is shifted back to the ward or sent home. In order to avoid aspiration under anesthesia, patients are advised to arrive in on empty stomach.

How does ECT act?

Despite being used for several decades and intense research, little is known about the mechanism of how ECT acts. At the risk of being too simplistic, suffice to say that ECT appears to 'normalize' the abnormal neurotransmitter systems of the diseased state of different psychiatric disorders.

Which conditions respond to ECT?

Depression, (especially severe ones with psychotic symptoms such as delusions & hallucinations and with high suicidality) and catatonic schizophrenia are 2 conditions, in which ECT scores over other treatments. In addition, ECT is useful in severe forms of mania and other types of schizophrenia especially, when pharmacological treatment is not possible or cannot wait: e.g., refusal of treatment by a psychotically disturbed patient; compromised oral intake; high suicidality; etc. Many clinicians use ECT in these conditions if they do not respond to pharmacological methods of treatment. It is not prudent to use ECT in situations other than these. In fact, indiscriminate use of ECT in situations where it is not warranted has brought bad reputation for the treatment method and for psychiatrists in general.

What are the most important adverse effects?

ECT, as practiced according to the standards, does not produce any brain damage. On the contrary, a number of neuroprotective changes can be expected with ECT. The most important concerns are about (1) adverse effects of ECT on memory and other cognitive functions and (2) risk of medical adverse effects during an ECT session. Since the advent of ECT a lot has been done to reduce the cognitive side effects. However, it has temporary adverse effects on cognitive functions, especially memory but almost all patients achieve nearly complete recovery of memory within a few days. ECT causes increase in heart rate and blood pressure during the session. These effects last for about a few minutes and cause extra load on the heart. ECT may hence cause cardiac adverse effects in those who have ischemic heart disease, uncontrolled hypertension, etc. Pre-anesthetic evaluation including cardiologist referral is important in this background. There are no absolute contraindications for ECT, even raised intracranial pressure being an important relative contraindication.

For how long is ECT administered?

ECT is typically a temporary treatment - usually administered about 3 times a week for about 2-3 weeks to cause improvement in clinical condition. Following ECT, almost invariably the patients will require pharmacological & psychological treatments to sustain the improvement. Rarely some patients may not respond to any other treatment other than ECT. Such patients may require 'maintenance' ECT i.e., about once in 2-4 weeks for several months. It should also be noted that once a patient receives ECT, he need not receive ECT each time he becomes ill. Indiscriminate use of ECT should be avoided.

Dr. Jagadisha, MD.,
Additional Professor of Psychiatry
National Institute of Mental Health & Neurosciences (NIMHANS).

Alcoholic liver disease

Problems due to alcohol have been a worldwide phenomenon for generations. The consumption of alcohol is on the rise with the economic developments, more so in countries like India. Intake of alcohol beyond certain limits has serious health hazard, the liver being the most common organ involved. It has been suggested that 'sensible drinking' would be 28 units by men and 21 by women in a week. One unit is considered to be 8g of alcohol. Often units are quoted as being one small glass of wine or half a pint of beer or one pub measure of spirits. It is also recommended that at least one day a week should remain alcohol free and in a given day the amount should not exceed 4 units for men and 3 for women. However alcohol is not recommended for any health benefits.

Alcoholic liver disease is associated with consumption of alcohol. But, whether duration or quantity directly correlates with liver pathology is not certain. Subsets of individuals develop liver disease suggesting the role of genetic factors contributing the disease. Research has shown that individuals who have genes favouring a strong immune response are those at most risk of alcoholic liver disease. On the contrary the gene variant named CYP2E1 may protect against alcohol! Pathologic changes seen in alcohol induced liver diseases can be divided into 3 stages; alcoholic steatosis, steatohepatitis and alcoholic cirrhosis. Alcoholic steatosis is early and reversible, where lipid droplets accumulate within the hepatocytes. With abstinence these changes can return to normal in 3- 4 weeks. At this stage there will be elevated aspartate amino transferases (AST) and alanine aminotransferases (ALT).

Alcoholic hepatitis is an inflammatory liver disorder due to progressive intake of alcohol where there is neutrophilic infiltration in the liver accompanied by ballooning degeneration and Mallory hyaline inclusions in the hepatocytes. With abstinence these changes can resolve in months. At this stage there is elevation of aspartate aminotransferase. Studies have shown that C reactive marker protein is an accurate marker of alcoholic hepatitis. Liver biopsy may be needed if the diagnosis is in doubt or other concomitant pathology is suspected such as hepatitis C infection.

Alcoholic hepatitis progresses to cirrhosis which is irreversible. The cirrhosis is often micronodular type, where there is destruction of normal architecture of liver by fibrous septa which encompass the regenerative nodules of hepatocytes. If the patient stops alcohol intake at this stage, the parenchymal regeneration improves, nodules increase

in size and become macronodular and all features of alcoholic aetiology disappear. It is found that a high AST/ALT ratio is suggestive of advanced alcoholic liver disease. Liver biopsy is indicated to characterize the extent of damage, providing prognosis and helping in therapeutic decision making.

To conclude there is no single physical examination finding or a laboratory test that can be specific for alcoholic liver disease. Liver pathology reports serves as important feedback to patient & his family in educating & motivating him to control Alcohol.

Dr. VijayShankar. S ., MD (Pathology)

Asso. Professor

Adichunchanagiri Institute of Medical Sciences

Reframe : Myths & Facts about - Obsessive Compulsive Disorder (OCD) -

- ✗ OCD is classified under psychotic group of disorders
- ✓ OCD is classified under anxiety group of disorders
- ✗ OCD is seen only in adults
- ✓ OCD is seen across all age groups including children.
- ✗ Patient suffering from OCD do not have treatment option.
- ✓ Patient with OCD can be treated with medication like SSRI like Sertraline /fluvoxamine or TCA like Clomipramine and therapy like Exposure & Response Prevention. Best results are with combination.
- ✗ Patient can be diagnosed with OCD only if they have features for many years
- ✓ According to WHO, patients can be diagnosed if they have Obsessions or Compulsions or Both for most of time, at least for 2 weeks.
- ✗ Obsessions can be Image/Idea/Impulse which reoccurs in stereotyped manner against one's wish causing distress, even though person is aware they are his/her own and does not make much sense, at least most of time.
- ✓ Compulsions can be physical or mental activity wherein person feels compelled to carry out, causing heightened anxiety when resisted and brief period of relief when acted upon it.

Dr.Chaitra.V.H.M ,

Minds Quiz

- Which of these is not approved for Nicotine De-addiction?
 - Naltrexone
 - Bupropion
 - Buspiron
 - Nicotine
- International Pilot Study on Schizophrenia {IPSS} was conducted in India at?
 - Bengaluru
 - Chennai
 - Agra
 - Chandigarh
- Persistent low mood for at least 2yrs is named as
 - Cyclothymia
 - Euthymia
 - Dysthymia
 - Hyperthymia
- Which of these is not a Selective Serotonin Reuptake Inhibitor (SSRI)?
 - Escitalopram
 - Sertraline
 - Duloxetine
 - Fluoxetine

Answers

1. Buspiron 2. Agra 3. Dysthymia 4. Duloxetine

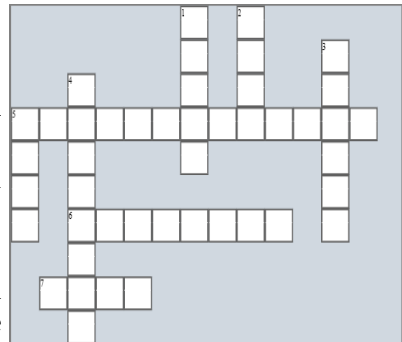
Crossword

Across:

- Filling up of Gaps in Memory! Seen in Korsakoff's (13)
- Exaggerated feeling of well being (8)
- Penchant desire to eat nonfood substance (4)

Down:

- A dissociative state wherein a person begins a new life altogether (5)
- A prodrome before seizure (4)
- An intense irrational fear leading to avoidance (6)
- Desmopressin Nasal spray can be used for Children with this condition (8)



5. A state of profound unarousable & unconscious state (4)

Answers

Across : 5. Confabulation
7. PICA

6. Euphoria

Down: 1. Fugue
3. Phobia
5. Coma

2. Aura
4. Enuresis

Dear Readers

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We need your support, if you think this free e-book has benefitted you, please be a part of this "non profit initiative".

You can contact us for more info on this e-mail: mindsmysore@gmail.com

Minds United For Health Sciences & Humanity

Emergence of psychiatry as valued medical speciality across world

In 1975, when I was a junior resident in psychiatry, Milton Greenblatt famously wrote in the *New England Journal of Medicine* about psychiatry as follows; "For many years psychiatry has been the battered child of medicine. Born in witchcraft and demonical possession, feared by the public, often scorned by the family of medical specialists and dependent for much of its existence upon handouts from agencies, psychiatry has had a very hard life, indeed". But now, all that has changed. From its predominant psychoanalytic orientation of those days, psychiatry has steadily become more remedicalized, gaining closer affiliation with and greater respect from other medical specialities. It is well recognized now that mental, emotional and behavioural disorders affect large number of people all over the world. They constitute about 13% of the global burden of diseases. Many disorders affect not only the individuals who suffer but also for their families and communities and have enormous economic costs too. Parallel revolutions in basic neurosciences and genetics and advances in brain imaging techniques are at last helping us to better understand the complexity of disorders such as schizophrenia and depression.

These days, the psychiatrist is a much wanted, sought after and a much valued medical specialist, all over the world. Besides being a skilled clinician capable of diagnosing and managing complex mental disorders, psychiatrist is expected to be a team leader of various mental health professionals, a trainer of primary health care personnel and a clinical practice-based researcher.

As the field has steadily grown wider, various subspecialties in psychiatry have emerged. These include, besides the traditional subspecialties of child and adolescent psychiatry and addiction psychiatry, numerous others such as geriatric psychiatry, consultation-liaison psychiatry, forensic psychiatry, clinical psychopharmacology and psychiatric research. For a young psychiatry researcher, the field offers some of the most difficult challenges. The revolution in basic neuroscience will now have to be translated into a revolution in clinical psychiatry. Breakthroughs in our understanding of serious mental

disorders are urgently needed - biomarkers for early detection of serious mental disorders, pre-emptive interventions for those detected to be at risk and better treatments aimed at recovery for those with symptoms². The prestigious science journal, Nature has designated the current decade, "A decade for psychiatric disorders"³

Reference:

1. Greenblatt M. Psychiatry: the battered child of medicine. *N Engl J Med.* 1975;292(5):246-50
2. Insel TR. A bridge to somewhere Guest Editorial. *Translational Psychiatry* (2011) 1, e2; doi:10.1038/tp.2011.4
3. Nature, Editorial. A decade for psychiatric disorders. *Nature* 463, 9 (2010) | doi:10.1038/463009a

Prof. Mohan Isaac MD (Psy), DPM, FRCPsych, FRANZCP

School of Psychiatry and Clinical Neurosciences.

The University of Western Australia, Perth and

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Cortisol assay, stress & exams!

One wonders what exactly drives students to perform better during exams more so during graduation especially in medical schools where exam pattern are considered tough compared to all other course. Though we know too many factor play role during stress & it's equally difficult to assess all of them. We (I and Chandrashekara.S of Chanre Rheumatology & Immunology Clinic, Bengaluru) carried out an important study on one aspect of stress during exam. Our objective: The perception of stress among medical students due to academics is variable. This perception of stress may depend to some extent on the individual's adjustment pattern as well as the nature of the situation. The study was conducted to determine the influence of adjustment patterns and state anxiety on the stress perception (by serum cortisol assay) & cognitive performance during a mental task related to academics.

Our Method: 58 M.B.B.S First year students of Bangalore Medical College were recruited for this study. Venous blood samples were collected from these students on the day of their regular academic exam (written) between 8 - 9 a.m. Two questionnaires a) The Bell's Adjustment Inventory & b) State Trait Anxiety Inventory, State Form, were administered to these students before collecting the blood samples.

A third questionnaire, 'Performance rating questionnaire' was administered after completing the exam. Serum cortisol assay from the blood samples thus collected was done by ELISA technique, following the standard protocol. Results showed: Cortisol levels were significantly higher ($p=0.000$) in the poor adjustment group & high anxiety group ($p=0.009$). Regression analysis indicated that, adjustment had more significant influence ($p=0.105$) compared to anxiety ($p=0.204$) in changing the cortisol levels. Performance in the academic exam showed a better match between results expected and obtained among good adjustment compared to poor adjustment group of students.

Our conclusion : Adjustment abilities & not state anxiety can be considered as marker of Cortisol response to academic stress (psychological stress) in medical students. Cortisol levels before facing a mental task determines the performance outcome of the task .It might be more important to educate students in all medical colleges and with active co-operation of respective departments about how best can students plan and handle curriculum so that they can develop better coping skills for stress during exam.

Dr.Sudhir.G.K , MD., (Physiology)
 Asso. Prof.of Physiology
 Adichunchanagiri Institute of Medical Sciences,

Reframe : Myths & Facts about - Nicotine De-addiction

- ✗ To Quit smoking is dangerous adventure as saying goes once a smoker, always a smoker
- ✓ Smoking can be discontinued safely at anytime and it is never harmful to give up smoking
- ✗ Smoking has health benefits as it reduces tension and gives relief, filtered cigarette or cigars/ Hooka are better
- ✓ Any form of nicotine is harmful to health and leads to addiction. Smoking has NO health benefits & it is this 'sense of relief' from smoking which makes one dependent
- ✗ There is drug or injection which can make you quit smoking at one go.
- ✓ There is no magic drug or Injection that can stop a person from smoking. Through motivational interview patient decides to quit which can be sudden or planned. Withdrawal features & craving can be managed by available medications such Bupropion, Naltexone, Varnicline or replacement agents like nicotine gums/

patch. Same principle are used for Nicotine addiction in any form like snuff, Gutka etc

- ✗ To quit smoking one has to go to specialized de-addiction centers and the process is costly
- ✓ To quit smoking one can seek guidance at any medical center, it is very affordable at all medical college hospitals and Psychiatrist or Physician can guide to those who wish to quit.

Quitting Nicotine is possible & it is safe

Compiled by - Dr. Lohit kumar V.R.

Minds Quiz

1. Differential diagnosis for Generalized Anxiety Disorder?
 - 1) Hypothyroidism
 - 2) Hyperthyroidism
 - 3) Hypercalcemia
 - 4) Hypocalcemia
2. Modern ECT is a contribution of?
 - 1) Igas Moniz
 - 2) Jauregg
 - 3) Delay & Deniker
 - 4) Cerletti & Bini
3. According to WHO criteria AUTISM can be diagnosed by age of?
 - 1) 12months
 - 2) 16 months
 - 3) 24 months
 - 4) 36 months
4. Which of these is not a Tricyclic Antidepressant (TCA)?
 - 1) Dothipin
 - 2) Amitriptyline
 - 3) Desvenlafaxine
 - 4) Clomipramine

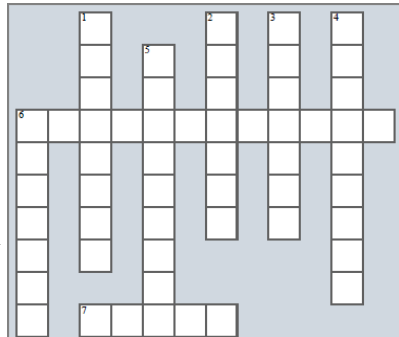
Answers

- 1) Hyperthyroidism
 - 2) Cerletti & Bini,
 - 3) 36months
 - 4) Desvenlafaxine
- *****

Crossword

Across:

6. The father of American psychiatry (12)



7. Who propagated moral treatment of insanity? (5)

Down:

1. Showed that a metal had antimanic properties(8)
2. One of the first to discover chlorpromazine (7)
3. First psychiatrist to receive the Nobel Prize for using malaria fever!
(7)
4. He got noble prize for psychosurgery(9)
5. He classified the psychoses for First time (9)
6. He named schizophrenia (7)

Answers

Across : 6) Benjamin Rush

7) Pinel

Down: 1) John Cade

2) Deniker

3) Jauregg

4) Igas Moniz

5) Kraepelin

6) Bleuler

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Minds United For Health Sciences & Humanity

Guest Column : Down the Memory Lane.....

Series 1 : How do I Understand This Case ?

On an Out-patient day at NIMHANS, a PG presented the history of a male patient in his mid-30s with complaints of bouts of abnormal behavior. He had delayed milestones of development, could not progress beyond 8th standard and had mild mental retardation. The clinical features of his bouts of abnormal behavior were suggestive of Temporal Lobe Epileptic phenomena.

Before referring him to the neurologist, I wanted to probe a little deeper into a part of his history that interested me. It was that he was married about 8 years previously to an academically brilliant girl, a rank student. Moreover, she wanted to pursue her studies into engineering or medical, and did not want to get married so soon. However, she had yielded to her parents' wishes and had agreed to marry. She came to know of her husband's illness after the marriage. I asked her about the possible consequences of the above set-backs on her life. For some reason that I could not identify at that time, I was thrilled by her answer.

She answered (non-literal English translation): "My disappointment increased after knowing about my husband's abnormality. But, I gradually became happier after realizing his virtues. He is more loving and caring than even my parents, the like of which I had never experienced during my childhood. If I am ill with fever, etc., he nurses me with tender care. He also looks after and plays with our two children, I could not have been happier."

If she had pursued her studies, she might have become a great achiever. But, I believe her current contentment as the greatest achievement. Or, has she wronged (or, deceived) herself by becoming contented?

Dr. C. Shamasundar
Retired Prof. of Psychiatry, NIMHANS

Late onset Depression

It is a major misconception among many that depression is a normal phenomenon in the aged population. However, it is not true, as a majority of the aged population enjoy a sense of wellbeing as all others. Late onset depression is considered a distinct clinical entity and is defined as Depression with onset in old age (>65 yrs) , without prior history of hypomania or mania or depression. The prevalence of late onset depression is 2-5%. This is of great concern as the aged population is increasing around the globe. The numbers will increase further, as in a few years from now, India will witness a phenomenal increase in population, and become one of the most populated countries, overtaking China by 2025.

Late onset depression is more likely to manifest with certain unique features and characteristics when compared to depression in young, as they are more likely to be associated with the following features - structural changes in the brain, without a family history of mood disorders, insidious in onset, more of an irritable mood than low mood, heightened & excess concern with their health, loss of weight, feelings of guilt, suicidal ideations and more likely to have psychotic symptoms. Whether they have more cognitive impairment is not certain.

Management of late onset depression is a challenge right from diagnosis to treatment. Diagnosis can be difficult when the condition is associated with physical illness or organic brain disorders like Dementia. It may be more important to sensitize physicians about identification of the conditions as most aged population are assessed by them initially. Management involves investigation, when organic causes are suspected. CT Scan may suffice in majority of suspected cases. Addressing the co morbid conditions adequately can make management of depression more meaningful and complete. Multiple medications, decreased body mass, liver & kidney status in aged can add up to challenges when Antidepressants are prescribed. Choice of antidepressants should be made keeping the side effect profile in mind. It may be fruitful to utilize the side effect profile of the antidepressant - for example, using mirtazepine in those with poor sleep. Sertraline may be a safer choice in cardiac patients. Non pharmacological intervention such as supportive therapy, cognitive behavioral therapy and interpersonal therapy are important aspects of management, and should not be neglected.

More studies on late onset depression from urban and rural India may be necessary to address this challenge in years to come.

Dr.Kasthuri Pandiyan, M.D.

Assistant Professor of Psychiatry,
Bangalore Medical College & Research center

Reframe : Myths & Facts about - Anorexia Nervosa

- ✗ Anorexia nervosa is seen only in young women
- ✓ Anorexia nervosa seen also in men but rare.
- ✗ Anorexia nervosa is an anxiety disorder
- ✓ Anorexia nervosa is not anxiety disorder. It is classified under behavioural syndrome associated with physiological disturbances and physical factors according to WHO ICD 10
- ✗ Anorexia nervosa is seen only western countries
- ✓ It is seen across the world and cause is considered to be interaction of biological and sociocultural factors
- ✗ Anorexia nervosa is self limiting condition in particular age groups
- ✓ It is not self limiting. Condition needs to be treated although it occurs mostly in adolescent girls and young women but rarely boys and men, children approaching puberty and older women up to menopause have reported. Considerable number of patients have chronic form.
- ✗ Anorexia nervosa is associated only with psychological symptoms
- ✓ Disorder is associated with under nutrition, secondary endocrine and metabolic changes, also disturbances of bodily functions.
- ✗ Anorexia nervosa cannot be treated
- ✓ It can be treated. Management involves restoring patients' nutrition status; dehydration, starvation, and electrolyte imbalances. Cognitive behavioral therapy & medications for co-morbid conditions.

Definite diagnosis of Anorexia nervosa is based on Body weight which is at least 15% below expected and is self induced by vomiting, purging etc, with body-image distortion wherein overvalued idea of 'fatness ' & endocrine disturbances.

If onset is prepubertal, the sequence of pubertal events are delayed or arrested.

Compiled By - Dr. Gowthami Chowdary Ravuri,

Fibromyalgia

Although among patients reporting at orthopedics outpatient department are more commonly referred to psychiatrist for somatization, somatoform pain disorder and those symptoms where no organic cause could be elicited. Consultation liaison with psychiatry for management of Fibromyalgia can be beneficial to patients and clinician as well. Fibromyalgia is a nonspecific disorder characterized by many diffuse complaints, including pain, stiffness, tender muscles and joints, overwhelming fatigue, distress, and sleep disturbances. The presence of pain in fibromyalgia originates in the muscles and connective tissues of the body. The exact physiological process behind fibromyalgia has not been determined. The American College of Rheumatologists (ACR) defined fibromyalgia in 1990 as the presence of 1) body or joint pain above and below the waist, and on the right and left side of the body, 2) axial skeletal pain and 3) 11 out of 18 possible tender points. Digital palpation must elicit pain in at least 11 of possible 18 tender-point sites. These bilateral sites include occiput, lower cervical, trapezius, supraspinatus, second rib, lateral epicondyle, gluteal, greater trochanter, and knees.

Patients most often have associated fatigue, sleep disorders, irritable bowel syndrome, migraine headaches, and endocrine system disorders. When examined there is surprisingly little inflammation present and biopsy samples characteristically show no unusual patterns of disease or inflammation. About 2-5% of the general population is considered to have fibromyalgia.

The etiology and pathogenesis of fibromyalgia are unknown. Environmental factors, viruses, microbes, injury, or stress have been proposed as Neurophysiological and neuroimaging reveal changes in serotonin and increased substance P this nociceptive neurotransmitter lead to amplified pain sensations. SPECT and PET demonstrated that there is a decrease blood flow in thalamic and caudate nuclei in patients with fibromyalgia.

Diagnosis of fibromyalgia can be difficult. The most common associated symptoms are fatigue, depression, sleep disturbances, and cognitive problems. Additional features may include complaints of weakness, headaches, cold sensitivity, paresthesia or dysesthesia, swelling, Raynaud's phenomena, restless legs, exercise intolerance, and irritable bowel and bladder. Psychological abnormalities, especially depression and anxiety, often develop and aggravate the condition. Fibromyalgia should be differentiated with Musculoskeletal disorders Rheumatoid arthritis Polymyalgia rheumatica Polymyositis

Metabolic-endocrine myopathies Psychiatric disturbances Dysthymic disorder Generalized anxiety disorder Somatization Chronic pain syndrome. Treatment No single medical or psychiatric intervention has been shown to be uniformly effective

The current approach combines supportive counseling, cognitive-behavioral therapy, education, physical conditioning like water aerobics, cycling, yoga, and limited pharmacological interventions. muscle relaxants ,tricyclic antidepressants useful in promoting sleep and decreasing pain. Other agents being studied include tramadol,S-adenosyl-L-methionine,5 hydroxytryptophan, growth hormone,ondansetron ,GABA agonists, sertraline, venlafaxine benzodiazepines .

Dr.Vijay Kumar.C, MS (Ortho)
Associate Professor of Orthopedics
Adichunchanagiri Institute of Medical Sciences

Minds Quiz

1. Electroencephalogram (EEG) was introduced by :
 1. Cerletti & Bini
 2. Delay & Deniker
 3. Hans Berger
 4. Mesmer
2. Who has been often called as the "First Psychiatrist"?
 - 1.Paraceisus
 2. Hippocrates
 3. John Weyer
 4. Sigmund Freud
3. Flashback phenomenon may be seen with the following except,
 - 1.Cannabis
 2. Cocaine
 3. LSD
 4. Psilocybin
4. Indian Lunacy Act was passed in____ and current Indian Mental Health Act was passed in_____
 1. 1912 & 1987
 2. 1932 &1997
 - 3.1947&1967
 - 4.1982&1998

Answer

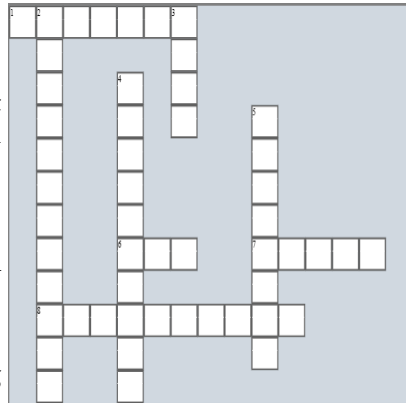
- 1) Hans Berger
- 2) John Weyer
- 3) Cocaine
- 4) 1912 & 1987

Crossword**Across:**

- 1) Impairment of movement despite normal motor and sensory functions (7)
- 6) Most Potent Hallucinogen (3)
- 7) Pioneer of "psychosurgery" (5)
- 8) Antidepressants used in nocturnal enuresis (10)

Down:

- 2) Group of disorders with resting tremors & bradykinesa (12)
- 3) Restless child, who cannot pay attention (4)
- 4) Sudden loss of muscle tone and with sleep, in day time (10)
- 5) Important neurotransmitter in schizophrenia (8)

**Answers**

Across : 1) Apraxia
7) Moniz

6) LSD
8) Imipraminel

Down:

2) Parkinsonism
4) Narcolepsy

3) ADHD
5) Dopamine

Guest Column : Down the Memory Lane.....

Series 2 : How do I understand this case?

Late Dr. Raghavendra Rao, a consultant cardiologist had published in the year 2000 a book in Kannada ("Vaidya Keliddu, Kandaddu," - 'what the doctor heard and saw,') containing interesting anecdotes from his practice. One is about a past middle aged male patient with advanced stage of CCF brought by his wife, son, and a relative. Admission and intensive treatment was advised. Wife wanted to know the approximate cost and expected outcome. The cost was not easily affordable by them, and the probability of recovery was 50%. The three had a whispered discussion, and the son told the doctor of their decision to take the patient back to the village. He requested prescription for whatever medicines that could be administered at home.

The doctor asked the reason for the above decision. The son explained (English translation): "We have half an acre of dry land. Selling it, we can raise the required money. But, if my father dies, we will lose both my father and the land, our future livelihood. Instead, after we go back, if my father survives with treatment, we will have both my father and the land. If he were to die, we will at least have the land to earn our livelihood."

This is a real life demonstration of how critical circumstances in life demand decisions that seem 'cruel,' and how mentally tough ('hardiness' or 'resilience' is a professional terminology) our rural brethren are. What does this decision reflect: (i) Wisdom or stupidity? (ii) Healthy or unhealthy attitude to life?

Incidentally, a tragic fact: Just like in any other country in the world, urban population in India (constituting only 30% of the country's total) consumes 70% of the nation's revenue (income/resources).

Dr. C. Shamasundar

Retired Prof. of Psychiatry, NIMHANS, Bengaluru

Suicide Prevention Amongst Medical Students : Towards A Model for Institutional Approach

Suicide remains the second most common cause of death among medical students in the United States, prevalence of which in India is not known. The question of motive deserves careful attention as "academic and personal stress" and "unsuitability for the profession" may explain why medical students take this extreme step.

Following suicide of a student at our medical college in 2005, a committee was created under the aegis of Dr. A K Handigol, to "look into the psychiatric care of medical students." This team approach in tackling the suicide menace consist inter-linked, communicative, dedicated people like Principal, Student Welfare Officer, Psychiatrist, Psychologist, Teacher guides and hostel wardens. During first year on admission, screening of all students carried out using depression rating scales and personality inventory (EPQ). Those who score moderate to very severe depression scores and/or introvert personality structure are monitored frequently and if necessitated, at times of stress are counseled and treated accordingly. Information so obtained is kept confidential and if demands attention of parents/guardian is disclosed. Currently, we have about 600 students evaluated and actively monitored throughout their course at our medical institution. With these standards, it has been possible to curtail risk of suicide amongst medical students for past several years and also to handle the stress of these students more effectively on an individual basis. Possibly, this approach may be adopted in both undergraduate and post-graduate institutions as a method of dealing with students at risk of self-destructive behaviours, thus making them more reality oriented therapists in our society.

The issues of suicide, death, dying and personal vulnerability, ideally should not be delegated only to departments of psychiatry, but dealt with by physician role models at all levels of the medical college hierarchy on a day-to-day basis.

Increasing awareness among medical students and faculty about suicide risk factors, enhancing coping skills and building support system will go long way in reducing suicide among medical students.

Dr. Ranganath Kulkarni, MD.,
Asst Prof of Psychiatry
SDM College of Medical Sciences

A Quick Neuropsychiatric Examination :

The neuropsychiatric examination is one of the most unique exercises in all of clinical medicine, and is performed to localize a lesion in the central or peripheral nervous system, diagnose neurological and psychiatric disorders. The statement has been made, "History tells you what it is, and the examination tells you where it is." Reflex hammer, tuning forks are essential, but don't miss to carry an ophthalmoscope, gloves, tongue depressor and sterile pins. And never forget to observe and listen.

Examination begins as soon as we see patient, an observation is vital for various reasons; a dull face, without arm swing can indicate Depression or Parkinsonism. Listening to patient can be crucial in diagnosing many psychiatric disorders. Where there is no complaint of cognitive problems and the patient appears to behave normally and give a consistent history, detailed cognitive examination is usually not indicated. Features suggestive of cognitive impairment include evidence of abnormal behaviour, inability to give a history, and concern from relatives. Mental status examination which includes assessment of concentration, attention, mood, thoughts, perception, and speech output can help in making diagnosis of psychiatric disorders. Formal assessment of attention is assessed by asking the patient to count backwards from 20 to zero.

If dementia is suspected, MMSE should be done. A score of 28/30 or more effectively rules out Alzheimer's disease. In assessment of speech, don't overlook comprehension deficits and naming problems.

Visual field examination is very important and often neglected. In routine practice test both eyes together, in four quadrants. A common abnormality is homonymous hemianopia. Most hemianopias are caused by stroke. Eye movements are important and must not be overlooked. Cranial nerves involvement is common; VI nerve involvement is usually vascular; III nerve affection is urgent, if painful and the pupil is dilated which can be due to aneurysms and tumors compression.

Test facial movement by asking patients to screw up their eyes and grin, eye closure weakness should not be missed as it suggests lower motor type of facial palsy. Impairment of corneal reflex can be very early sign of trigeminal neuropathy and need to be always performed.

Look at the tongue; it should protrude centrally, and not be wasted.

Tendon reflexes are normally absent (or diminished) in cases of neuropathy. Before labelling a reflex is absent, never forget to do Jendrassik maneuver for reinforcement.

There are some neurological signs that mean very little in isolation. Isolated sensory signs are rarely relevant. Sensory examination is really important in excluding possible motor neuron disease.

Muscle power is actually more difficult to assess than it might seem. It should be done to demonstrate a pattern of weakness such as pyramidal, radicular, specific peripheral nerve, proximal, distal. Only repetitive practice makes you to do quick and proper neuropsychiatric evaluation.

Dr. Venugopal Krishna, MD., DM.,
Associate Professor of Neurology,
Adichunchanagiri Institute of Medical Sciences

Reframe : Myths & Facts about - Medications Used in Psychiatry

- ✗ Medications used for management of psychiatric disorders cause dependency
- ✓ Most of medications used in management of psychiatric disorders do not cause dependency except Benzodiazepines which are used only for limited period & symptomatic management
- ✗ All medications used for management of psychiatric disorders are 'sleeping drugs'
- ✓ Sleep is one of the side effects of some of the medications used which may in fact be beneficial but they are not 'sleeping drugs'. There is separate class of medications recommended for sleep disorders like Zolpidem.
- ✗ Once patients are started on medications for psychiatric drugs, they have to be continued for rest of life
- ✓ More often medications used for psychiatric disorders are recommended for certain period which involves phase of remission & prevention. Only in some cases of multiple relapses, one needs to be on life-long medication. It is best to seek information from treating psychiatrist and standard books/Journals
- ✗ Medications used for psychiatric disorders can cause mental Imbalance

- ✓ Medications used for psychiatric disorders do not cause mental imbalance, they have proven benefit when used judiciously and tailored to patient's condition.

Compiled by - Dr. Madhu R. Gowda

Minds Quiz

- Which of these is not an Atypical Antipsychotic?
 - Risperidone
 - Olanzapine
 - Clozapine
 - Haloperidol
- Which of these is not an SSRI?
 - Duloxetine
 - Escitalopram
 - Paroxetine
 - Sertraline
- Which of these is not a personality disorder (PD)?
 - Borderline PD
 - Antisocial PD
 - Paranoid PD
 - Multiple PD
- According to WHO ICD 10, to diagnose Obsessive Compulsive Disorder, symptoms should persist for ...?
 - 1 week
 - 2 Week
 - 4 weeks
 - 6 weeks

Answer

- 1) Haloperidol
- 2) Duloxetine
- 3) Multiple PD
- 4) 2 week

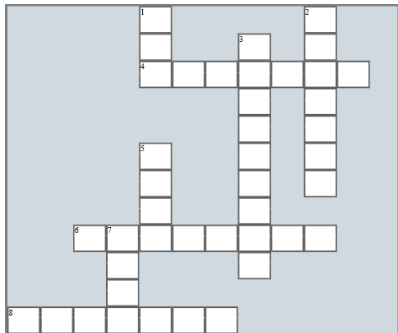
Crossword

Across:

- Shakespeare work & It's morbid jealousy (7)
- Difficulty in sleeping (7)
- 'Magan symptoms' are caused by (7)

Down:

- Cheese reaction after inhibiting this enzyme (3)
- Binge eating & Vomiting (7)



- 3. 'sarpagandha' derivative was used to treat psychosis (9)
- 5. Sudden repetitive Muscle movements which can be normal (4)
- 7. This is Glutamate receptor (4)

Answer

- | | | |
|----------|--------------|-------------|
| Across : | 4) Othello | 6) Insomnia |
| | 8) Cocaine | |
| Down : | 1) MAO | 2) Bulimia |
| | 3) Reserpine | 5) Tics |
| | 7) NMDA | |

Dear Readers

One of the most important ways to promote health and wellbeing is by sharing of knowledge. This e-book has been made freely available, in continuation with our initiative since 2011 to create awareness about Psychiatry.

We need your support, if you think this free e-book has benefitted you, please be a part of this "non profit initiative".

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Minds United For Health Sciences & Humanity

Guest Column: Down the Memory Lane.....

Series 3 : How do I Understand This Case?

Once, Dr. Royadu narrated to me a clinical incident in his practice when he was a general practitioner in Ranibennur. A male daily-wage labourer from a nomadic tribe attended his clinic with severe pneumonia and fever. Explaining the seriousness of the illness, the doctor advised him a course of treatment. The patient wanted to know the approximate cost. After being told, he told the doctor (English translation of North Karnataka dialect), "Doctor, I have to go to work tomorrow to earn money. I have just ten rupees with me now. If you can cure me with this, please do so. Otherwise, I will get back to my family and die peacefully."

When I heard this, I was immediately wonderstruck at this labourer's commitment to his responsibilities, courageous inner-strength, submission to circumstances beyond his means, and more importantly, his sense of contentment in suffering. Here was a man who was not afraid of suffering (symptoms of pneumonia), nor afraid of dying! His sole concern was his responsibility to go to work next day to earn his wages, for which he sought remedy with the resources he had. Beyond that, he was ready to face the consequences peacefully!

I heard this story during the years I was preoccupied with defining mental health. The question, 'how to understand this?' still haunts me. Besides his pneumonia, could he have been mentally ill? Conversely, was he a living example of ideal mental health, irrespective of the sequel to his physical health?

Dr. C. Shamasundar

Former Prof. of Psychiatry, NIMHANS

Psychogenic (non-epileptic) seizures (PNES)

Pseudo seizures are attacks that look like epileptic seizures, but are not caused by abnormal electrical discharges. They are better termed as Psychogenic (non-epileptic) seizures (PNES) or non epileptic attack disorders and older terms pseudo seizures or hysterical seizures are

discouraged. PNES are a physical manifestation of psychological disturbance and is a somatoform disorder with unconscious production of physical symptoms. PNES falls in to category of conversion disorder with seizures in according to (DSM-IV). PNES are not rare; seen in 20-30% of patients referred for refractory seizures. PNES typically begin in young adulthood (10-18 years) and more frequently seen in women (? 70%).

PNES are suspected when the seizures have unusual features. A Specific triggering factors such as traumatic events with, physical or sexual abuse, incest, divorce, death of a loved one, or other great loss or sudden change, can be identified that are unusual for epilepsy. There will be preserved awareness, eye flutter and episode affected by the bystanders. Epileptic seizures are abrupt in onset, eye opening/widening, tongue biting, ictal cry, post ictal confusion or sleep. Physical and neurological examination in PNES is usually normal. Resistance to antiepileptic drugs in patient diagnosed as epilepsy is usually the first clue for the diagnosis. In malingering and factitious disorders, patient is purposely deceiving the physician or faking symptoms. Somatoform disorders including PNES are real conditions that arise in response to real stresses; patients are not faking them.

The most reliable test for diagnosis is continuous EEG-video monitoring. A small proportion (10%) of patients also have epilepsy. It is important to rule out absence seizures, complex partial seizures, epilepsy with mental retardation, frontal lobe epilepsy.

Most important step in initiating treatment is communicating the diagnosis! Since most of the patients are previously diagnosed as organic disease (eg, epilepsy), there can be disbelief, denial or anger as a reaction. Treatment may involve psychotherapy, stress-reduction techniques (such as relaxation and biofeedback training), and cognitive-behavioral therapy. AEDs should be gradually (not abruptly) stopped. No need to limit activities. No increase risk of motor vehicle accidents.

With proper treatment, the seizures eventually disappear in 60-70% of adults; the percentages are even higher for children and adolescents. Young patients generally differ from adult patients only in that the stresses are typically less severe. An important factor for better outcome is the early diagnosis.

Dr.S.Suguna MD
Assistant Professor of Pediatrics,
Adichunchanagiri Institute of Medical Sciences

Reframe : Myths & Facts about - Medications used in sleep disorders

- ✗ Medications are mainstay in Management of sleep disorders
- ✓ Sleep Hygiene is very important in management of sleep disorders along with recommended usage of medications tailored to patients condition and advised use for specific time period. Caffeine, Alcohol, Tobacco and sleeping in day time should be avoided for better sleep along with regular wake up time.
- ✗ All medications used for management of sleep disorders cause dependence
- ✓ Except Benzodiazepines other medications such as Non Benzodiazepines Sedative Hypnotics like Zolpidem do not cause dependence but some withdrawal features are known to occur when stopped suddenly.
- ✗ Once patients are started on medications for sleep disorders, they have to be continued for rest of life
- ✓ Medications used sleep disorders are recommended for limited period based on evidence based medicine and guidelines of National/International expert groups. It is best to seek information from treating psychiatrist/physician
- ✗ Medications used for sleep disorders disturb normal sleep pattern
- ✓ Newer class of medications recommended for sleep disorders restore and maintain near normal sleep.

Compiled By - Dr Aparna Subramaniam

Stress Among Health Professionals : Need For Resiliency

Stress is a consequence of or a general response to an action or situation that places special physical or psychological demands or both on a person. Small amounts of stress ('eustress') can have positive effects by energizing people towards goal, however excessive stress can seriously and negatively impact a person's health and job performance.

To start with, getting into the medical education is like passing through the proverbial eye of the needle. Trainings are long and tedious.

Health-care is a stressful profession and takes its toll at physical, emotional, and mental levels. To effectively care for other people you must take good care of yourself. Medical service involves taking care of other peoples' lives and mistakes or errors could be costly and sometimes irreversible. It is thus expected that the medical doctor and other staffs themselves must be in a perfect state of mind devoid of morbid worries and anxieties. This is however not usually the case because the doctor apart from being affected by the same variables that impose stress on the general population, is also prone to stress because of the peculiarities of his work situation, sleep deprivation, repeated exposure to emotionally charged situations, dealing with difficult patients, conflicts with other staffs and the expectation of the society at large.

The doctor is still perceived as a very comfortable person in our society and expectations are usually high financially and otherwise. Inability to 'meet up' may constitute a significant stress factor in some physicians. Hostile job environment, administrative ineptitude bureaucratic bottlenecks, unavailable/obsolete equipments, unsecured future, delays in promotion and inappropriate capacity utilization can make the job situation very frustrating. This could be compounded in our environment by denied holidays and lack of manpower. Stress creates a health cost to patients in terms of the risk of poorer quality care that is received by patients from stressed or dissatisfied staff. Medical professionals especially doctors are at increased risk for divorce and suicide. Gender specific differences have also emerged with higher stress in women. The 'burnt out phenomenon', a terminology made popular by Felton consists of a triad of emotional exhaustion, depersonalization (treating patients as if they were objects) and low productivity/achievements.

Several factors determine whether an individual experience stress at work or other situations - Subjects perception of the situation, past experience, personality, social support.

Managing stress requires the utilization of basic resiliency skills. What is resiliency? In physics, it is the ability of a material to quickly return to its original form after being bent, stretched, or twisted. Psychological resiliency is the ability of people to return to normal by bouncing back from the ups and downs of life. An optimistic attitude is one of hopeful expectation for positive results. It is this optimistic attitude that pulls resilient people through hard times and puts them back into shape.

The second element of resiliency is to know how to manage stress. Avoid whatever stress by saying "No" and to set limits and also practice unwinding from stress. Such unwinding may be through physical exercise, practice of meditation or yoga. Unwinding from everyday stress can be as simple as taking a slow, mindful walk. The ability to manage stress makes workers more efficient.

The third characteristic of resilient people is that they enjoy life by making the intentional choice to participate in it. Lastly, the medical curriculum should include courses on stress management.

Stress is not what happens to us. It's our response to what happens and response is something we can choose!

Dr Anil Kakunje, MBBS, DPM, MD

Assistant Professor of Psychiatry, Yenepoya Medical College

Minds Quiz

1. Cognitive model of depression is given by,
(a) Ellis (b) Beck
(c) Godfrey (d) Meicheinbanon
2. Reflex hallucination is a morbid variety of-
(a) Kinesthesia (b) Parasthesia
(c) Hyperesthesia (d) Synaesthesia
3. Formication and delusion of persecution occurs together in-
(a) Cocaine (b) Amphetamine
(c) Cannabis (d) LSD
4. Somatic passivity is seen in:
(a) Schizophrenia (b) Depression
(c) Body dysmorphic disorder (d) Delusional disorder

Answer

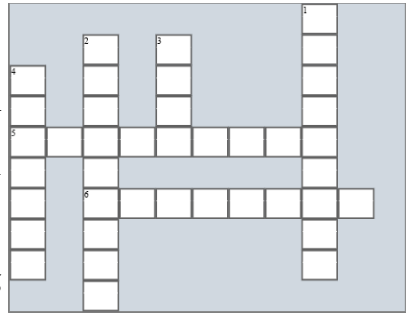
- | | |
|------------|------------------|
| 1) Beck | 2) Synesthesia |
| 3) Cocaine | 4) Schizophrenia |

Crossword**Across:**

5. A psychomotor symptom seen in schizophrenia (9)
 6. Disease of inability to fall asleep (8)

Down

1. Atypical antipsychotic causing agranulocytosis (9)
 2. Restlessness caused by anti Psychotics (9)
 3. This syndrome is a part of infantile spasms (4)
 4. Tactile hallucinations are seen in dependence (7)

**Answer****Across :** 4) Catatonia

6) Insomnia

Down : 1) Clozapine

2) Akathisia

3) West

4) Cocaine

Guest Column: Down the Memory Lane.....

Series 4 : How do I Understand This Case?

I am narrating here a summary of my observation concerning a unique pattern of illness manifestation in many rural patients attending the out-patient services during my service at NIMHANS. They suffered from 'somatoform disorders.' In this, somatic symptoms are the presenting features, which co-exist with both anxiety and depression. Decades ago, this syndrome was also called 'somatic- depression.'

These patients used to be given appointments for review 2-8 weeks later. But, many of them would come for review only after a few months. When enquired about the reason for not coming earlier and the status of their health during the interval, it would turn out that they would be symptom free initially for a few weeks. Later, symptoms would recur. But, they will not be able to attend review due to urgent agriculture-related work, or some important and unavoidable engagement. Despite the presence of symptoms, they would attend work whenever they can manage. If the symptoms become severe, they would rest for a day or two before getting back to work.

My experience with these patients was that, in spite of having symptoms, these patients do not have time to "fall ill," and cannot afford to "fall ill." The question that still bothers me is: "What diagnostic label to give these patients?" (i) "Symptomatically ill, but functionally healthy?" (ii) "Pathologically healthy?" (iii) Or, "Just ignorant?"

As if in response to the above experience, I have begun to recognize in my practice in the last 15 years, a small proportion of patients who suffer physical symptoms without identifiable pathology. They have no satisfying engagement during their waking hours. It is as though they suffer because they do not have anything better to do.

Dr. C. Shamasundar

Former Prof. of Psychiatry, NIMHANS

An Overview on Gamma Glutamyl Transferase

Gamma Glutamyl Transferase (GGT) has long been known to be helpful in Psychiatry to detect recent consumption of alcohol, as this information can be useful during motivational interview in alcohol de-addiction. However knowledge about GGT can be of help to physicians across specialities. GGT is a microsomal glycoprotein enzyme present in hepatocytes and biliary epithelial cells, renal tubules, pancreas and intestine. It is also present in cell membrane performing transfer of glutamyl residues to various peptide acceptors and involved in glutathione metabolism. Serum GGT activity mainly attributed to hepatobiliary system even though it is found in more concentration in renal tissue.

The normal level of GGT is 9 to 85 U/L.

GGT as Diagnostic tool

Elevated serum GGT activity can be found in diseases of the liver, biliary system, and pancreas. In this respect, it is similar to alkaline phosphatase (ALP) in detecting disease of the biliary tract. The main value of GGT over ALP is in verifying that ALP elevations are, in fact, due to biliary disease; ALP can also be increased in certain bone diseases, but GGT is not.

Elevated serum GGT levels of more than 10 times is observed in alcoholism. It is partly related to structural liver damage, hepatic microsomal enzyme induction or alcoholic pancreatic damage. But GGT is a poor marker when alcohol consumption needs to be screened in patients with non-alcoholic liver diseases or in hospitalised patients. Serum GGT may help to distinguish those with or without liver disease. Small increase is observed in fatty liver in alcoholics. Raised level of GGT must be interpreted in the context of other liver function tests.

- ▶ Mild liver disease tends to result in a ratio of alanine transaminase (ALT) to aspartate transaminase (AST) of greater than 1
- ▶ More extensive liver disease tends to result in an ALT to AST ratio of less than 1
- ▶ In a patient who is known to abuse alcohol; if the AST and ALT are normal then the GGT may provide an indicator of recent alcohol intake

Alcohol cessation and relation to GGT

- ▶ Increased activities usually return to normal if the patient abstains from alcohol with a normalization time of 2-3 weeks
- ▶ Persistently abnormal values in the absence of continuing ethanol exposure suggest liver disease.

GGT and risk of disease

GGT has long been used as a liver function test and a marker of alcohol abuse but in recent years, knowledge about the physiological function and several important associations have been expanded.

- ▶ Many epidemiological studies have proved that GGT is an independent predictor of risk of diabetes, hypertension, metabolic syndrome, coronary disease and hypertension.
- ▶ GGT is a novel predictor of chronic kidney disease.
- ▶ In Cancer- GGT, a known marker for apoptotic balance, seems to promote tumour progression, invasion and drug resistance
- ▶ GGT can also be an early marker of oxidative stress.

Dr Sumathi M.E, MD.,
Asst. Professor of Biochemistry,
Sri Devraj Urs Medical College

Reframe : Myths & Facts about - Autism

- ✗ Autism is classified under Mental Retardation (MR)
- ✓ Autism spectrum disorders are distinct group of disorders classified separately under pervasive developmental disorders and MR is usually a comorbid condition in most of the cases
- ✗ Medications are mainstay in the management of Autism
- ✓ Parental education and training is mainstay in management of children with Autism and medications are used only for comorbid conditions.
- ✗ Autism can be diagnosed by investigations like CT and MRI
- ✓ Autism is diagnosed clinically in a child with abnormal functioning in all 3 areas of social interaction, communication and language and restricted repetitive behaviors.
- ✗ Only boys are affected with autism and child can be diagnosed at birth
- ✓ Though boys are 3-4 times more affected, autism is also seen in girls. Diagnosis can be made clearly before the age of 3 years according to WHO. But parents appear to be concerned and seek help when the child is 18-24 months.

Compiled By - Dr. Nischith B K

Alcohol Withdrawal Syndrome & Its Management, in Brief

Alcohol Withdrawal features are commonly encountered in clinical practice across specialties and most of the time the patient may not have revealed to the clinician that he consumes alcohol regularly or has problem drinking. Criteria to say person is in withdrawal state are, there should be reduction or cessation of alcohol use following which there must be two or more of the symptoms like, insomnia, hand tremor, tachycardia, sweating, nausea, vomiting, transient visual auditory or tactile hallucinations, psychomotor agitation and seizures, causing significant distress or impairment in social & occupational functioning. Withdrawal symptoms can occur in any settings for example patient admitted in medical, surgical or orthopedic ward etc. Symptoms of withdrawal relate proportionately to the amount & duration of alcohol intake, & also recent drinking habit.

The spectrum and time range for the appearance of symptoms after cessation of alcohol use are listed below.

Symptoms

Minor withdrawal symptoms: 6 to 12 hours

Insomnia, tremulousness, mild anxiety, gastrointestinal upset, headache, diaphoresis, palpitations, anorexia

Alcoholic hallucinosis: 12 to 24 hours

visual, auditory or tactile hallucinations

Withdrawal seizures: 24 to 48 hours

Generalized tonic-clonic seizures

Alcohol withdrawal delirium (delirium tremens): 48 to 72 hours

Hallucinations (predominately visual), disorientation, tachycardia, hypertension, low-grade fever, agitation, diaphoresis

Management of alcohol withdrawal

General care: Never overlook physical condition. Supportive care like correction of fluid level, electrolytes or nutrition should be taken care. Multivitamins and thiamine 100mg per day should be given before the glucose is administered to prevent precipitation of Wernicke's encephalopathy.

Pharmacological management: Detoxification is the medical management of withdrawal symptoms. Medications can be fixed schedule or symptom triggered regimen. Benzodiazepines have been shown to be safe & effective particularly for preventing or treating seizures and delirium. Important note that there is no antiepileptic prophylaxis is required for alcohol withdrawal seizures.

Choice of the agent should be based on pharmacokinetics.

Diazepam & Chlordiazepoxide are long acting & excellent, because of the long half life, withdrawal is smoother & rebound withdrawal symptoms are less likely to occur. Lorazepam and oxazepam are intermediate acting may be preferable in patients with liver failure and elderly.

Fixed schedule therapy: Predetermined amount of drug in divided doses over the day on day 1 dose, then gradually tapered off over 7 to 10 days.

One unit standard drink = 10 gms of ethanol requires = 10 mg of chlordiazepoxide = 5mg of diazepam = 1mg of lorazepam

One standard drink = 30ml of spirit (whiskey, rum, brandy, gin) = 60ml of wine = half bottle of beer = 1/3rd sachet of arrack

Choice of treatment setting: With mild to moderate withdrawal symptoms, outpatient detoxification is safe and effective, however severe withdrawal symptoms, history of withdrawal seizures or delirium tremens, multiple previous treatment failures, concomitant psychiatric or medical illness requires inpatient care

Management of alcohol withdrawal syndrome should be tailored in each case & should be followed by deaddiction treatment for alcohol dependence

Dr. H. D. Bhagyavathi, MD.,

Asst. Professor of Psychiatry, Mandya Institute of Medical Sciences.

Minds Quiz

- Most common substance abuse in India is:
 - Tobacco
 - Cannabis
 - Alcohol
 - Opium
- Diarrhoea, rhinorrhoea, sweating and lacrimation are seen in...
 - Cocaine withdrawal
 - Heroin withdrawal
 - Alcohol withdrawal
 - LSD withdrawal
- Alcoholic Hallucinosiis is associated with:

- a) Clear consciousness b) Delusions
 c) Delirium d) Intoxication
4. All of the following are done in behaviour therapy to increase a behaviour except:
 a) Punishment b) Operant conditioning
 c) Negative reinforcement d) Reward

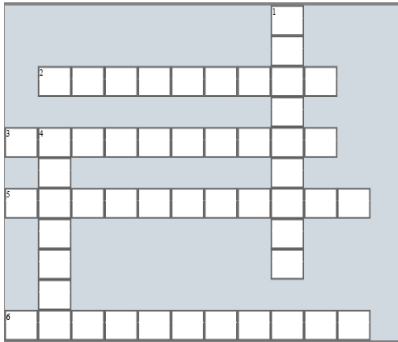
Answer

- 1) Tobacco 2) Heroin withdrawal
 3) Clear consciousness 4) Punishment

Crossword

Across:

2. An Antidepressant approved in Nicotine addiction (9)
 3. Used in Benzodiazepine overdose (10)
 5. Used in Children with ADHD (11)
 6. Atypical antipsychotic for Negative Symptoms(11)



Down

1. An antihypertensive used in ADHD (9)
 4. Metal used in Mood Disorders (7)

Answer

- Across :** 2) Bupropion 4) Flumazenil
 5) Atomoxetine 6) Amisulpride

Down :

- 1) Clonidine 4) Lithium

Nutrition & Psychiatric Disorders

Depression, Anxiety & Substance abuse are among the most common mental disorders that are important in community medicine. Bipolar disorder, schizophrenia, and obsessive compulsive disorder (OCD) are severe mental disorders causing significant disability. Many psychiatric disorders have been associated with deficiency of dietary nutrients like, essential vitamins, minerals, and omega-3 fatty acids, which are important in management at community level through education of public.

Studies have shown that daily supplements of certain vital nutrients often have additive effect on bringing down patients' symptoms. Supplements that contain amino acids also reduce symptoms, because they are converted to neurotransmitters that alleviate certain psychiatric disorders.

The most common nutritional deficiencies seen in mental disorder patients are of omega-3 fatty acids, B vitamins, minerals, and amino acids that are precursors to neurotransmitters.

Although many population studies have linked high fish consumption to a low incidence of certain mental disorders, more systematic research needs to be undertaken. It has been postulated that this may be due to a direct result of omega-3 fatty acid intake. Diets lacking in fruits and vegetables further contributes to vitamin and mineral deficiencies.

Role of Amino acids

Depression has been known to be associated with deficiencies in neurotransmitters such as serotonin, dopamine, noradrenaline, and GABA. As reported in several studies, the amino acids tryptophan, tyrosine, phenylalanine, and methionine are often helpful in treating many mood disorders, including depression.

Tryptophan, a precursor to serotonin has been found to induce sleep and tranquility and in cases of serotonin deficiencies, restore serotonin levels leading to diminished depression. Foods rich in tryptophan are red meat, nuts, soybeans etc.

Tyrosine an amino acid, is converted into dopamine and nor epinephrine. Dietary supplements that contain tyrosine like almonds, avocados and banana lead to alertness and arousal.

Fats and fatty acids

Since the consumption of omega-3 fatty acids from fish and other sources has declined in most populations, the incidence of major depression has increased. The antidepressant effects may be due to Eicosapentaenoic Acid (EPA) being converted into prostaglandins, leukotrienes, and other chemicals the brain needs. Diets containing omega-3 fatty acid having 1.5 to 2 g of EPA per day have been shown to stimulate mood elevation in depressed patients. The other sources of omega-3 fatty acids are plant and nut oils.

Vitamins and minerals

Vitamin B (e.g., folate), and magnesium deficiencies have been linked to depression. Studies done worldwide suggest that patients treated with folic acid and vitamin B12 will exhibit decreased depression symptoms. Tetrafolate is already in market for adjuvant therapy in depression. Apart from these, vitamin B1 deficiency is implicated in neuropsychiatric disorders like Wernicke's encephalopathy, Korsakoff's psychosis, pyridoxine in depression and B12 deficiency in peripheral neuropathy. Chronic Iron deficiency leads to poor overall performance with decreased cognitive function in school going children.

In addition, magnesium has been found to be beneficial in recovery from major depression.

In conclusion, studies have highlighted that many psychiatric disorders can be managed better by additional healthy diet with nutrients. So old saying, 'Eat healthy to stay healthy' also includes mentally healthy, this holds valuable & cost effective way in community health care .

Dr Asif Khan MD (Community medicine)
Associate Professor of Community Medicine
Adichunchanagiri Institute of Medical Sciences

Reframe : Myths & Facts about - Psychiatric disorders in Mental retardation

- ✗ Only neurological disorders are present in Mental Retardation & Psychiatric disorders are absent
- ✓ Psychiatric disorders are common in Mental retardation along with neurological disorders.

- ✗ Medications Patients with Mental retardation do not have depression and they cannot express it.
- ✓ Patients with Mental retardation can have depression as co-morbid condition and they can express it.
- ✗ Medications can be harmful & so should not be used to treat psychiatric disorders in Mental retardation
- ✓ Medications can be used safely at lower dosage and by monitoring for adverse effects in patients with mental retardation with co-morbid psychiatric disorders.
- ✗ It is dangerous to use ECT in patients with Mental retardation for psychiatric disorders
- ✓ When indications for ECT are met and necessary evaluation are done, Mental retardation is not a contraindication for ECT

Compiled By - Dr. Naveen

Depression In Childhood & Adolescence

Depression in Childhood and adolescents is under diagnosed and undertreated. This is mainly because the presentations significantly differ from that of adults and complications in diagnosis due to high rates of comorbidity. Research has shown that depression is occurring earlier than in past decades in this population. The prevalence is about 2% in children and 4.8% in adolescents, with male to female ratio 1:1 in children and 1:2 in adolescents.

The unique features of depression in children and adolescents are the course persists, recurs and continues into adulthood. It predicts a more severe illness in adulthood. The comorbidity rates are as high as 40-50% in anxiety disorder, conduct Disorder, Oppositional Defiant Disorder, Attention Deficit Hyperactivity Disorder in Children, whereas Substance related and Eating disorders in Adolescents. Suicidal Ideation is common; attempts are rare; both increase with age. Younger children present with more behavioural problems such as social withdrawal, irritability, sleep deprivation, apathy, whereas adolescents present with somatic complaints, self esteem problems, rebelliousness, poor academic performance and aggressive behaviour.

The risk factors for depression in young age are presence of depression in one parent, environmental stressors, stressful life events, low academic performance and perception of lack of parental support

by the child. The first episode lasts for 5-9 months. 74% recover significantly in the 1st year. The unique features are-(a) inspite of complete recovery , some degree of psycho social damage is always present (b)Earlier the onset of pathology, greater the harm. The risk of recurrence is greater in the first few months after 1st episode(60-75%). Factors which predict recurrence are non-adherence, early onset, numerous episodes, severity of episode, presence of psychotic features, stressors and co-morbidity.

Early detection and effective treatment may reduce the impact of depression on family, social functioning, academic functioning and also reduces suicidal risk. While evaluating depression in this age group, it is important to try to get information from as many sources as possible. Fluoxetine is the only drug approved by the FDA for treatment of child and adolescent depression which has to be given for a period of 6-12 months. Cognitive Behavioural Therapy is found to be effective in altering the negative cognition, which can have a long lasting impact. Last, but not the least, it is very difficult to treat the child without the involvement of the family, where the family needs to be educated about it being an illness and not the weakness of the child ,or difficulty in coping rather than it being a manipulative behaviour. Hence, there is a need to sensitize the family, teachers and fellow medical professionals to ensure early recognition and adequate treatment for this population and prevent victimization

Dr. Manju Aswath, MD.,
Asso. Professor of Psychiatry,
Kempegowda Institute of Medical Sciences,

Minds Quiz

1. Most common condition associated with BPAD:
 - a) Schizophrenia
 - b) OCD
 - c) Dissociative Disorder
 - d) Anxiety disorders
2. Autonomic features are prominently seen in
 - a) Seizures associated with alcohol
 - b) Psychosis associated with alcohol
 - c) Delirium Tremors
 - d) Wernicke's neuropathy
3. Most common type of Dementia in world:
 - a) Lewy body
 - b) Parkinson's
 - c) Vascular
 - d) Alzheimer's

4. Aura in epilepsy can provide information about :
- a) Personality of person
 - b) Type of medications needed
 - c) Region of brain involved
 - d) Prognosis of epilepsy

Answer

- 1) Anxiety disorders
- 2) Delirium Tremors
- 3) Alzheimer's
- 4) Region of brain involved

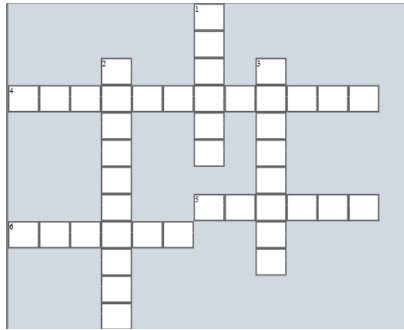
Crossword

Across:

- 4. Nobel prize for study on animal behavior which has implication on Behaviour (12)
- 5. Self actualization theory (6)
- 6. Cognitive development in Children (6)

Down

- 1. Importance of mother & child attachment (6)
- 2. Client centered psychotherapy (11)
- 3. Eight stages of Life cycle (8)



Answer

- Across :** 4) Konard Lorenz 5) Maslow
 6) Piaget
- Down :** 1) Bowlby 2) Carl Rogers
 3) Erickson

Guest Column: Down The Memory Lane..... Never Jump to conclusions in a Hurry

It was in the Casualty Department in the CMC Vellore, I was asked to see a young 16 year old girl, who came with discomfort, pain and uneasy sensation in the inner aspect of her left thigh. On examination, I found absolutely nothing and having just finished my posting in Psychiatry, I grandiosely formulated many theories to fit in as to why a young 16 old would have symptoms related to her thigh. I told myself, I need to go into the psychodynamics of this problem and looked for those non-existent clues. I told her to come on the next day so that I could spend time talking to her to find out the psychological causes. I was shocked when I saw her the next day with clear cut eruptions of "Herpes - Zoster" lesion. Needless to say I felt foolish and embarrassed and realized the pre eruption presentation what exactly what she came with, the first time. Lesson: Never jump to psychological conclusions in a hurry, however tempting it may be.

**Dr.S.Kalyanasundaram, MD.,
Senior Consultant Psychiatrist**

Mental illness, Crime and Punishment

Introduction: The interface between mental health, mental illness and resulting criminal behavior is a complex cascade. The further interaction with police and the Judiciary is extremely challenging and most of the scope of this work lies within the specialist field of 'forensic psychiatry'.

Mental illness:The mental illnesses arising from a structural brain damage are called organic psychoses and those with no neurological basis are called functional psychoses. Both are likely to lead to medico-legal consequences. The forensic aspects of such illnesses depend on the type and severity of the disease.

Mental Health Legislation and the Criminal Justice System:Every country has its own legislation that allows for the detention and treatment of individual offenders with a diagnosed mental disorder.

The Mental Health Act, 1987, may be a reference document in this regard as applicable to India. Most legal systems across the globe have provisions for excusing an adult who, by reason of mental defect, commits a criminal act. Nevertheless, the nuance lies in determining the sufficient degree of mental abnormality to qualify for the exclusion from retribution of law.

Mental abnormality as a defence in court:The Latin phrase 'actus non facit reum nisi mens sit rea', which translates 'the act is not culpable unless the mind is guilty', expresses a fundamental principle in many legal systems. The Law upholds that for every criminal act, there shall be a criminal mind and a mentally ill person may not have a sufficient degree of mental stability to achieve a criminal mind so as to design a criminal act.

Historical background:Daniel McNaughten was a Scotsman, who had a delusion of persecution. He believed that his life was in danger from the then Prime Minister's political party. He decided to kill the Prime Minister of England, Sir Robert Peel. But with a mistaken identity, he shot dead, the Personal Secretary of the Prime Minister, Mr. Edward Drummond. McNaughten was found not guilty by the reason of insanity. A Bench of fourteen Judges gave the criteria for the criminal responsibility of the mentally ill, which was known as McNaughten's Rules. The rule states that 'to establish defence on the grounds of insanity, it must be clearly proved that at the time of commission of the act, the accused was labouring under such a defect of reason due to disease of mind, as not to know the nature and quality of the act he was doing; or if he knew that, he did not know that it was wrong or contrary to the law'. The McNaughten's rules have been the basis for evaluating a crime done by a mentally ill person in Indian Judiciary System, under Section 84 of the Indian Penal Code.

Conclusion:Retrospective analysis of mental illness is a morbid limitation in assessing the criminal responsibility of a mentally ill and it involves multidisciplinary approach. Increasing awareness about psychiatric conditions may benefit the society at large

Dr.M Arun MD
Prof. of Forensic Medicine, JSS Medical College

Reframe : Myths & Facts about - Attention Deficit Hyperactive Disorder (ADHD)

- ✗ ADHD can be diagnosed by CT Scan & MRI
- ✓ Clinical features of ADHD are diagnostic. Radiological investigations have fewer roles in ADHD.
- ✗ ADHD is seen only in childhood.
- ✓ Childhood ADHD has been shown to persist and manifest even in certain number of Adults.
- ✗ Medications can be harmful & so should not be used to treat ADHD
- ✓ Medications such as "Stimulants & Stimulants like drugs" have been recommended across the world as beneficial & can be used safely along with Behavioural Intervention & Attention enhancing tasks.

Dr. Hisham Hakeem

Phobia

Introduction: A specific (isolated) phobia is a condition characterized by marked irrational fear, leading to avoidance of that specific object or situation with associated marked anxiety & emotional distress. Specific phobias are commonly classified as animal type (e.g. insects, dogs), natural-forces type (e.g. storms, water), blood, injection and injury type, and situational type (e.g. elevators, tunnels). Usually, onset is in mid-childhood or early adolescence and if untreated they tend to persist lifelong. Lifetime prevalence of specific phobias is around 12.5% while among children it is as high as 17.6%.

Etiology is multifactorial, genetic (heritability: estimated between 30 to 40% as seen in twin studies), conditioning (fear conditioning), non-associative learning, personality factors (anxiety sensitivity), cognitive factors (attentional biases to threat-related information, perceptual and cognitive distortions), social and environmental factors (traumatic event) and evolutionary model (to facilitate survival, preparedness) have been proposed.

Pathophysiology: As for any anxiety disorder limbic system plays a major role in pathophysiology. The amygdala receives sensory information and sends efferent impulses to elicit flight-fight response which includes autonomic arousal (lateral nucleus of hypothalamus), adrenocorticotrophic hormone release (paraventricular nucleus of

hypothalamus), noradrenaline release (locus ceruleus), increased respiration (parabrachial nucleus), defensive behaviors (periaqueductal gray), startle response (nucleus pontine reticularis), and fearful expressions (facial motor nerve)..

Comorbid conditions: Phobic anxiety often results into panic attacks and significantly affects mobility, socio- occupational functioning, quality of life and help seeking behavior (e.g., poor sugar control in needle and blood injury phobia). Common comorbidities include other phobias like social phobia, depression, substance abuse disorder, separation anxiety disorder, attention deficit and hyperactivity disorder, school refusal, obsessive compulsive disorder, agoraphobia, and anankastic and anxious avoidant personality disorder.

Treatment:

Exposure therapy in the form of graduated exposure to the feared stimulus is most useful when combined with Cognitive Behavioural Therapy. Systematic desensitization and relaxation strategies such as breathing or hyperventilation control, relaxation training are also shown to be effective. An emerging e-therapy as virtual reality treatment are also available in which virtual reality (VR) integrates real-time computer graphics, body tracking devices, visual displays and other sensory input devices to immerse patients in a computer generated virtual environment

Pharmacotherapy is usually beneficial in treatment in specific phobias. The treatment of phobia yields best results when selective serotonin reuptake inhibitors fluvoxamine, paroxetine, and sertraline or Tricyclic Antidepressant drugs are used along with CBT It can be used either when encounter to phobic stimuli is very occasional; other interventions have been deferred for some reason or when there is failure of non-pharmacological intervention. Commonly used medications before exposure to phobic stimuli are short acting benzodiazepines (such as alprazolam, lorazepam, etc.). Emerging evidence suggests that cycloserine (NMDA receptor partial agonist) may be useful in enhancing the benefits of exposure therapy.

Dr Dushad Ram, MD.,

Asst. Professor of Psychiatry, JSS Medical College & Hospital.

Minds Quiz

- De Clerambault syndrome has also been referred to as 'delusion of....'
 - Love
 - Infidelity
 - Reference
 - Persecution
- A type of Schizophrenia with marked disturbance in motor function is....
 - Paranoid
 - Residual
 - Catatonic
 - Disorganized
- All of the following are good prognostic factors in Schizophrenia except:
 - Acute onset
 - With Mood symptoms
 - Presence of Hallucinations
 - Family History of Schizophrenia & delusions
- Prevalence of Schizophrenia in Monozygotic twin of a Schizophrenia patient
 - 47%
 - 40%
 - 12%
 - 8%

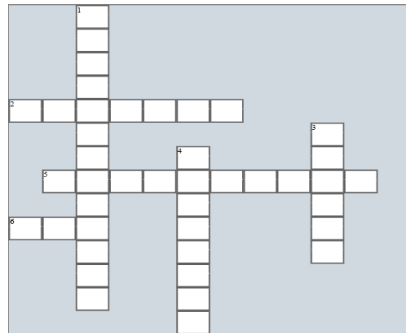
Answer

- Love
- Catatonic Schizophrenia
- Family History of Schizophrenia
- 47%

Crossword

Across:

- One of the potent free base of this substance is called Crack(7)
- Used in Benzodiazepines Overdose(10)
- Hoffman who synthesized this and accidentally experienced hallucinations!(3)



Down

- First Developed as novel anesthetic , also called as 'angel dust'(13)
- Cold Turkey is term used for Abstinence syndrome of this Substance(6)
- One of the common substance abused is also called as Mary Jan(8)

Answer

Across : 2) Cocaine
6) LSD

5) Flumazenil

Down : 1) Phencyclidine
4) Cannabis

3) Opioid

Dear Readers

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You can contact us for more info on this e-mail: mindmysore@gmail.com

Minds United For Health Sciences & Humanity

Guest Column: Down The Memory Lane... Don't take anything for granted!!!

The practice in the Neurology ward at CMC, Vellore was for a senior Houseman to do Lumbar puncture whenever cases are sent from the OPD by a colleague after performing a thorough physical examination. It is assumed that the cases that come for LP to the ward do not have contraindication for this procedure. I was on duty one morning and I did the LP in a young 15 year old girl and to my surprise I found the spinal fluid sprain out like a jet. The manometer showed more than 600 mm of Hg. and rising! The patient felt dizzy and I was in a panic and I quickly pulled out the needle. I checked the Fundus and to my great horror discovered bilateral papilledema. I cursed myself for taking my colleague's word for granted and not checking the Fundus before doing the procedure. Never again did I make a similar mistake and subsequently I have taught the students, not to take any one's words for granted. Always check things for oneself.

Dr. S. Kalyanasundaram
Senior Consultant Psychiatrist

Delusions & Delusional Disorder

Delusion is a false firm unshakable belief not keeping with the socio cultural background. They are among the most interesting of psychiatric symptoms because of the great variety. It has to be distinguished from superstition and overvalued ideas. In superstition the false belief is keeping with the sociocultural background whereas overvalued idea is a thought which is associated with feeling tone, takes precedence over all other ideas and maintains this precedence permanently or for a long period of time.

Usually the delusions are described depending on the following:
1) According to fixity: Complete, partial. 2) According to onset: Primary and Secondary 3) According to theme (Content): Persecutory delusion, Delusion of reference, Delusions of grandiosity, Delusions of guilt or worthlessness, Nihilistic delusions, Hypochondrical, Somatic, Delusion of Jealous, Delusion of control 4) According To The

Plausibility-Bizarre, Non Bizarre 5)other delusional experiences: Delusional mood, Delusional perception, Delusional memory 6) Depending On Systematization: Systematized Or Non Systematized depending upon patients elaborate account about the single event or theme.

Delusional Disorder is best understood with an example

Mrs A aged 34 yrs hailing from rural background from eastern part of India belonging to middle socioeconomic status, working in BPO company, was brought to the hospital with complaint of being infested with a worm in head which was leading to tiredness & loss of weight. Non in her family believed it. For the above complaints patient was seen by many physicians, dermatologist and multiple investigations were done. All were within normal limit. Many tried educating her that complaints were irrational but yielded to pressure & prescribed multivitamins, antifungals, antibiotics, steroids etc but no improvement was seen in her symptoms, patient was then referred to the psychiatrist for the above complaints. After assessment, patient was started on low dose antipsychotics & the consequence of delusion-related behaviour was addressed. She started showing response after 2 weeks.

Delusional disorder is a disorder of thought in which a person exhibits nonbizarre delusions that cannot be attributed to other psychiatric disorders, persisting for more than a month. It affects less than 0.5% of population and thought to be due to erroneous dysfunction of neurotransmitters in brain A careful history taking will lead to early detection and referral of such cases, may avoid unnecessary investigations, invasive procedures and financial burden.

Dr B Swapna MD,
Asst. Professor of Psychiatry, Vydehi Institute of Medical Sciences

Reframe : Myths & Facts about - Sexual Disorders associated with Medical Conditions

- ✗ Sexual Disorders are associated only with psychiatric disorders
- ✓ Sexual Disorders are equally associated with medical conditions, more so with chronic medical conditions.
- ✗ Patients do not wish to disclose or discuss about sexual disorders with their doctors.
- ✓ Numerous surveys in India & abroad have revealed that patients

are eager to discuss & disclose sexual disorder whenever their doctor tries to explore the matter with sensitivity.

- ✗ Management of Sexual Disorders needs specialist Intervention
- ✓ Most of the Sexual disorders can be addressed adequately by treating doctor, patients can be referred in case they are associated with co morbid conditions and (or) when simple intervention of education has failed.

One of the simple intervention strategy that can be used is where in patient is permitted to talk about his concerns without being judgmental , providing limited information about normal anatomical & physiological aspects of concerns raised and addressing the disorder with specific strategies either with non pharmacological or pharmacological methods. Being sensitive, providing privacy, maintaining confidentiality is very important in entire process apart from considering adverse drug effects & medical conditions.

Compiled By - Dr. Hisham Hakeem

Selective Serotonin Reuptake Inhibitor (SSRI) - An Overview

In search of better tolerability for treatment of Depression, which is a disorder of mood, SSRIs were first introduced in 1987-88. Some of commonly used SSRIs are- Fluoxetine, Fluvoxamine, Sertraline, Paroxetine, Citalopram, Escitalopram. Currently these are the most commonly prescribed antidepressant drugs.

Understanding Mechanism of action: - Brain works through numerous transmitters like Norepinephrine which acts as neurotransmitter at Hypothalamus (eating, drinking, sexual behavior, sleep, circadian rhythm), Limbic system (emotional status), RAS (wakefulness) , 5HT acts as neurotransmitter at Cerebral cortex (judgment, memory etc.) hippocampal areas (learning, emotional status) & raphe nucleus. Depression, which is thought to be of varied etiology, leads to functional deficit of number of neurotransmitters, predominantly Norepinephrine and/or 5-HT in CNS. SSRIs exert their therapeutic effects through 5-HT reuptake inhibition. They selectively increase the levels of serotonin in the synaptic cleft by blocking reuptake

by 5HT neurons. Patients have to be educated that 2-3 weeks is required to produce desirable effect.

Advantages : Unlike TCAs (Tricyclic antidepressants) the SSRIs have less sedation, less interference with cognitive & psychomotor functions, least anticholinergic actions, No postural hypotension (?), No seizure precipitation, No effect on cardiac conduction, less nausea (tolerance develop over a period of time)

Therapeutic uses: In Depression- goal is to resolve symptoms, to prevent relapse & prevent recurrences. In general SSRIs are better in comparison to TCAs (tolerability and safety in overdose) especially in patients with suicidal ideations. If a drug has to be changed- up titration of new drug & down titration of earlier drug is practiced. While stopping the dose should be tapered over a period of at least 6 weeks to avoid discontinuation symptoms (anxiety, agitation, nausea) They are also used in treatment of Panic disorders, Obsessive Compulsive disorder (OCD) :- Social phobia, Post Traumatic stress disorder, Eating disorder, Premenstrual disorder, Compulsive buying and impulse control disorders.. Like gambling and kleptomania (uncontrollable desire to steal things of less significance)

Naturally available serotonin in some fruits is thought to be beneficial for feel good factor even in non depressed patients

Important side effects are:-

1. On initiation: Gastritis, GI bleed, loose stools, agitation, anxiety and insomnia.(dose titrated upward more slowly), Sexual dysfunction (decreased libido , delayed ejaculation and anorgasmia). The delayed ejaculation has been utilized for treatment of patients with premature ejaculation!!! Higher doses provide weight loss, Paroxetine can cause - weight gain.
2. Sudden withdrawal (paroxetine and sertraline) leads "discontinuation syndrome"- dizziness, paresthesias and head ache.

Drug interaction

1. Elevate plasma levels and toxicity of TCAs, haloperidol, clozapine, warfarin, dextromethorphan (retarding metabolism)
2. With MAOIs- elevated levels of 5-HT in synaptic cleft leading to "Serotonin syndrome" (hyperthermia, muscle rigidity, tremors, rapid changes in mental status and cardiovascular collapse-reduced metabolism, inhibited uptake and pronounced release of 5 HT)

SSRIs may have seen more acceptances based on tolerability &

safety profile but Tricyclic Antidepressants are still considered gold standard against which all antidepressants have to be compared in terms of efficacy.

Dr. R.N. Suresha

Prof. & HOD, Dept. Of Pharmacology, JSS Medical College

Minds Quiz

- Most common complication of Electroconvulsive therapy is
 - Anterograde amnesia
 - Retrograde amnesia
 - Psychosis
 - Depression
- All are Dissociative Disorders except
 - Multiple Personality
 - Somatization
 - Fugue
 - Amnesia
- Psychotic symptoms can be caused by
 - Melatonin
 - Caffeine
 - Amphetamine
 - Nicotine
- Drug that can be used in Nocturnal Enuresis
 - Imipramine
 - Chlorpromazine
 - Alprazolam
 - Haloperidol

Answer

- Anterograde Amnesia
- Somatization
- Amphetamine
- Imipramine

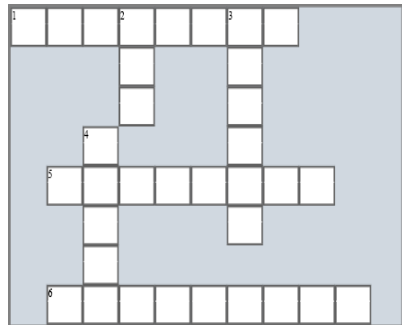
Crossword

Across:

- Psychiatrist who developed progressive relaxation (8)
- Haloperidol acts on this neurotransmitter (8)
- aroxetine acts on this neurotransmitter (9)

Down :

- Exposure & Response Prevention benefits (3)
- Naltrexone acts on (6)
- He developed Systematic desensitization (5)



Answer

Across : 2) Jacobson 5) Dopamine
 6) Serotonin

Down : 2) OCD (Obsessive Compulsive Disorder)
 3) Opioid 4) Wolpe

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Minds United For Health Sciences & Humanity

Guest Column: Down The Memory Lane... Patient on Ventilator

During my posting in Neurology Department at CMC, Vellore, I was asked to see a terminally ill young patient who was on a ventilator and other life support systems. During the rounds, my Chief Dr.G.M.Taori, after detailed discussion about the patient and its current state decided it was time to "switch off" the ventilator. I vehemently protested despite the fact I was the junior most in the team. I said, "how can we be inhuman and decide about the fate of this young man and how do you know that he will not recover"? Dr.Taori smiled and said "you be in-charge of patient and come and look after him daily and you manage the secretions in his throat and lungs and make sure that he does not develop bed sores" I took the challenge and was quite sure that soon my point of view would prevail. I went about my duties diligently. It dawned on me gradually, the futility of this exercise. After 18 days, I reluctantly admitted to my chief that the patient has shown no improvement and on the contrary, he was steadily worsening, in spite of the "life-support". This event made a big impact on me for different reasons. a) That the Prof. of Neurology, would allow the Sr. Houseman the freedom to do this and b) he respected my wish instead of ordering me to obey his decision and at the same time allowed learning to take place, at the same time. c) taught me humility, I also learnt the futility of trying "heroic techniques" in medicine.

Dr.S.Kalyanasundaram
Senior Consultant Psychiatrist

Sexual Dysfunctions and its Management in Brief

Sex has remained a matter of both stigma and mystery among many even today. Consequently it is also one of the less investigated topics. Even among medical graduates, emphasis on imparting & evaluation of their knowledge in sexual problems is inadequate. When such is the case, public is preoccupied with myths and misconceptions about sex. This long standing negative attitude is probably the cause of growing incidence of psychogenic sexual disorders. Interpersonal

relationship problems, past sexual trauma, stress associated with job, death and divorce, primary psychiatric disorders like depression are the other common causes of sexual dysfunction.

Studies indicate about 30% of men and 40% of women are suffering from it. Low sexual desire, sexual aversion, impaired sexual arousal, orgasmic dysfunction, vaginismus and dyspareunia are the types of sexual dysfunction recognized in women. In men it includes low sexual desire, sexual aversion, erectile dysfunction, premature ejaculation and retarded ejaculation.

The treatment of sexual dysfunction was revolutionized in 1970s with the contribution of Masters and Johnson. The 'Dual Sex Therapy', essentially cognitive and behavioural, recognizes that the dysfunction is in the couple as a unit and not in the individual. It is done in three stages of 'non-genital stimulation', 'genital stimulation' and 'penile-vaginal intercourse' where the couple actively participates. Several interpersonal issues are rectified at each stage as the therapy progresses. It involves 12-15 sessions. Now, modified versions of sex therapy to address individually and in group formats are available.

The drug therapy is not curative but significantly reduces the magnitude of the problem. Apo-morphine, a centrally acting D1/D2 agonist is the only drug useful in desire disorders in both males and females. Trazodone, alprostadil, phentolamine, nitric oxide enhancers are all useful in male erectile disorders. The most popular ones are the nitric oxide enhancers like sildenafil, vardenafil and tadalafil. However they cannot be used daily and are contraindicated in Ischemic heart disease. Penile prosthesis and vacuum pump are the other options for erectile dysfunction. Premature ejaculation is treated by using adverse effect of delaying the ejaculation by SSRIs like fluoxetine and paroxetine. 'Depoxetine' is the newer drug currently popular for this. Antianxiety drugs like buspirone and benzodiazepines are also useful for premature ejaculation. Preliminary studies indicate that amantadine, bupropion and buspirone are useful in delayed ejaculation. The treatment options by use of medications for female arousal disorder are discouraging. Hormone therapy (testosterone, estrogen) has been found to be useful to an extent in disorders of arousal and orgasmic phases.

Clinician should make it a point to raise this sexual issue during examination, as the patient may not disclose because of the stigma. A tactful psychoeducation & learning the necessary skills may reduce much of the burden of sexual dysfunction.

**Dr. Anil Kumar M N, DPM., DNB.,
Asst. Prof of Psychiatry, Mysore Medical College**

Reframe : Myths & Facts about - Depressive Disorder

- ✗ Management of Depressive disorder always requires a specialist
- ✓ Depression is the most common psychiatric condition which can be managed by minimal skill of a Doctor. This involves assessment of severity, co-morbid conditions and previous treatment history. Mild to Moderate depression can be managed by therapies like supportive psychotherapy /CBT. Moderate to Severe depression requires additional antidepressants for at least few months after remission. Psychiatrist opinion is necessary when there are co-morbid psychiatry conditions, suicidal intentions or in case of non responders.
- ✗ Depressive disorders do not present with symptoms of pain
- ✓ Depression usually causes emotional symptoms such as low mood, irritability, & loss of interest. But it can also present with physical symptoms such as pain, exhaustion, muscle aches and changes in weight and appetite. It can also worsen back and joint pain.
- ✗ Only women can develop depression
- ✓ Depression also affects men and children, even though it is more common in women

Compiled By - Dr. Neha Kulkarni

Trichobezoars & Trichotillomania

Referrals to psychiatry, from surgery department are not uncommon. The patients with somatisation or those with pain, that could not be localized or those with inconsistent clinical findings or those who are too anxious before surgery, do benefit from referral . Not many have explored the interface between psychiatry & surgery, which may require considerable attention, in the interest of patients.

Among patients presenting to surgery one such area of interface is in cases that are diagnosed as Trichobezoars. Bezoars are concretions in the gastrointestinal tract that increase in size by continuous accumulation of non-absorbable food or fibers. Most bezoars in children are trichobezoars from swallowed hair. Trichobezoars typically cause abdominal pain and nausea, but can also present as an asymptomatic abdominal mass, progressing to abdominal obstruction and perforation. An unusual form of bezoar extending from the stomach to the small intestine or beyond has been described as Rapunzel syndrome.

It may be interesting to note that, Trichobezoars has close association with Tricotillomania. One in three patients with Trichotillomania swallow pulled out hairs and 40% of them develop Trichobezoars. The term Trichotillomania was coined by a French dermatologist, Francois Hallopeau, in 1889. WHO has classified Trichotillomania under habit and impulse disorders, as a condition "characterized by noticeable hair loss due to a recurrent failure to resist impulses to pull out hairs, preceded by mounting tension and followed by a sense of relief or gratification." The diagnosis should not be made if "pre-existing inflammation of the skin" exists or if hair pulling occurs "in response to a delusion or hallucination." "Stereotyped movement disorder with hair-plucking" is also specifically excluded.

The incidence of Tricotillomania has been underestimated because of secretiveness and is said to be ranging from 0.5 to 4%, more common in female gender. Causes are varied from mental retardation to co-morbid anxiety disorders. Management involves education, addressing dermatological & surgical complications, referral to psychiatry for evaluation. At psychiatry department, after assessment, patients can be considered for Habit Reversal Training (HRT) or Cognitive Behavioural Therapy(CBT) and medications such as (SSRI) Selective Serotonin Reuptake Inhibitors or TCA (Tricyclic Anti Depressants) like clomipramine can be recommend by consultant psychiatrist.

It may be interesting to discuss individual cases with colleagues in other departments whenever there are issues which requires consultation liaison for the benefit of patients and also enhancing mutual insight about medical conditions.

Dr. Thulasi Vasudevaiah, MS.,
Assistant Professor of Surgery, JSS Medical College

Minds Quiz

1. Mr G, aged 34 yrs being treated for severe depression, insists that he is dead!!! This is
a) Delusion of Reference b) Delusion of Persecution
c) Delusion of Nihilism d) None

2. Oniomania is a disorder of compulsive
a) Buying b) Cellular Phone Use
c) Internet use d) Self mutation

3. Neurotransmitters predominantly involved in Obsessive

compulsive disorder is

- | | |
|--------------|------------------|
| a) GABA | b) Acetylcholine |
| c) Serotonin | d) Dopamine |
4. Not a feature of Wernicke's Korsakoff Syndrome
- | | |
|-----------------|--------------------|
| a) Ataxia | b) Confusion |
| c) Bell's palsy | d) Ophthalmoplegia |

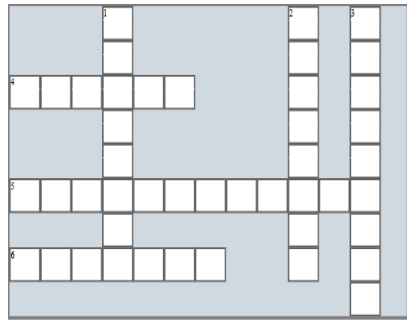
Answer

- | | |
|-------------------------|-----------------|
| 1) Delusion of Nihilism | 2) Buying |
| 3) Serotonin | 4) Bell's palsy |

Crossword

Across:

- 4. Nobel laureate in Physiology for classical conditioning (6)
- 5. Wrote "Mourning and Melancholia" (12)
- 6. Known for "operant conditioning" (7)



Down :

- 1. Wrote "Learned Optimism & Authentic Happiness" (8)
- 2. He divided suicides into egoistic, anomic, and altruistic types (8)
- 3. He showed the influence of Consequences (rewarding and Punishing)events on Behaviour (9)

Answer

- Across :**
- | | |
|------------|------------------|
| 4) Pavlov | 5) Sigmund Freud |
| 6) Skinner | |
- Down :**
- | | |
|--------------|-------------|
| 1) Seligman | 2) Durkhiem |
| 3) Thorndike | |

Guest Column: Down The Memory Lane... Illness Is Nothing, Where There Is Humanity

Nearly 20 years ago, one night around 11.30 p.m. when the whole household was asleep, there was noise at our gate. I sleepily woke up to find a car load of people came urging me to come and see a patient urgently. With my standard annoyed response, I told them I would not be able to come now. The brother of one of my female patient suffering from Bipolar Affective Disorder, told me that his sister was getting married the next morning, had become symptomatic. The boy's family was refusing to go ahead with the marriage. To start with, I did not know that she was getting married (as usual they did not seek my advice in this matter). Feeling sorry for the family and looking at the gravity of the situation, I decided to go and see what I can do to help. By the time, I reached the Kalyana Mantap, it was past midnight and I could see people asleep. Bride was in a hypomanic state having stopped medication, a few days ago. I was taken to the prospective father-in-law, an orthodox, elderly man, who was fuming, that the bride's party had withheld the information. I then asked to see the bridegroom. I explained the situation to him and I was taken aback when he said, "this marriage is arranged by both the families and I have agreed. Good or bad, I will go through with it. I will not back out now, even if my family is not for it." I was dumbfounded. I had not obviously expected this answer and certainly not with the ease with which it came from him. There are people in the world, who value commitment and honour, no matter what the circumstances are. Illness is nothing, where we see humanity.

Post script: It is nearly twenty years since this incident took place. They are a happily family now and she is doing well with her maintenance medication. They come for follow up regularly. I constantly thank God, for giving me the opportunity to serve and also for getting to know that such

Humans do exist amongst us.

Dr.S.Kalyanasundaram,
Senior Consultant Psychiatrist, Bengaluru.

Premenstrual Dysphoric Disorder

Premenstrual Syndrome (PMS) is a combination of emotional, behavioral and physical symptoms that occur in the premenstrual or luteal phase of the menstrual cycle. The term "premenstrual tension" appeared in the medical literature 80yrs ago, but widely accepted diagnostic criteria for PMS do not exist. Approximately 80% of women report at least mild symptoms, 20 - 50% report moderate to severe symptoms and about 5% of women report severe symptoms for several days with impairment of role and social functioning. The 5% of women with severest form of PMS generally have symptoms that meet the diagnostic criteria for premenstrual dysphoric disorder (PMDD).

Research criteria for PMDD have been mentioned in DSM-IV-TR. Generally recognized syndrome involves mood symptoms (depressed mood, marked anxiety, lability, decreased interest in work, decreased concentration), behavioural symptoms (changes in eating patterns, interpersonal conflicts, lack of energy), and physical symptoms (breast tenderness, edema, headaches). This pattern of symptoms occurs at a specific time during the menstrual cycle, and the symptoms resolve for some period of time between menstrual cycles. These symptoms present in most menstrual cycles during past year, to be confirmed by prospective daily ratings during at least two consecutive symptomatic cycles. The hormonal changes occurring during the menstrual cycle are probably involved in producing symptoms, although the exact etiology is unknown. Evaluation includes a full psychiatric evaluation. Medical evaluation should rule out physical conditions that may cause symptoms in association with the premenstrual phase of the menstrual cycle (endometriosis, fibrocystic breast disease, migraine). Use of medications (OTC), caffeine, alcohol, and nicotine should be assessed because these may cause symptoms that mimic PMDD.

Treatment is based on the severity and nature of symptoms. Patients desire to be treated continuously throughout the cycle / only on symptomatic days, and patient's views regarding the use of psychotropic versus other palliative agents needs to be considered. Mild symptoms can be treated with non-pharmacological interventions (sleep hygiene, exercise, relaxation, CBT, minimize use of caffeine, salt, alcohol, & nicotine). For those with severe PMDD pharmacological therapy is required. SSRIs (fluoxetine, sertraline, paroxetine, or citalopram) can be administered throughout month / during two premenstrual weeks. Other medications like nortriptyline, nefazodone, & clomipramine have been used. Premenstrual anxiety and irritability

may be treated with buspirone & clonazepam. Calcium carbonate, pyridoxine, primrose oil, magnesium, and vitamin E have been used with some results. Other treatment options like progesterone supplementation, synthetic androgen danazol, GnRH agonist leuprolide, are rarely used. Diuretics (spironolactone, hydrochlorothiazide), analgesics (mefenamic acid, naproxen) have been used for symptomatic relief.

Conclusion: women with severe and PMDD comprise a substantial proportion of menstruating women. These women have several symptomatic days each month that lead to disrupted relationships and decreased quality of life. Identification of the disorder and appropriate intervention is of importance to reduce the agony.

Dr. G. Bharathi DPM DNB,
Consultant Psychiatrist, Hassan Institute of Medical Sciences

Preoperative anxiety: detection, contributing factors and management

Normally, Patients while facing a uneasy reality, such as a surgery, develop tension levels that compromise the emotional, physiological and cognitive abilities. The perioperative anxiety is defined as an emotional state with psychological and physiological elements with diffuse apprehension feelings, uncertainties, unpleasant and discomfort sensations, of a vague and unspecified nature associated to alienation and insecurity. The reported incidence of preoperative anxiety in adults ranges from 11% to 80% and Up to 65% of all children. Surprisingly interdepartmental research in this area is sparse. Three distinct dimensions of anxiety related to operation are:

1) The fear of the unknown (fear of not knowing what occurs while unconscious during anaesthesia). 2) The fear of feeling ill (fear of perioperative pain, post operative recovery as before). 3) The fear for one's life ("Not regaining consciousness after the induction of anaesthesia," i.e., a fear of dying or remaining in a coma and fear of anaesthesia-induced physical or mental harm). The dimension of the anxiety can be measured by "Amsterdam Preoperative Anxiety Information Scale (APAIS)", "Spielberg's State-Trait Anxiety Inventory (STAI-State)", "100mm visual analogue scale (VAS)", "Multiple Affect Adjective Check List (MAACL), or Yale Preoperative Anxiety Scale for children. The STAI is used frequently. Recently, VAS is popular in evaluating preoperative anxiety & fear.

Risk factors for preoperative anxiety: Young patients, Women

& Children, History of alcoholism & smoking, psychiatric disorders especially anxiety disorders like phobias, depressive symptoms, high trait-anxiety, negative future perception & patients with no previous anaesthetic experience / previous negative anaesthetic experience.

Adverse effects: Preoperative anxiety adversely influences anaesthetic induction and recovery, increased need for intra-operative sedation and anaesthetic requirements. Postoperative emergence delirium, Postoperative maladaptive behaviors, in children such as new onset enuresis, feeding difficulties, separation anxiety, apathy, withdrawal, and sleep disturbances, temper tantrums may also result from anxiety before surgery. In addition to behavioral manifestations, preoperative anxiety activates the human stress response, leading to increased serum cortisol, epinephrine, and natural killer cell activity. This is associated with alterations of immune function and susceptibility to infection.

Management: Most important role of surgeon or anaesthesiologist is to empathetically educate & reassure the patient before surgery and after recovering. Referral to psychiatry, if anxiety is difficult to handle or patient has phobia or past history of psychiatric illness. Referral may be important when history of alcohol use is present because withdrawal symptoms may complicate recovery. Normally, intervention to reduce preoperative anxiety includes pharmacological anxiolytics with Benzodiazepines like Alprazolam (Caution about continued use & dependence) and Pregabalin has also been recently tried. Preoperative education program, provision of information, distraction, attention focusing and relaxation (music, humour and guided imagery) procedures, acknowledging and reassuring parental anxiety are the important keys in children.

Dr. M.R. Anil Kumar, MD.,

Asst. Professor of Anaesthesiology & Critical Care, JSS Medical College

Reframe : Myths & Facts about - Delusions

- ✗ Delusions and hallucinations are one and same
- ✓ Delusions are disorders of thought and Hallucinations are disorders of perception. Delusion is a false, firm and fixed belief that a person holds on to even when proved otherwise, contrary to his social, educational and cultural upbringing. Hallucinations are perception without external stimuli.

- ✗ Delusions can be treated by proving that he / she is wrong or the belief they hold is impossible
- ✓ Delusions may be strengthened by such efforts. Delusions are classified under psychotic symptoms because the person has no or less insight about his illness.
- ✗ Delusions cannot be treated
- ✓ Delusions can be managed with antipsychotic medications and CBT (cognitive behavioural therapy). In CBT, empathetically other possible explanations for his belief are explored and the associated emotions, behaviors are modified during the therapeutic sessions.

Compiled By - Dr Neha Kulkarni

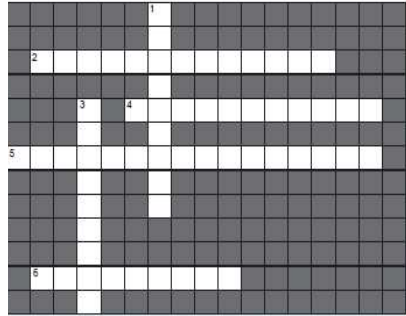
Minds Quiz

1. Mr R, aged 74 yrs being treated for Hypertension, insists that he can see his mother who is dead!! This is
 - a) Illusion
 - b) Delusion
 - c) Hallucination
 - d) Overvalued Idea
2. Pyromania is a disorder of compulsive
 - a) Buying
 - b) Cellular Phone Use
 - c) Setting fire
 - d) Self mutilation
3. Historically, the neurotransmitters implicated in Schizophrenia
 - a) GABA
 - b) Acetylcholine
 - c) Serotonin
 - d) Dopamine
4. Not a feature of Normal Pressure Hydrocephalous
 - a) Ataxia
 - b) Dementia
 - c) Hydrocephalous
 - d) Ophthalmoplegia

Answer

- 1) Halucination
- 2) Setting Fire
- 3) Dopamine
- 4) Ophthalmoplegia

Crossword



Across:

- 2. Eugen Bleuler introduced this term (13)
- 4. A Partial nicotine agonist used in Deaddiction of Tobacco Smoking (11)
- 5. Drug of Choice for Alcohol Withdrawal Symptoms (16)
- 6. Worsening of delirium Especially in right (10)

Down :

- 1. Drug of choice in treatment resistant Schizophrenia (9)
- 3. Non opioid used in opioid Detoxification (9)

Answer

Across : 2) Sonizophrenia 4) Varenicline
 5) Chlordiazepoxide 6) SSundowning

Down : 1) Clozapine 3) Clonidine

Guest Column: Down The Memory Lane...

Experience may reduce our mistakes but does not eliminate it!!

A young college student was brought by her mother for depression with paranoid features. She came from a middle class family and both her parents were employed. She was started on anti-depressants and risperidone for the paranoid features. On enquiry it was also found that there was a boy friend who was her classmate, They met infrequently and part of the depressive features and crying were due to the fact the parents discouraged her from meeting him. She showed improvement over a period of time. The mother complained that the girl had not had her periods. I reassured them that it was only a side effect of the drug and it would soon be all right. However, I also got serum prolactin level done just to reassure them as well as myself. It was elevated and this only confirmed my suspicions.

One day the mother came along with the patient and announced that the girl was taken to a gynecologist, due to the delay in her periods and after a scan and pregnancy tests, the worst was confirmed. She was pregnant. This came as a shock to me as I did not think of this possibility. My clinical judgement was coloured by extraneous factors and I felt like a fool.

Lesson: No matter from what background the patients come from, one should be totally objective and not be carried away by our personal preconceptions and biases. The fact that it happened only 3 years ago, in my clinical practice, after all these years, made me realize, that making a mistake can happen to all of us, no matter, how experienced one is. (Post script: The families got them married and they are a happy family now)

Dr. S. Kalyanasundaram
Senior Consultant Psychiatrist

Emotional Intelligence

In his best-selling 1995 book "Emotional Intelligence" Daniel Goleman reported that, research shows that conventional measures of

intelligence - IQ - only account for 20% of a person's success in life. For example, research on IQ and education shows that high IQ predicts 10 to 25% of grades in college. Nonetheless, Goleman's assertion begs the question: What accounts for the other 80%? Goleman and others have asserted that at least some of the missing ingredient lies in emotional intelligence -the capacity to acquire and apply emotional information. But what exactly is emotional intelligence? At the most general level, emotional intelligence (E.I.) refers to the ability to recognize and regulate emotions in ourselves and others (Goleman, 2001).

Peter Salovey and John Mayer, who originally used the term "emotional intelligence", defined it as: The ability to perceive emotion, integrate emotion to facilitate thought, understand emotions, and to regulate emotions to promote personal growth.

Essentially, the skills in building Emotional Intelligence are

STEP 1: Self-Awareness

Self-awareness is the first skill set in building Emotional Intelligence. High self-awareness is "tuning in" to the sensations you feel and being able to name which emotion is happening at any given time. People experience an average of 27 emotions every waking hour! The skill sets associated with Self-Awareness include: Emotional Awareness: Recognizing one's emotions and their effects, Accurate Self-Assessment: Knowing one's strengths and limits

STEP 2: Self-Management

Self-management is your ability to use the awareness of your emotions to stay flexible and direct behavior positively. This second step is to regulate feelings and manage them so they do more good, both to yourself and others. Our passions can be contagious and energize others, but our ranting and raving can damage work relations beyond repair. Here are the components of Self-Management: Self-Control: Managing disruptive emotions and impulses, Trustworthiness: Maintaining standards of honesty and integrity

Conscientiousness: Taking responsibility for personal performance, Adaptability: Flexibility in handling change

STEP 3: Social Awareness

Emotional intelligence is both tuning into your own feelings and tuning into the feelings of those around us. Empathy is being able to see from another's perspective. Empathy begins with listening. Research has proven that, we determine whether we like someone and trust within 3-5 seconds. It's that fast for our emotional brain to form a first impression. The rational brain has no time to get involved and deliver intellectual proof until later.

Here are the components of Social Awareness: Empathy: Sensing others' feelings and perspective and taking an active interest in their concerns. Political Awareness: Reading a group's emotional current and power relationships

STEP 4 : Relationship Management

Mastering the abilities of self-awareness, self- management, and social awareness pave the way for more effective relationships. This fourth component, relationship management, is about interacting with people and being adept at managing emotions in others. Here are the components:

Influence: Using effective tactics of persuasion, Communication: Sending clear and convincing messages, Conflict Management: Negotiating and resolving disagreements"

Collaboration and Cooperation: Working well with others toward shared goals.

May be it is time to educate and encourage the medical fraternity about inculcating Emotional Intelligence.

Dr. Saraswathi, MD.,
Consultant Psychiatrist, District Hospital Bagalkot

Bruxism: Etiology, diagnosis and Management

Bruxism has been a much discoursed and debated over topic for dentists, psychiatrist and neurologist likewise. Even today, after decades of research, bruxism still remains a subject in need of more concrete representation. It is a tedious task to study and document facts relating to bruxism because most patients are unaware that they brux unless the problem has reached a point of serious consequences. But it is considered as common, affecting 8% of population, in children it is more common affecting 14%-20%.of them

Bruxism is a diurnal or nocturnal para-functional activity that includes grinding, gnashing, or clenching of the teeth. Sleep bruxism has been classified under parasomnia. It takes place in the absence of subjective consciousness. Various theories regarding the etiology of bruxism have been reported and they fall into the following categories: dental occlusion related, psychological and originating within the central nervous system. Certain medical conditions can also trigger bruxism like digestive ailments, allergic reactions and sleep disorders People whose lifestyle includes use of tobacco and amphetamine like

stimulants are at a higher risk. The dentist is usually the one to diagnose bruxism when the patient presents for a routine dental check-up. Patients may present with a variety of symptoms like headache, mobile teeth, insomnia, stress and depression. The presence of tooth wear, gingival recession, fractures of posterior teeth cusps and dental restorations are indicative of bruxism. Abnormal muscle activity can be monitored by electromyography and at home bite-strips.

The first line of treatment is to address the possible causes also includes lifestyle and behavior modifications. The patient can be referred to psychiatrist for opinion, where he can be evaluated, appropriate therapy can be considered and or medications. Placing a resin or an occlusal splint intra-orally after occlusion adjustments is the most predictable and effective method to prevent tooth wear and bruxism. It is custom fabricated by the dentist and should be worn, monitored and replaced on a timely basis. Some patients with severe bruxism require complete oral rehabilitation with porcelain, ceramic or fibre re-inforced polymer crowns and fixed prosthesis followed by post-operative occlusal splints. A recent innovation is the professionally administered Botulinum Toxin injections which reduces the nocturnal bruxing events by decreasing muscle activity. Failure to diagnose and treat bruxism in its early stages might lead to increase in the severity of the problem eventually resulting in myofascial pain dysfunction syndrome (MPDS) and temporomandibular joint disorder (TMD). So, it is a need of the hour for an interdisciplinary approach in combating bruxism which would benefit the patient in avoiding its distressing sequelae.

Prof. B. Nandlal,
Principal, Prof. & HOD of Pedodontics & Preventive Dentistry,
JSS Dental College & Hospital

Reframe : Myths & Facts about - Dementia

- ✗ Memory disturbances are part of normal aging
- ✓ Gross memory disturbances are not part of normal aging especially those related to immediate and recent memory disturbances.
- ✗ Dementia is seen in all elderly Individuals
- ✓ Dementia is seen approximately 3-5% of individuals aged 65-74yrs and 18-20% in 75-84 yrs age group.
- ✗ Dementia is characterized by disturbance only in memory
- ✓ According to WHO, Dementia is progressive irreversible

disturbance in multiple cortical functions like memory, thinking, orientation, comprehension, calculation, learning capacity, language and judgment.

Compiled By - Dr Neha Kulkarni

Minds Quiz

- Mitral valve prolapse is a differential diagnosis for which of the following psychiatric disorder?
 - OCD
 - Panic Disorder
 - GAD
 - Depressive Disorder
- Which of the following is selective serotonin reuptake enhancer?
 - Tiagabine
 - Tianeptine
 - Mirtazapine
 - Fluoxetine
- Who is often called as the "First Psychiatrist".
 - Sigmund Freud
 - Hippocrates
 - John Weyer
 - Hans Berger
- Hebephrenic Schizophrenia is also called as
 - Residual
 - Catatonic
 - Disorganized
 - Paranoid

Answer

- Panic Disorder
- Tianeptine
- John Weyer
- Disorganized

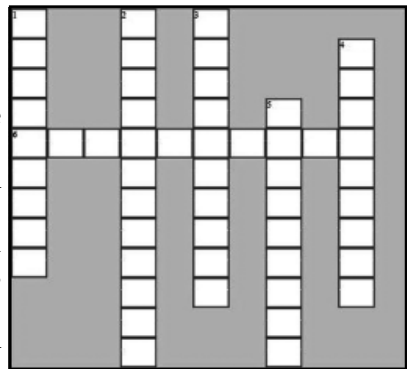
Crossword

Across:

- Introduced EEG (10)

Down

- Persistent Low Mood for more than 2 years (9)
- Most Common Delusion in Schizophrenia (12)
- WHO Theme for World Mental Health Day 2012 is on this illness (10)
- Antidepressant approved in Smoking Cessation (9)
- Nobel Prize for Surgery in Psychiatric Conditions (9)



Answer

Across : 6) Hans Berger

Down : 1) Dysthymia

3) Depression

5) Egas Moniz

2) Persecutory

4) Bupropion

Dear Readers

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You can contact us for more info on this e-mail: mindsmysore@gmail.com

Minds United For Health Sciences & Humanity

Guest Column: Down The Memory Lane... Beyond Seniority, accepting difference of opinion

For a brief period I worked in VHS, Madras (Chennai) before joining CMC Vellore for my Senior Housemanship. I worked in the newly started Renal Dialysis Unit and in the Ophthalmology Unit. The Chief in the latter was the very well known Dr.S.S.Badrinath, who is presently running the very popular Shankar Nethralaya at Chennai. One day, there was a referral from the Medical Unit for an opinion on the Fundus for a patient with hypertension. Dr.Badrinath asked me to see the patient and write my opinion in the chart. I mentioned that the patient had Grade II - hypertensive retinopathy. Later when he saw the patient he thought the fundus was normal. I quickly took the case file and tried to scratch out what I had written. He stopped me in my tracks and said "your opinion is as valid as mine. Although we may differ at this point in time and just because I am senior to you it does not mean that your opinion is invalid". I was amazed at this completely different approach to medical practice, because I had grown with the idea, during my undergraduate days that "whatever the senior says must be right". And his humility and complete honesty in a clinical situation by an expert in the field impressed me a lot, especially, when both of us knew that he was probably right and I just only an upstart. This made a deep impression in me and of course we continued to cherish our friendship.

Dr. S. Kalyanasundaram
Senior Consultant Psychiatrist

Obsessive Compulsive Disorder

Mr.X is a 22yr graduate belonging to middle socioeconomic family was admitted in medical ICU with fatal suicidal attempt. He was evaluated by the psychiatry team. Mr.X had Obsessional thoughts that he can get infected by any source and can transfer it to many, so had compulsions for cleaning repeatedly for hours. For last one year he had depressive symptoms, socio occupational dysfunction and prior suicidal attempt. He was diagnosed as Obsessive compulsive disorder,

treated adequately which resulted in improvement of his functional status and wellbeing.

Obsessive compulsive disorders (OCD) have a long history. In the 17th century, obsessions and hand washing rituals were immortalized by Shakespeare in the guilt ridden character of 'Lady Macbeth'. Obsessive-compulsive disorder is the fourth commonest mental disorder leading to disability and poor quality of life. Prevalence of OCD is around 1-3 % (Rasmussen, 1994). It is usually found to be equal in males and females (Phillips et.al 1998). It is seen in children with distinct phenomenology than adults. Phenomenology of OCD consists of obsessional ideas, thoughts, images and impulses which are unwanted, repetitive, intrusive and irrational, also ego alien (Own thought but occurring against wish) resisted unsuccessfully by the suffering person leading to significant anxiety. Compulsions are thoughts or actions (Behavior) preceded by obsessions which will reduce anxiety temporarily. The commonest obsessions are fear of contamination, aggressive thoughts, images & impulses, need for symmetry, sexual, religion and doubts. The common compulsions are cleaning, washing, Checking and Hoarding. Most patients have multiple obsessions and compulsions over time although a particular obsession may dominate the clinical picture at any one time.

Etiology of OCD is biological with genetic predisposition lead by abnormalities at specific genes (Andrew, 1990), altered levels of various neurotransmitters like Serotonin, noradrenaline, dopamine, glutamate and their receptor abnormalities. Others are Behavioral and cognitive models on the basis of which CBT (cognitive behavioral therapy) techniques have been developed. There are many brain structures implicated in relation to OCD which is the basis of psychosurgeries, like Basal ganglia (Cummings, 1993). Some infectious causes implicated like the production of certain antibodies, when directed to parts of the brain might be linked in some way to Pediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcal Infection (PANDAS)(Swedo1998).

Course of OCD Varies from person to person, but it has waxing and waning course with depressive episode as common comorbid illness. Underlying Obsessive compulsive personality can also worsen the course of OCD (Samuels's et.al 2000). There are various modalities of treatments ranging from Pharmacological to psychosurgeries. More useful is combination is CBT and Pharmacological (Chamberlein 2007). SSRI (selective serotonin reuptake inhibitors) are most commonly used drugs but tricyclic antidepressants especially Clomipramine can be beneficial. CBT includes ERP (Exposure and Response Prevention), thought stoppage (Foa, 2005) etc. Psychosurgeries like stereotactic

cingulotomy are indicated rarely in treatment resistant cases.

Its needs to be emphasized that OCD is severely disabling condition and doctors should make an effort to identify OCD early to help individuals to improve their quality of life by early interventions.

Dr Sunilkumar G Patil DPM, DNB
Consultant Psychiatrist, MVJ Medical College

Non Organic Visual Disorders

Symptoms of visual disturbances for which there is no identifiable organic basis are Non Organic Visual Disorders. They are not uncommon and constitute 5% of general ophthalmic practice. It's a diagnosis after a thorough clinical examination and investigations to ensure that a treatable disease is not missed. Physicians tend to get angry as they feel they are being manipulated, this should be avoided. Patients are more likely to co-operate in providing history and response to tests if they perceive the physician as interested in their wellbeing. Information regarding litigation or disability gain should be enquired.

It's useful to differentiate the malingerer from the patient with a functional disorder i.e, a manifestation of a psychiatric disorder so that such patients may have a psychiatric referral. In psychiatry, it could be a complaint in schizophrenia or more commonly dissociative disorder, the essential feature of the dissociative disorders is a disruption in the usually integrated functions of consciousness, memory, identity, or perception of the environment. A malingerer is aware that their symptoms do not exist. While a Dissociative (older term 'hysterical') patient believes that their symptoms are real. Malingerers are often anxious, hostile and uncooperative while dissociative patients tend to be cooperative and unconcerned about their symptoms. It is often impossible to distinguish between the two. Sometimes a functional visual loss may co-exist with an organic cause (functional overlay) and so they must be followed up. The main symptom may be unilateral or bilateral loss of acuity or visual field loss. Non organic visual loss can occur in children as well. Patients with non organic visual loss tend to attribute the symptoms to an injury or illness.

A complete examination should include best corrected visual acuity, pupil size and reaction, colour vision, visual fields, ocular

motility, slit lamp biomicroscopy, tonometry and dilated funduscopy. No shortcuts are allowed for this category of patients and the findings should be meticulously recorded. Common organic disorders that may be mislabelled as non-organic visual loss are early keratoconus, early posterior sub-capsular cataract, Cone Rod dystrophy, early Stargardt disease, retinitis pigmentosa sine pigmento, paraneoplastic retinopathy, optic neuropathy without disc changes and bilateral occipital infarcts. It is rare for organic disorders to produce large disparity in visual acuity between the two eyes without detectable evidence. Tests for monocular functional visual loss include fogging (either with plus spherical or cylinder technique), Magic drops (by reinforcing that the improvement is temporary), Duochrome test, Polaroid glasses, Prism tests, Stereoacuity testing, Optokinetic nystagmus, near distance disparity, afferent pupillary defect, Visual evoked potential (poor responses do not prove organic lesion as the response may be suppressed by inattention or defocusing). Tests for binocular loss are patients Navigating ability, Bottom up acuity, Finger touch test, Signature test, Mirror test, Shock test, Optokinetic nystagmus, Visual evoked potential. Patients presenting with field loss can be tested with tangent screen at 1 and 3 meters and Goldmann perimetry for spiralling of isopter. In medicolegal cases, clinician has to give accurate report. In other cases referral to psychiatry & assurance that the problem will improve, will suffice.

Dr. Premanath Raman, MS.,
Professor of Ophthalmology, JSS Medical College & Hospital

Reframe : Myths & Facts about - Nocturnal Enuresis

- ✗ Nocturnal Enuresis is seen only children
- ✓ Nocturnal Enuresis is seen in all ages, it is prevalent in 1% of adults
- ✗ In Nocturnal Enuresis, the child affected acts deliberately
- ✓ Majority of the affected children do their best to prevent, they need to be skillfully evaluated for low self esteem, depression & other stressors.
- ✗ Nocturnal Enuresis is a chronic disorder
- ✓ Nocturnal Enuresis can be primary or secondary, depending upon the bladder control & abstinence for at least 6 months. Behavioural techniques should be the first method to be employed & should

always be continued even when medications are considered

- ✗ Punishment makes the child bedwetting free
- ✓ Parent child education, rewards for dry nights, voiding before bed time, night awakening 2-4 hrs after bed time helps in this regard and parents should not punish the child.

Compiled By - Dr Sandeep Patil,

Minds Quiz

1. Rating scale to measure negative symptoms in schizophrenia was developed by
 - a) Kraeplin
 - b) Bleuler
 - c) Schneider
 - d) Nancy Andreasen
2. Melatonergic antidepressant is
 - a) Mirtazapine
 - b) Agomelatine
 - c) Imipramine
 - d) Blonanserin
3. Sudden involuntary twitching of small groups of muscles is
 - a) Chorea
 - b) Athetosis
 - c) Tics
 - d) Torticollis
4. Degree of personal awareness and understanding of illness is
 - a) Insight
 - b) Attention
 - c) Knowledge
 - d) Mood

Answer

- 1) Nancy Andreasen
- 2) Agomelatine
- 3) Tics
- 4) Insight

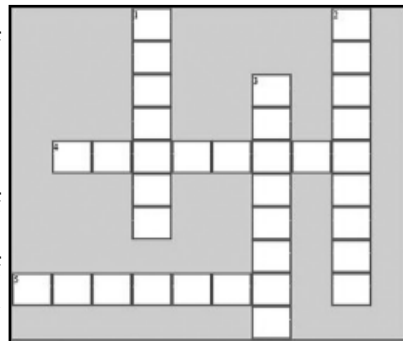
Crossword

Across:

4. Learned helplessness theory of depression (8)
5. Delusion of disguise (7)

Down

1. Delusional jealousy (7)
2. postulated cognitive triad of depression (9)
3. Progressive deterioration of cognition, behavior, and functional independence (8)



Answer

Across : 4) Seligman

5) Fregoli

Down : 1) Othello

2) Aaronbeck

3) Dementia

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Minds United For Health Sciences & Humanity

Guest Column: Down The Memory Lane... It's important not to stereotype people

I did my undergraduation in Madurai Medical College, Madras University, and was a House Surgeon (intern) in the year 1970. In the medicine Unit, where I was posted, we were also asked to look after the 'Prison Ward'. Not many of my colleagues were keen to attend to these prisoners. My first entry into that ward was obviously with some trepidation. I did not know what to expect because one has a stereotype image of the criminals. In course of time, I gradually got over the anxiety of meeting these people. It gradually dawned on me that they are actually 'human beings' to start with and they happen to have committed a heinous crime, at the spur of a moment, under certain grave provocation. That did not mean that they were "bad people". I saw the human side of these prisoners and this taught me a great deal. I realized how important it is not to stereotype people. I learnt patience, listening and compassion from these men and they began to respect me, which eventually became mutual. This experience taught me a great deal and perhaps this learning from them laid a good foundation for my interest and entry into the realm of the human mind and its many ramifications. Perhaps this sowed the seed of my interest in Psychiatry.

Dr. S. Kalyanasundaram
Senior Consultant Psychiatrist

Depression and Myocardial Infarction

Depressive symptoms are common among post myocardial infarction (MI) patients and may cause negative impacts on cardiac prognosis. Depression is observed in 35-45% of MI patients. While depression is an independent risk factor for MI, post-MI depression has been shown to be a risk factor for mortality, morbidity, and decreased quality of life in patients.

The link between depression and MI is bidirectional in which behavioral and biological mechanisms have been proposed to be involved. Individuals with a history of recurrent depression, who are otherwise healthy, show increased inflammation, platelet activation,

endothelial dysfunction, and reduced heart rate variability and baroreceptor sensitivity. The combination of these mechanisms is likely to involve in increasing the risk of mortality. However, the MIND-IT trial, which studied depression in MI patients, revealed that the rate of depression and the severity of depressive symptoms are significantly related to the severity of LV dysfunction. Hence, it may be relevant to acknowledge the association between depression and LV dysfunction when evaluating the prognostic effects of depression in cardiac patients.

Epidemiological studies, on the other hand, have shown the link between depression and increased risk for development of cardiovascular disease, MI, and cardiac mortality. The adverse impact of depression on prognosis of heart disease is preventable with the right treatment. A number of therapeutic approaches including cardiac rehabilitation, social support, cognitive behavioral therapy, and antidepressants have been suggested for post-MI depression. However, due to their adverse effects, tricyclic antidepressants are not recommended for treating post-MI depression. On the other hand, administering selective serotonin reuptake inhibitors (SSRIs) shortly after MI would lessen their major side effects. The SADHART and CREATE trials provide convincing evidence of the cardiac safety and antidepressant efficacy of two SSRIs (sertraline and citalopram) in depressed cardiac patients. However, with the exception of platelet function, which improves with selective serotonin reuptake inhibitors, the other abnormalities are not corrected by antidepressant treatment. Furthermore, endothelial function and baroreceptor sensitivity, which can lead respectively to progression of the atherosclerotic process and to sudden cardiac death, do not improve when depressive symptoms are in remission.

In many studies, drug therapy and psychotherapy did improve depression, adherence to drug therapy, and quality of life. Given current observations and recent data from interventional trials coupled with the safe drug-interaction profile of sertraline and citalopram, these two SSRIs are recommended for treating depression in cardiac patients. If the patient is also receiving an anticoagulant, one should monitor for bleeding, as all SSRIs are associated with risk of prolonged bleeding time. Monitoring for rare cases of hyponatremia and bradycardia should also be part of early follow-up.

Liaison with psychiatrist may be beneficial whenever physicians come across patients with depression.

Dr. Jayranganath MBBS,MD, DM
Cardiologist, Manipal Hospital

Metabolic Syndrome - An Emerging Epidemic?

The connection between mental illness and the metabolic syndrome is emerging as a public health question of importance to both mental health and primary care practitioners. Originally identified by Reaven as Syndrome X or the Insulin resistance syndrome, the magnitude of public health impact of the metabolic syndrome is reflected by a recently estimated prevalence of approximately 24% in adults in the United States.

Metabolic syndrome describes a cluster of risk factors of metabolic origin that are associated with an increased risk of cardiovascular morbidity and mortality. These risk factors include abdominal obesity, glycemic dysregulation, dyslipidemia, and elevated blood pressure. Metabolic syndrome is important to the practicing psychiatrist because of the association between some psychiatric disorders and the individual components of metabolic syndrome.

Diagnostic criteria for metabolic syndrome from different sources

Criteria	ATP-III	AHA	IDF
Waist circumference (cm)			
Men	≥102	≥102	≥90
Women	≥ 88	≥88	≥ 80
Blood pressure (mmHg)	>130/85	>130/85	>130/85
High-density lipoprotein level (mmol/L)			
Men	<1.03	<1.03	<1.03
Women	<1.30	<1.30	<1.30
Fasting blood triglyceride level (mmol/L)	≥1.7	≥1.7	≥1.7
Fasting blood glucose level (mmol/L)	≥6.1	≥5.6	≥5.6

ATP III=National Cholesterol Education Program's Adult Treatment Panel III.

AHA = American Heart Association/National Heart, Lung and Blood Institute.

IDF = International Diabetes Federation.

Three of five criteria must be present to establish the diagnosis.

Abnormal waist circumference plus any two of the other four criteria must be present to establish the diagnosis.

The metabolic syndrome and psychiatric disorders appear to share common risk factors, including endocrine disturbances, dysregulation of the sympathetic nervous system, and behaviour

patterns, such as physical inactivity, substance abuse and overeating. In addition, many of the commonly used pharmacological treatments for psychiatric disorders may intensify the medical burden in patients by causing weight gain and metabolic disturbances, including alterations in lipid and glucose metabolism, which can result in an increased risk for diabetes mellitus, hypertension, dyslipidaemia, cardiovascular disease and the metabolic syndrome. These may result in premature mortality observed in psychiatric patients and is also a major cause of treatment noncompliance, increased use of outpatient and inpatient services and consequently, higher healthcare costs.

Management: Although there is no treatment algorithm for the metabolic syndrome as a whole, the first-line approach is treatment of individual components of the metabolic syndrome along with lifestyle modification, focusing on nutrition counseling for ongoing changes in diet and exercise. Psychiatrists should identify the risk factors, monitor the metabolic parameters & choose appropriate psychotropic medications for patients with co-morbid metabolic syndrome.

Conclusion: Patients with severe mental illnesses, particularly schizophrenia and chronic mood disorders, are at risk of metabolic syndrome compared with the general population in several countries. Therefore, baseline and periodic medical evaluations should become a standard component in the ongoing assessment of these patients. Although individual risk factors associated with the metabolic syndrome are typically amenable to behavioral or pharmacologic treatment, management of these co-morbidities in many patients with serious mental illness will require cooperation between psychiatrists and primary care physicians. Patient education and adequate control of psychiatric symptoms will also remain important parameters in achieving long-term treatment success.

Dr. Kiran Kumar. K, MBBS,MD

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Vydehi Institute of Medical Sciences & Research Center

Reframe : Myths & Facts about - Nicotine Abuse

- ✗ Nicotine Abuse is seen only in Men
- ✓ Nicotine Abuse is seen not only in Men but also among women, children and adolescents
- ✗ Nicotine Abuse in the form non smokeless mode is safer
- ✓ Nicotine Abuse causes equal harm whether it is used in the

smokeless form or by smoking.

- ✗ Nicotine Abuse is very common and unless a person develops a health problem, it is not necessary to Intervene
- ✓ Nicotine Abuse should always be addressed at earliest and patients should be educated, motivated for possible ways to quit nicotine , alternative ways to cope up with stress, relaxation & use of other pleasurable activities should be suggested.
- ✗ Nicotine Abuse is not associated with any physical harm, if it is the only issue with an Individuals health.
- ✓ Nicotine Abuse is closely associated with harm at every stage, with every puff and with all available form of use. It should be discouraged.

Compiled By - Dr Sandeep Patil

Minds Quiz

1. Which of this is classified under disorder of tempo
 - a) Obsession
 - b) Compulsion
 - c) Circumstantiality
 - d) Alienation
2. 'Speech confusion' and 'word salad' are called as
 - a) Schizophasia
 - b) Schizophrenia
 - c) Schizo affective
 - d) Schizoid
3. Filling-in of gaps in memory by untrue experiences
 - a) Compulsion
 - b) Confabulation
 - c) Catatonia
 - d) Rumination
4. Pseudologia fantastica is also called as _____
 - a) Fregoli syndrome
 - b) Catatonia
 - c) Pathological lying
 - d) Narcolepsy

Answer

- 1) Circumstantiality
- 2) Schizophasia
- 3) Confabulation
- 4) Pathological Lying

Crossword

Across:

1. Patient sees objects smaller or farther away than the actual (9)
3. New words constructed or Ordinary words used in special way (10)
5. Vivid illusions occur without effort by patient (10)
6. Delusion of Love (10)

Down :

2. Automatic repetition of one's own last word or Phrase (9)
4. Morbid Jealousy in one of the Shakespeare plays (6)

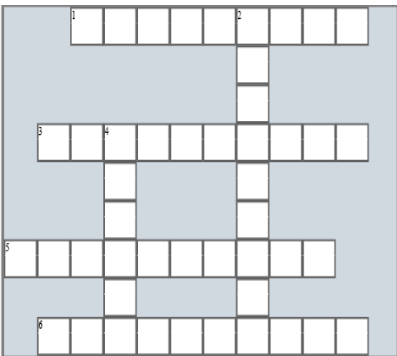
Answer

Across : 1) Micropsia
5) Pareidolia

3) Neologism
6) Erotomania

Down : 2) Palilalia

4) Othello



Guest Column : Down The Memory Lane...

Don't Try To Be a Hero

I was in Faculty at NIMHANS many years ago and one morning in the OPD one of the residents came to inform me that an uncooperative patient had come and he refused to get out of the car. I confidently walked out of the room and said I would handle it. I saw this young man in his late 20s, at the left corner of an Ambassador car. I tried speaking to him. He made no eye contact and certainly did not respond to any of my attempts. I confidently entered the back of the car and shut the door to persuade him and there was no one else in the vehicle. After few minutes of silence, he slowly pulled out a sharp knife from his pocket without even glancing at me. You can imagine my state of affairs; I was scared, but did not dare show it to him. I was afraid but, gently asked him to hand over the knife to me. He kept staring at me & after few minutes handed over the knife, to my great relief, as I opened the car door. I put my arm around him and walked with him to the canteen. We both had a cup of tea and I slowly walked him to the closed ward and admitted him. Until it was done, I was pretty anxious as to what might have happened.

Lesson: Don't try to be a hero before you get to know the ground realities and facts of the problem.

Dr. S. Kalyanasundaram
Senior Consultant Psychiatrist

Cannabis Abuse & Psychosis

Cannabis is the most widely used illicit drug in the world. Chinese Emperor Shen Nung first described medicinal use of cannabis in 2700 BC. Cannabis was used in China, India and the Middle East for approximately 8,000 years for medical purposes. It was introduced to Europe in the early 19th century by Napoleon's army returning from Egypt and later to Britain for medical use by a surgeon who served in India.

Cannabis preparations are obtained from the plant *Cannabis sativa* which contains the active ingredient Delta-9-

tetrahydrocannabinol (THC). Marijuana also known as ganja, grass, pot, weed, etc, consists of dried leaves and flowers of the plant with THC concentration of 1 - 5%. The resin scraped off the plant is known as Hashish (charas) which has THC of 10%. Powder of dried leaves is Bhang which has THC 1-2%. Marijuana & Hashish are smoked and Bhang is taken orally. Bhang is very popular in greater parts of India as it is culturally sanctioned. THC produces its effects by acting on cannabinoid receptor CB1 & CB2.

People who use cannabis experience a "high" characterized by feelings of euphoria, relaxation and perceptual alterations which include time distortion and the intensification of experiences such as eating, watching films, listening to music, engaging in sex, etc. The "high" may be accompanied by infectious laughter, talkativeness, and increased sociability. Cognitive changes include impaired short-term memory. Motor skills, reaction time, motor coordination and many forms of skilled psychomotor activity are impaired.

Psychotic symptoms such as delusions and hallucinations are very rare but usually occur either with high doses of THC or in individuals with a pre-existing vulnerability to psychosis. In cannabis-using cultures, such as India, a "cannabis psychosis" has been reported among heavy users of cannabis. There is consistent evidence that schizophrenia and cannabis use are associated. There is also increasing evidence from longitudinal studies that cannabis use can precipitate schizophrenia in vulnerable individuals or exacerbate its symptoms in those who have already developed the disorder.

Treatment of Cannabis use disorders is mainly symptomatic as there will be psychological dependence more than physical dependence. Irritability, agitation & insomnia in withdrawal period can be treated with benzodiazepines like diazepam or lorazepam. Delusional and hallucinatory experiences will usually disappear within a week's time after stopping the use of cannabis. But in individuals with cannabis use and schizophrenia, treatment may be prolonged with the use of antipsychotics and rehabilitation care.

Prevention is always better than cure. The ill effects of cannabis should be communicated to the vulnerable population especially the youth. Cannabis use among vulnerable group should be discouraged as the younger age of initiation of cannabis use may increase the risk of developing schizophrenia substantially.

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Body Dysmorphic Disorders

Cosmetic surgery is becoming increasingly popular across all sections of the population. Surgeons are required to recognize the potentially complex psychological milieu of various conditions and the procedures. Aesthetic surgeon is often challenged with conditions where he has to judge the appropriateness of patient requests. Body dysmorphic disorder (BDD): "imagined ugliness" in lay man language is a psychiatric disorder which a cosmetic surgeon is challenged with. The illness is related to body image, in which an individual has a preoccupation with one or more perceived or slight defects in his or her appearance. Affected individuals perceive themselves to be ugly despite having normal appearance and often present to plastic surgeons for aesthetic reasons. The older term for BDD is 'dysmorphophobia', which was first used by Italian psychiatrist Enrique Morselli hundred years ago.

DSM-IV diagnostic criteria for BDD: A) Preoccupation with an imagined defect in appearance. B) The preoccupation causes clinically significant distress or impairment in social, occupational, or other important areas of functioning. C) The preoccupation is not better accounted for by other mental disorder.

BDD is most likely to develop in adolescence, especially in female. Patients have no or little insight into their illness. The type and severity of symptoms may vary from person to person. They often feel compelled to frequently repeat time-consuming behaviours such as: checking their appearance in a mirror, seeking reassurance about their appearance, comparing themselves with models in magazines or people in the street and many more. Identifying the disorder is most important for plastic surgeon as there is strong evidence that they do not benefit from aesthetic surgery. Many studies have shown exacerbation or no change in symptoms after surgery leading to dissatisfaction of post operative result. They may develop grotesque surgically altered appearance compelling them to seek for more cosmetic surgeries leading to vicious cycle.

The patients seek consultations with multiple specialists like dermatologists, plastic surgeons until they find the one whom they feel to provide treatment they requested for. Patients may even shift to other body parts or aspect of their appearance seeking further consultations. Dissatisfaction from the post operative result may make them violent towards surgeon and sometimes even towards self. They may self mutilate to alter their appearance. The plastic surgeon evaluating the patient if suspects Body Dysmorphic Disorder, should

strongly recommend him or her to the psychiatrist. Preparedness from plastic surgeon to confront resistance in seeking psychiatrist consultation is important for wellbeing of the patient.

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Reframe : Myths & Facts about - Masturbation

- ✗ Masturbation is seen only in Men and it needs medical attention.
- ✓ Masturbation is a normal phenomenon and does not need any medical attention. Many girls and women also masturbate.
- ✗ Masturbation causes mental Illness
- ✓ This is one of the commonest myths. Numerous studies have found no association.
- ✗ Masturbation is associated with Impotence/Infertility
- ✓ Masturbation does not have an impact on future sexual activity, potency or fertility.

Compiled By - Dr Vinay Kumar.

Minds Quiz

1. Which of these is correct about Agoraphobia
a) Fear of animals b) fear of heights
c) fear of open spaces d) fear of closed
2. 'Schizoaffective Disorder' was coined by
a) Jacob Kasanin b) August Hoch
c) George Kirby d) John Cooper
3. Which of these is not mature defenses
a) Suppression b) Humor
c) Anticipation d) Repression
4. Psychosocial crises of Trust or Mistrust according to Freud is related to _____ Phase of Development
a) Oral b) Anal
c) Phallic d) None

Answer

- 1) Fear of Open spaces 2) Jacob Kasanin
- 3) Repression 4) Oral

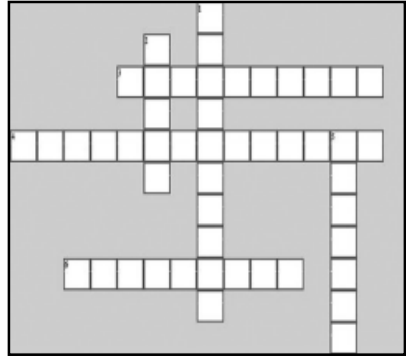
Crossword

Across:

3. First to describe dementia as a disease of cerebral arteries (10)
4. Personality changes are presenting features of this dementia (14)
6. Most common type of Dementia (9)

Down

1. Gene implicated in early onset Familial Alzheimer's (10)
2. Creutzfeldt-Jakob Dementia is due to (5)
5. Inability to perform motor tasks, when there is no neurological damage (7)



Answer

- Across :** 3) Griesinger 4) Frontotemporal
6) Alzheimer
- Down :** 1) Presenilin 2) Prion
5) Apraxia

Guest Column: Down The Memory Lane... Remember, patients do need a break!!!

One of the important aspects in the assessment of higher mental function & mental status examination is to know about abstract thinking of an individual by asking him meaning of a proverb. Once we were discussing a case in the unit. The consultant after listening to the presentation by the resident got the patient for interview. We residents were free to ask questions to the patient directly to elicit psychopathology. As I remember today, almost every resident bombarded him with questions, relevant and irrelevant. During the process one could see that the patient was getting restless. Then one resident, wanting to test his ability for abstraction, asked him to interpret the proverb "Too many cooks spoil the broth." No sooner the question was put the patient retorted:"That is what all of you are doing here now."No need to say all went silent and the interview was over.

Lesson: Even though it is very important process in learning to constantly interact with patient, we should remember they may need a break!!

Dr. Shripathy M. Bhat

Senior psychiatrist and professor at KMC Manipal

Substance abuse in the Elderly- It's never too late...

An Invisible Epidemic: As the proportion of older people in the population is increasing rapidly even in India, Substance abuse in elderly is a hidden epidemic both in India and in the west. A recent Indian study reveals that 5-8% of elderly abuses substances. Prevalence studies from Western literature quote 17-24% for drug abuse and 10-17% for drug dependence. The problem is alarming in West as the Baby-Boomer's cohort is aging, the number of elderly who abuse drugs may increase as this cohort has high rates of drug abuse. Other than Alcohol and benzodiazepines, prescription drug use poses greater problem in elderly.

Despite the rise in numbers this is often under-diagnosed and under-treated. Common reasons include

1. Ageism- tendency to explain problems as a function of being old rather than looking for specific medical, social, or psychological causes.
2. Family's attitude- "Granny's cocktails make her happy", "He won't be around much longer anyway"
3. Substance abuse problems may be overshadowed by the other medical problems
4. Stigma, shame, or denial associated with elderly substance use
5. May be fewer social problems like losing a job or legal difficulties when compared with young

Physiology of ageing relevant to drug abuse: Ageing causes increased fat stores, decreased muscle mass & body water content. Long acting drugs act for longer duration than expected and short acting drugs tend to attain higher peak levels more quickly. Blood flow through the liver decreases and the metabolic capacity decreases. Alcohol use increases liver enzyme induction and increases the metabolism of some drugs. These changes cause serious physical effects even when drugs are taken at lower doses.

Elderly who are at risk for substance abuse: Separated or divorced, who are bereaving, experiencing boredom, have a family history of substance abuse, suffering from mental illness and socially isolated.

Dangers of Geriatric Substance Abuse: Increased rate of hospitalizations, drug related delirium, adverse reactions when combined with other prescriptions, early cognitive decline, high incidence of falls and fractures, highest rate of completed suicide. Elderly who use benzodiazepines are more likely to need help for activities of daily living much earlier than non-BZD users.

Substance use in elderly is both a current problem and a future concern. Physicians, general practitioners and psychiatrists dealing with elderly should be aware of this and screening for drug abuse should be part of routine work up. Treatment focusing on coping and rebuilding social support network has shown benefits and

All of us should ensure that, It's never too late.....

Dr G Jasmine MBBS, MD

Consultant Psychiatrist, St John's Medical College Hospital

MR Imaging Approach for Dementia

Many guidelines recommend neuroimaging in patients with dementia. The indication has progressed from exclusion of a rare

finding of treatable pathology to making a probable antemortem diagnosis, with the rationale that patients are better managed when the diagnosis is known. It is important that treatable diseases like subdural hematomas, tumors and hydrocephalus needs to be excluded. The diagnosis of a specific cause for dementia can still only be confirmed by brain biopsy or at postmortem, and imaging is not specific.

Alzheimer Disease Atrophy beginning in the entorhinal cortex and hippocampi is recognized as a structural imaging biomarker of AD. The rate of hippocampal atrophy is more accurate than cross-sectional measurement. Methods of assessing hippocampal volume loss on structural MR imaging have progressed from visual assessment to manual hippocampal volumetry, to automated voxel-based methods

Vascular dementia : This is regarded as the second most common cause of dementia and is ubiquitous in the elderly, with most people older than of 60 years having some evidence of Cerebro Vascular Disease (CVD) on brain imaging. CVD can have differing appearances, depending on the site and size of the vessel involved, ranging from large cortical infarcts, lacunar infarcts, and macro- and microhemorrhage to white matter ischemia. White matter ischemia can be measured by using semiquantitative visual rating scales or quantitative voxel-based methods. White matter hyperintensities (WMH) are associated with vascular risk factors, particularly hypertension and diabetes. They are most common in the frontal white matter, increase linearly with age. WMH are accepted as an imaging biomarker of vascular disease. Lacunar infarcts (or lacunes) occur in the subcortical white matter and basal ganglia and are also an imaging correlate of CVD. Enlarged perivascular spaces (VR spaces) have been associated with vascular risk factors, such as hypertension, and are regarded as likely markers of cerebral small vessel disease. Cerebral hemorrhage is also evidence of CVD, with lobar macro hemorrhages having been traditionally associated with cerebral amyloid angiopathy.

Frontotemporal Dementia (FTD) FTD is a heterogeneous group of diseases that result in degeneration of the frontal and/or anterior temporal lobes and insula. Routine structural imaging with MR will show characteristic atrophy in the frontal lobes involving the ventromedial, orbitofrontal, anterior cingulate, anterior insula, and amygdala. The most useful role of imaging is to suggest the diagnosis when the clinical picture is not clear, and quantitative analysis of 3D T1 MR imaging have good specificity in distinguishing FTD from AD based on identification of predominantly anterior-versus-posterior patterns of atrophy

Dementia with Lewy Bodies (DLB) Structural MR imaging studies by using voxel based morphometry have shown differences between DLB and AD, with greater atrophy in DLB in the striatum, midbrain, and hypothalamus, but the common finding is of relative preservation of the hippocampus in DLB compared with prominent atrophy in AD. MR imaging is also useful in Parkinson Plus syndromes, some of which cause dementia and are associated with specific structural MR imaging findings; for example, progressive supranuclear palsy results in characteristic atrophy of the midbrain giving rise to the "hummingbird" sign on sagittal images and the "Mickey Mouse" sign on axial images.

Other Diseases Causing Dementia

Limbic encephalitis, may present with cognitive impairment, delirium, seizures; and most important, approximately 50% are responsive to steroids. MR imaging may show high signal intensity on T2-weighted images in involved brain areas.

Rapidly progressive dementia is the typical clinical presentation of both sporadic Creutzfeldt-Jacob disease (sCJD) and variant Creutzfeldt-Jacob disease (vCJD), and earlier age of onset is typical in vCJD. MR imaging in CJD shows typical high signal intensity on T2 and FLAIR in the pulvinar of the thalami in vCJD and in the caudate heads and cortex in sCJD, which can be asymmetric. Pulvinar sign is virtually pathognomonic of vCJD. These abnormalities are best demonstrated with diffusion weighted imaging (DWI).

HIV-associated dementia is the most severe HIV-associated neurocognitive disorder, and the most common imaging manifestation of this is diffuse cerebral atrophy. MR spectroscopy is effective in distinguishing those with HIV infection, characterized by an increased choline factor (consistent with glial proliferation), from those with HIV-associated dementia, characterized by a reduced N-acetylaspartate factor (consistent with neuronal cell dysfunction and death), and demonstrates the importance of white matter involvement in HIV.

However it needs to be cautioned that often diagnosis of dementia is clinical and it is commonly associated with physical and psychiatric disorders. This calls for multidisciplinary team approach.

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Sri Siddhartha Medical College & Hospital

Reframe : Myths & Facts about - Management of Insomnia

- ✗ Medications used in Management of Insomnia always leads to dependence
- ✓ Dependence is least when Medications are tailored based on clinical assessment of the patient & his co-morbid conditions. Sleep hygiene should be integral part of management.
- ✗ Insomnia should be addressed only by a sleep specialist
- ✓ Insomnia can be addressed by all doctors provided they assess for commonly associated co-morbid physical and psychiatric disorders. It may be important to check if any prescribed drugs are contributing to Insomnia.
- ✗ Management of Insomnia ends with prescription of medications.
- ✓ Management of Insomnia needs periodic evaluation, education and recommendation until remission.

Dr Vinay Kumar.

Minds Quiz

1. Which of these is not first generation antipsychotic?

a) Paliperidone	b) Sertindole
c) Ziprasidone	d) Zucloperthixol
2. Which of these antipsychotics are preferred in case of Tardive Dyskinesia

a) Haloperidol	b) Clozapine
c) Amisulpride	d) Asenapine
3. Which of these is known to have high affinity to nicotinic acetylcholine receptor

a) Varenicline	b) Bupropion
c) Acamprosate	d) Naltrexone
4. Which of these is not an Acetylcholinesterase Inhibitors

a) Donepezil	b) Rivastigmine
c) Galantamine	d) Memantine

Answer

- | | |
|-------------------|--------------|
| 1) Zucloperthixol | 2) Clozapine |
| 3) Varenicline | 4) Memantine |

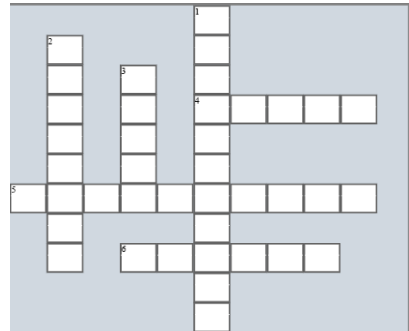
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Answer

- Across :** 3) Griesinger 4) Frontotemporal
 4) Ekbom 5) Borderline
 6) Ganser
- Down :** 1) Hebephrenia 2) Paranoid
 3) STAR D

Guest Column : Down The Memory Lane... Remembering A Life Lost

A lady from Mumbai had come to consult me. I was told that she was called by her cousin specifically for consulting me for her long standing psychiatric problem. She was accompanied by the cousin's teenage daughter. History and MSE revealed it to be a rapid cycling bipolar type II and she had long standing wish to put an end to her life. I started her on appropriate regimen on outpatient basis as she was averse to admission. She started coming for regular follow-ups along with the teenage girl. The patient started showing gradual improvement and even the suicidal thoughts had also vanished. The girl accompanying her endorsed to the fact that the patient was indeed improving. Somehow the lady failed to turn up for review for about two weeks. Then one day she turned up to tell me that she had improved considerably and expressed her wish to return to Mumbai. As I was writing her prescription I casually remarked that I was also convinced about her improvement as she had come unaccompanied for the review. I suddenly heard her sobbing. I looked up wondering what the matter is. Somehow she controlled herself and said: "Doctor, see how strange facts are! The girl who was accompanying me committed suicide the very next day of my last visit to you." I was stunned to hear the news. I had observed her to be quite a cheerful youngster and could have hardly imagined such an act from her. I remained dumbstruck for long before I could react again. This incident is firmly stuck in my memory and I am not likely to forget the impact it made on me. I keep wondering how could I miss to notice any sad note or any hint of depression in her. It is true that she did not reveal it even when the so called "savior" was within her reach. I ponder: How often do we talk to the accompanying relative/person to elicit how they feel about the patient's problem and whether they feel it stressful to be with such person? How much do we really care for the emotional burden the relatives experience in such a situation? And also "Did the patient's thoughts of killing herself uncoil the dormant

"Thanatos" in the teenager?"

Dr. Shripathy M Bhat

Senior psychiatrist and professor at KMC Manipal

Negative Symptoms in Schizophrenia

Schizophrenia is a major psychiatric disorder characterized by hallucinations, delusions, disorganized behavior etc. which are called positive symptoms. However there are another set of manifestations which is called negative symptoms comprising apathy, anhedonia, poor social interaction and poor emotional reactivity. They lack a drive or motivation to pursue goals, their inability to express emotions. There is withdrawal from friends and family resulting in aloofness. Poor emotional reactivity is seen as a lack of facial expressions, intonations in the voice and reduction in gestures while talking.

Negative symptoms may be primary or secondary. They are called Primary when they occur as a part of the illness. The type of schizophrenia with primary negative symptoms is also called the 'Deficit subtype'. Secondary negative symptoms are those seen in some patients on antipsychotics who develop extrapyramidal side effects, viz, masked facies, decrease in movements, apathetic look etc. Antipsychotics cause sedation and also affect the dopamine reward system, which in turn affects the motivation of the individual. Studies on cerebral regional blood flow and SPECT show hypoperfusion in the right orbitofrontal cortex in these patients. There is a controversy as to whether the gray matter is more or less in the deficit subtype according to the results of certain studies. It is very essential to differentiate between these two types as management of each differs. SANS (Scale for Assessment of Negative Symptoms) is the scale used to assess the negative symptoms of schizophrenia. CAINS (Clinical Assessment Interview for Negative Symptoms) is another tool used to assess the same.

Patients with predominantly negative symptoms are generally less responsive to antipsychotic treatment. But there have been many studies on the usefulness of atypical antipsychotics especially clozapine. This is especially because of their action on the serotonin receptors. Drugs like risperidone, olanzapine, amisulpiride etc have been found useful. SSRIs(Selective Serotonin Reuptake Inhibitors) too have been tried. Non pharmacological treatment modalities have also been tried. A review of the studies on rTMS(repetitive trans magnetic stimulation) in the treatment of negative symptoms of schizophrenia shows that there may be promising results, but the exact potential of rTMS is not known. Along with pharmacological management, social skill training, behavioural therapy with positive reinforcement and family education in integral part of management of negative symptoms.

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Consultation Liaison Psychiatry

Frontal Lobe Tumors & their Surgical Management

The frontal lobe tumours by definition are intra axial arising from within the brain parenchyma (gliomas). However extrinsic tumors originating from the neighboring structures like meninges (meningiomas) would present with similar clinical features. The gliomas can be astrocytomas, oligodendrogliomas, ependymomas, with subvarieties and also mixed types. Several new tumor types have been added recently by WHO (2007). The lower grade tumors (1 & 2) have longer survival compared to higher grade (3 & 4) tumors. Grade -4 tumor also known as Glioblastoma multiforme is probably the most malignant tumor known. The extra axial tumors can be varied like meningiomas or inflammatory lesions which behave like tumors eg. Tubercular, bacterial or fungal abscesses.

The clinical features may so much simulate a psychiatric disorder that they are referred to a Psychiatrist. Basal frontal lobe tumors present with pseudomania, lateral frontal with pseudodepression, medial frontal with pseudodementia. Apathy, change in personality, memory impairment, inappropriate social behavior, incontinence are all common features. Left frontal tumors cause greater loss of IQ in right handed individuals. Also speech may be affected in tumors arising in speech areas of left frontal lobe. Neighbourhood signs include anosmia, visual deterioration owing to compression on the cranial nerves. Pseudo cerebellar signs with ataxia and tremors may be seen in some of the patients. Adversive fits with head and eyes turning to opposite side may be seen in lateral frontal lobe tumors. Tumors in motor strip may cause focal or generalized seizures by irritation or may cause paralytic effects on contralateral half or part of the body by pressure effects. Raised ICP features in later stages due to increased volume of the tumor would result in headache, vomiting, blurring of vision. Further progress would cause deterioration in consciousness progressing to coma and death.

The imaging includes mainly Contrast enhanced CT scan of the brain in suspected cases. But the MRI is essential for most of the cases prior to surgery for planning the operative approach apart from gaining information about the nature of the tumor.

Management is by surgery. It involves total excision of benign tumors like meningiomas or epidermoids or inflammatory lesions aiming to give 'cure' for the patient. However in case of gliomas radical resection by removal of as much of the tumor from the healthy parenchyma as seen under the Operating Microscope is now the

standard dictum. This gives the specimen for HPE and the reduces the central bulk of the tumor which poorly responds to Radiotherapy as the latter acts mainly on the dividing cell lines in the periphery of the tumor. The extent of the tumor resection has been shown to be directly proportional to the longevity of the survival. However it may have to be restricted at times to prevent fresh neurological deficits. Routinely patients improve after tumor resection unless they come too late with advanced raised ICP features.

The higher grade gliomas Grade 3/4 will require Radio and chemotherapy. The median survival in high grade gliomas is one year although 10-20% has been living for even 2-3 years. The survival in low grade gliomas is better with few years from 4-8 years.

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Department of Neurosurgery, JSS Medical College & Hospital

Reframe : Myths & Facts about - Sexual Dysfunction In Women

- ✗ Only Men Report with Sexual Dysfunction
- ✓ Women do report with sexual dysfunction, however most clinician's are not trained to elicit and / manage them.
- ✗ Sexual Dysfunction in women is seen only after menopausal period
- ✓ Sexual Dysfunction can be seen during any phase of life and it is not restricted to post menopausal phase.
- ✗ Sexual Dysfunction in women means severe distress.
- ✓ Sexual Dysfunction in women may not always mean severe distress. WHO describes it as lack of interest / enjoyment or failure of physiological responses necessary for effective sexual interaction or inability to have orgasm

Compiled By - Dr Vinay Kumar.

Minds Quiz

1. Sleepwalking is also called as?
 - a) Bruxisim
 - b) Nyctothermal
 - c) Somanambulism
 - d) Narcoplepsy

- Which of these is the theme of World Mental Health Day 2013?
 - Suicide
 - Depression
 - Anxiety
 - Older age
- According to WHO Severe Mental Retardation means IQ of
 - 70-60
 - 50-45
 - 45-35
 - 34-20
- Which of these is not a personality Disorder?
 - Borderline
 - Anankastic
 - Schizoid
 - Multiple

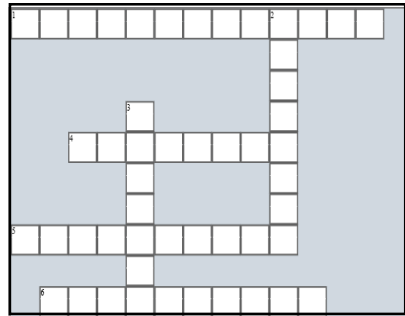
Answer

- 1) Somanabulisml
- 2) Older age
- 3) 34-20
- 4) Multiple

Crossword

Across:

- DOSMED is about study on this illness (13)
- Jargon aphasia is called as _____ aphasia (8)
- Sleep paralysis & cataplexy are seen in (10)
- First drug approved for Restless leg syndrome (10)



Down :

- Gestalt geiswich syndrome is seen in patients with (8)
- Delusion of doubles is called _____ Syndrome (7)

Answer

- Across :**
- Schizophrenia
 - Wernike
 - Narcolepsy
 - Ropinirole
- Down :**
- Epilepsy
 - Fregoli

Guest Column : Down The Memory Lane...

Self Respect

In early 1978, when I was working at occupation therapy & rehabilitation unit, where most patients residing were deserted by their families. None had any reliable residential address. Many inmates would live together as family. One day when I was sitting in my room, two youngsters in their early twenties entered and told me that were looking for their sister who was admitted many years ago. They said that they were very young when the sister was admitted to the psychiatry hospital by father and they were keen on taking the sister home. This was an unexpected event for us and I was thrilled imagining the event of seeing the patient's reunion with her family.

I sent for their sister, Kaveri (name not real), who was working in a OT unit. She came neatly dressed, well kempt, but bearing the usual expression less face. I said with excitement "Look, your brothers have come to see you and they want to take you home." But to my amazement she looked at them casually and asked me "How do you know that these are my brothers? Ask them where were they all these years?" I could suddenly see (never seen) expression of pent up anger on her face as she turned to those youngsters and said "I have never seen you so far. I have no brothers or sisters or anyone in this world. I don't want to go anywhere from here and would stay here till I die." Now she was livid with anger and shouted "I was brought here by your father and after admitting me here he never turned up. Now why has he sent you here? Tell him I am happy here and I do not want to come home." The brothers shocked by her reaction tried to explain that they were too young at that time and it was no fault of theirs. But Kaveri did not change her stance. Tears rolled from the brothers' eyes; yet they failed to soften her stand. My attempts to alleviate her feelings and to persuade her failed. She was firm in her decision. As the whole thing had come to an impasse she got up to go back to her room. One of her brothers took out few notes of money from his pocket and offered them to her. She again became angry and said "I am paid for the work I do here" and she walked away. I looked helplessly at them. I felt sorry for them. At the same time was able to understand Kaveri's feelings. I appreciated the way she stood up for herself and took such a hard

decision. Her decision reflected the self respect she had, which was hidden from us till then.

Dr. Shripathy M Bhat

Senior psychiatrist and professor at KMC Manipal.

Management of Opioid Dependence

Opioids like naturally occurring opium, semi-synthetic heroine and pure synthetics such as fentanyl and methadone are a commonly abused class of substances that activate receptors like μ (mu), κ (kappa) and δ (delta) found mostly in the brain, spinal cord and gut (Goodman et al, 2001). People though initially derive pleasure and intoxication out of opioid use but soon develop craving and withdrawal symptoms. As per International Classification of Diseases (ICD-10) this cluster of physiological, behavioural and cognitive phenomena constitutes the opioid dependence syndrome (WHO, 1992). Sustained opioid dependence is associated with several negative outcomes, including early mortality, increased rates of hepatitis, human immunodeficiency virus (HIV) infection, sexually transmitted diseases, and other health problems, as well as criminal justice system involvement (Sadock, Sadock & Ruiz, 2009).

A proper treatment would involve detailed history, medical and psychiatric assessment particularly keeping in view the physical social, psychological, financial, familial, occupational and legal consequences. Among the psychiatric co-morbidities patients often have mood disorder, psychotic disorder and personality disorders. Often patients particularly (injection drug users, IDUs) require detailed investigations for the medical problems (Galanter & Kleber, 2008). The goals of treatment of opioid dependence can be either harm reduction or abstinence and subsequent rehabilitation. Depending upon motivational status harm reduction (e.g. needle exchange programme for hardcore IDUs) may be practiced. Those patients desirous of complete abstinence require detoxification whereby they are treated for troublesome withdrawal symptoms by less harmful opioids having significant cross-tolerance, longer half-life and higher potency. Commonly used are methadone (μ receptor agonist- not available in India) and buprenorphine (partial μ agonist and weak antagonist at κ receptor which is not widely available in India). So, other less effective though commonly used are dextropropoxyphene (DPP) and tramadol. For symptomatic use ibuprofen or other NSAIDS (for analgesia), clonidine, an α 2 agonist (for reducing sympathetic over activity)

and benzodiazepines (for sleep and reducing anxiety) can be used (Ruiz & Strain, 2011).

Since opioid dependence shares a prolonged relapsing and remitting type of course as in chronic medical illnesses like diabetes and hypertension, long term maintenance treatment is essential for abstinence. Agonist maintenance is done with methadone (Not in India) and buprenorphine (some centers in India). Antagonist maintenance with naltrexone is also a useful treatment though less effective particularly for the heavy users (Dhawan & Jhanjee, 2007).

Apart from pharmacotherapy, psycho-social interventions like motivation enhancement, and relapse prevention therapy can be useful. Patients also derive benefit from self-help groups like narcotics anonymous (NA), family and network therapy or by joining therapeutic communities (Lal, 2005). Only a holistic approach with comprehensive long-term therapy involving both pharmacological and non-pharmacological measures can effectively reduce the scourge of opioid dependence.

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Systemic Lupus Erythematosus and Psychiatric co morbidities

Systemic Lupus Erythematosus (SLE) is a multisystem disease with protean manifestations and these are a result of circulating pathogenic autoantibodies, deposition of immune complexes and presence of circulating inflammatory cytokines. Psychiatric symptoms are common in SLE and the prevalence shows a great variability ranging from 17 to 75 %. Neuropsychiatric SLE (NPSLE) manifestations occur as single or multiple events even during periods of no non-nervous system disease activity. 40% of NPSLE manifestations develop before diagnosis of SLE and 63% occur within first year of diagnosis.

NPSLE syndromes in SLE may manifest in 19 different ways in the central and peripheral nervous system ranging from acute confusional state to plexopathy and polyneuropathy. What makes NPSLE so complex and heterogeneous is the multiplicity of proposed pathogenic mechanisms. Three mechanisms are currently described: autoantibodies, vascular abnormalities, and inflammatory mediators. Autoantibodies include antiribosomal P, antineuronal, antiglutamate, anti NMDA receptor and antiphospholipid antibodies

A psychiatric disturbance due to CNS lupus is a diagnosis of exclusion; all other possible causes of the observed symptoms must therefore be considered, including infection, electrolyte abnormalities, renal failure, drug effects, mass lesions, arterial emboli, and primary psychiatric disorders (such as bipolar disorder or severe stress disorder resulting from a chronic and life-threatening disease). Controversy exists concerning the factors responsible for psychiatric manifestations as the pathophysiological process may be compounded by iatrogenic effects of corticosteroids and psychosocial stressors related to chronic disease.

The diagnosis of NPSLE can be made only on a case-by-case basis. Select autoantibodies, CSF analysis, neuroimaging, and neuropsychological testing may be used. If clinically indicated, echocardiograms and carotid Doppler ultrasonograms should be obtained to rule out atheroembolic disease to the brain, which is accelerated in active SLE.

The management of patients with NPSLE is multimodal and continues to be a major therapeutic challenge due to the broad spectrum of the NPSLE manifestations and limitations in diagnostic testing. Glucocorticoids are one of the primary therapeutics and other medications can range from nonsteroidal anti-inflammatory drugs for symptomatic relief, anticoagulation for thrombotic diseases, to the immunosuppressives for inflammation such as cyclophosphamide, azathioprine, mycophenolate mofetil, and methotrexate. Evidence for the efficacy of these therapies is limited to uncontrolled clinical trials and anecdotal experience. Adjunctive symptomatic treatment complements these therapies by targeting mood disorders, psychosis, cognitive impairment, seizures or headaches. Psychotropic medications (antidepressants, anxiolytics, and atypical antipsychotics) may have an important adjunctive role in SLE patients with affective disorder or psychosis. There is no standardized treatment in lupus psychosis. The treatment includes a combination psychotropic medications and glucocorticoids to control underlying disease activity. Most psychiatric episodes resolve within 2-4 weeks and only 20% of SLE patients develop a chronic psychotic disorder of lesser severity. Close liaison with psychiatry is beneficial for treating clinician in the management of SLE.

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Reframe : Myths & Facts about - Cannabis

- ✗ Cannabis use is rare among Indian population
- ✓ Cannabis is most common illegal drug abused in India.

- ✗ Cannabis does not lead to dependence
- ✓ Cannabis is known to cause dependence and even in those who have not developed dependence, cannabis can causes adverse impact on their body & mind. Cannabis use has been closely associated with psychosis.

- ✗ Cannabis does not cause physical problems.
- ✓ Cannabis use is well known to affect respiratory system and hence all tobacco smokers & those abusing alcohol should be enquired for cannabis.

- ✓ Cannabis use in patients should not be neglected, doctors should motivate them to quit and or seek help

Minds Quiz

1. First Rank Symptom of Schizophrenia described by?
a) Jasper
b) Schneider
c) Kasper
d) Pavlov
2. Which of these is not a mature defense mechanism?
a) Humor
b) Altruism
c) Suppression
d) Projection
3. According to WHO Profound Mental Retardation means IQ of
a) <50
b) <40
c) <30
d) <20
4. World Suicide Prevention Day is on ?
a) September 10
b) April 10
c) November 10
d) October 10

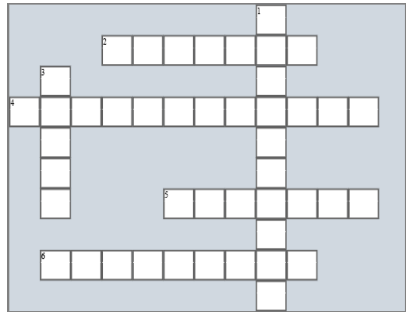
Answer

- 1) Schenider
- 2) Projection
- 3) <20
- 4) September 10

Crossword

Across:

2. Widmark formula is used for (7)
4. THERAPEUTIC Community was concept given by (12)
5. Defense mechanism used in OCD (7)
6. Drug of choice in Alzheimer's Dementia (9)



Down :

1. Fear of Diseases (10)
3. Leaves of cannabis sativa are used for preparation of (5)

Answer

Across : 2) Alcohol

4) Maxwell Jones

5) Undoing

6) Donepezil

Down : 1) Nosophobia

3) Ganja

Guest Column: Down The Memory Lane...

Do not underestimate physical examination

I was called to see a patient, aged around 50 yrs. He appeared unkempt, apathetic and had no emotional expressions. The person accompanying him, his brother, said that he has been complaining of headache for last 2 days. Patient was ill with schizophrenia for more than 20 yrs, not received proper treatment and partially dysfunctional. He was a carpenter by occupation. When asked to show where exactly the ache is, he appointed to his vortex. It appeared as though he was giving a complaint just because he has to report something to justify being brought to hospital. However, I just passed my hand over his vortex and I did feel a circular patch over the area that appeared hard. I thought it to be a scar of an old injury. I took a torch and saw. I could see a circular metallic thing, buried in the hair which appeared like head of a nail. I could not believe that there is nail stuck there over the vortex. On asking the patient said that it induced is a nail which he himself had driven in 2 days ago as ordered by a voice. On asking he said that he himself had done it with a hammer. Surprisingly he had no neurological deficits. There was no bleeding at the site. The relatives did not believe me when I told them about it. He was referred to Neurosurgeon who with a CT-head confirmed that there was a 3 inch nail passing through the sutures of skull right into the sagittal sinus and lodged between the 2 hemispheres. It was removed subsequently and patient was discharged. He has been reported to be on antipsychotics and doing better. The incident highlights the need for physical examination and not to dismiss any physical complaints in a chronic mentally ill.

Dr. Shripathy M Bhat

Senior psychiatrist and professor at KMC Manipal.

What to do & what not to do for publication?

-An Editor's advice to practitioners & Medical students.

In a lighter vein, often I am asked to write on sex and its problems. Things are changing to some extent and recently requests are on issues

related to publishing! However, I see both have something in common!! It is like 'use or lose' concerning both brain and sex. Likewise 'publish or perish' for every clinician and applies equally to a student or a consultant or a medical practitioner and I would like to call it "P-P-P (Prepare-practice- publish)".

This brief account is to help one, to translate his practical observations and ideas into a written form and which can lead to publication. This can be achieved if you follow some of the basic principles:

1. Art of medical writing, which also includes motivation, conceptualization, mechanics of writing and frustration tolerance. Hence the medical knowledge alone is not sufficient. Mastering 'body of information and technical skills of writing' is important. In addition to writing 'just for publication and citation' it is necessary to make it self-readable and understandable.
2. Different models of writing: Decide before hand whether it is review, research paper, case report, letter to editor, book chapter, etc.
3. Learn how to get Publishing: See whether it is for public or for general use or for a specialty journal. Reading published articles is crucial to learn the pattern and presentation style. It is necessary to have the data, original research being very demanding. Choose an area of writing which helps you being recognized as a writer. Starting from letters, commentaries, reviews and progressively to higher order is a best option. Some of the major mistakes done by writers in the begins are:
 - a. Trying to do it alone.
 - b. Starting to write without preparation is like trying to run without walking.

Basic Steps for an author to strengthen are:

1. Mastering basic writing skills idea, allowing idea to incubate, focusing the topic, building article structure, constructing words, sentences, paragraphs, attending to language rules.
2. Article concepts and structure, collecting and organizing data - notes, outlines books, electronic, internet and references, reviewing for substance, style clarity and finally the final draft.
3. Technical issues in preparing tables, figures, graphs, algorithms, copy right citations.
4. Nature of publication: Journal which our broad based, peer reviews, specialty oriented journal, controlled circulation journals,

online journals, open access or otherwise, indexed with or without impact factor.

5. Be attentive to comment from reviewers, editors. Attend to queries.

I would personally advise a writer to a) be smart enough to have a mentor - head of department, professor or an academician to help you. b) be organized c) be a reader d) be a good time manager e) be an effective in network building f) be humble to accept rejection and bold to attempt again after reworking with zeal g) be persistent which assures success

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Editor of Indian Journal of Psychiatry

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The need for psychiatrist support in cardiac unit

Being a cardiac surgeon, we come across the colleagues in psychiatry less frequently. For us the important aspect what we would be looking would be the cardiac state and whether patient is fit for surgery or not and also in the follow up whether there is any post operative complication.

It would be necessary to take the opinion of the psychiatrist during the following phases of management. Pre operative phase, postoperative phase and during the follow ups.

In the preoperative phase: When the patient is suggested for the surgery there are lot queries for the patient and the family members are apprehensive about the procedure and their recovery. This is usual phenomenon observed and during the process and it needs to be explained to them. If we tend to see the depressive symptoms and anxiety symptoms which are beyond the usual concern, then an opinion of the psychiatrist is taken. In certain cases they have history of psychiatric illness or currently are on treatment for the same, and then the opinion of psychiatrist is of paramount importance. Studies have consistently shown that when patients are recognized early, intervention will have positive impact on recovery. It is also true that comprehensive cardiac care should ideally involve evaluation and management of nicotine abuse, alcohol dependence, adverse life style and stress management, which is rarely carried out even in advanced centers.

In the post operative phase: Compared to other surgery cardiac surgery is the one that has delirium as a common complication in the post operative period. Many freely use the term ICU psychosis!! In those patients especially with history of alcohol abuse and metabolic disorder, the probability of patients having the delirium postoperatively is quite high. It becomes very difficult to manage the delirious cases in the post operative ward as they can try to injure themselves and lot of nursing care is required. Hence emphasis should be on seeking psychiatrist opinion. It is noticed that those patients who had delirium take longer duration of stay and recovery phase is slow.

In the follow up phase: When the patient comes for follow up, often reports of lack of energy, decreased interest, excessive pain or other symptoms which cannot be explained and they are not able to carry out the normal daily activities. Since recovery is slow, one should have high suspicion about depression before a battery of investigations are carried out. When those reports are within normal limits, then patient should be encouraged to seek psychiatrist opinion.

In these modern days every patient is loaded with lot of information and convincing the patients is very difficult. With the availability of consultant psychiatrist in the tertiary care the management of cardiac patients having the co-morbid illness will benefit and there may be more meaning in comprehensive cardiac care.

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Reframe : Myths & Facts about - Crime & Mental Illness

- ✗ People who commit crime are mentally ill
- ✓ "Majority of those who commit crime are not mentally ill. In fact people with mental illness implicated in crime neither have 'intention' nor 'understand the consequence' of the act, which is essential for culpable crime.
- ✗ Patients with mental illness who have been implicated in crime do not have separate law
- ✓ Patients with mental illness have separate law in almost all countries so that they are not prosecuted when they commit crime

during the phase of illness.

- ✗ Patients with mental illness commit crime under disguise of illness.
- ✓ Extensive and large population studies have shown, people with mental illness are least implicated in crime when compared to general population. However anybody who tries to disguise as being mentally ill in a crime will be thoroughly evaluated for mental illness. The crime should not have been premeditated nor should individual have knowledge of the consequences of the act.

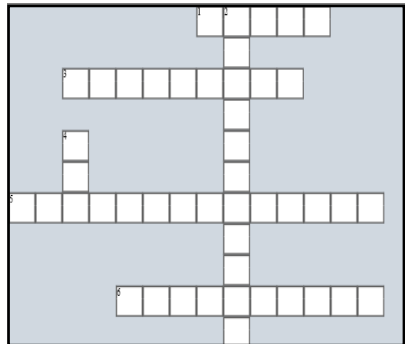
Minds Quiz

1. Which of these antipsychotic cause maximum QTc Prolongation?
 - a) Paliperidone
 - b) Quetiapine
 - c) Ziprasidone
 - d) Risperidone
2. Which of these has anti suicidal properties?
 - a) Sodium Valproate
 - b) Lithium
 - c) Carbamazepine
 - d) Topiramate
3. Which of these has Antidepressant property?
 - a) Varenicline
 - b) Bupropion
 - c) Acamprosate
 - d) Naltrexone
4. Which of these Acetylcholinesterase Inhibitors is recommended in advanced stages of Dementia
 - a) Donepezil
 - b) Rivastigmine
 - c) Galantamine
 - d) Memantine

Crossword

Across:

1. Restless leg syndrome is also called as.....syndrome (5)
3. Brief episodes of muscle weakness in narcolepsy (9)
5. Dementia like syndrome in Depression (14)
6. Sleep talking (10)



Down

- 2. Impulse control disorder of stealing (11)
- 4. Pure form of methamphetamine is also locally called as (3)

Answer

- Across :** 1) Ekblom 3) Cataplexy
 5) Pseudodementia 6) Somniloquy
- Down :** 2) Kleptomania 4) Ice

Dear Readers

One of the most important ways to promote health and wellbeing is by sharing of knowledge. This e-book has been made freely available, in continuation with our initiative since 2011 to create awareness about Psychiatry.

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Minds United For Health Sciences & Humanity

Art of Communication with Patients

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Irrespective of Profession ability to communicate is a art, however it is a skill that most of us need to learn, to be effective in day to day practice. The patients who are suffering from psychiatric disorders carry a lot of pain and distress, that is untold, and are looking for relief from this pain.

Fyodor Dostoyevsky in his quote mentions: "Much unhappiness has come into the world because of bewilderment and things left unsaid."

In the effort to reduce this pain, helping the patients talk is vital. Communication skills may then be regarded as a key in helping them!

As Fred Rogers said: "Anything that's human is mentionable, and anything that is mentionable can be more manageable. When we can talk about our feelings, they become less overwhelming, less upsetting, and less scary. The people we trust with that important talk, can help us know that we are not alone."

Thus, this chapter is a beginning of a journey we undertake, to develop skills required to make patients feel easy with a doctor.

An ability to communicate well with patients , helps us become better physicians. It is an essential skill, on which, all other skills of a doctor rests. Physician's interpersonal skills are necessary for eliciting patient cooperation in diagnosing and formulating a treatment plan. More importantly, it has been proven that a good doctor-patient bond can positively influence health outcomes.

Similarly, sufficient data has now accumulated to prove that problems in doctor-patient interaction and communication are extremely common and adversely affect patient management.

Research has shown that clinical skills needed to improve these problems can be taught and the subsequent benefits to medical practice are demonstrable, feasible on a routine basis, and are enduring. It has also been shown that physicians can be more responsive to patients'

concerns without lengthening visits.

There is therefore a clear and urgent need for teaching of these clinical skills to be incorporated into medical school curriculums and into postgraduate training.

When we list the qualities of a good physician his/her competency, clinical skills, his/her ability to keep up with recent advances in treatment strategies, seem to be very important. However, it has been seen that attributes such as warmth, empathy, ability to listen, show concern and convey respect seem, most important to a patient. Among these, empathy seems to take precedence.

Empathy, according to Webster's dictionary, is the understanding, being aware of, being sensitive to, and vicariously experiencing the feelings, thoughts, and experience (even if one has never been through a similar experience) of another, of either the past or present, and communicating the understanding in an objectively explicit manner. Thus, empathy is the ability of a person to understand the emotional state of another individual (cognitive aspect) and the capability to communicate this understanding.

Research indicates that empathy has been linked, to a number of attributes such as dutifulness , prosocial behavior , moral reasoning , good attitudes toward elderly patients , a reduction in malpractice litigation , competence in history taking and performance of physical examinations , patient and physician satisfaction , better therapeutic relationships and good clinical outcomes.

Despite good intentions, medical schools emphasize technical knowledge and skills first. Physicians fear that being involved in the emotional state of another individual, robs us of our objectivity. Some also argue that it is not possible for a physician to genuinely empathize with every patient-to do so would be emotionally draining and difficult under modern time constraints. Research however contradicts this. It says is that empathy is not draining on the physician. Empathy is a temporary state where the patient's mood is echoed. Empathy does not seem to affect judgment, but improves it, unlike sympathy.

Empathy is an art that can be learned by self reflection. To be able to observe one's own emotions is the foundation for observing emotional lives of others. This may be aided by exercises such as self-reflective writing. Cultural education and a wide range of interests give physicians a greater frame of reference with which to understand and relate to a patient, thus making an empathic response more likely.

Approachability is an attribute in the clinician that makes the patient feel comfortable that doctor is not likely to reject him or ridicule

him for having the symptoms he has developed. This is one of the first impressions formed by the patient.

Reassurance for patients, who feels lost in a hospital, suffering from illness, is important. Although some illnesses may seem very daunting, the fact that the physician thinks the patient can face it with strength, with some support, would put a patient at ease.

General rules for communicating with patients:

1. The physician should make efforts to be well dressed and presentable. It reflects the discipline of the consulting doctor.
2. It is a good idea to keep the consultation rooms uncluttered and neat. The number of distracting things in the room should be kept to a minimum.
3. Avoid barriers between you and the patient so that they do not feel closed off from you. Although most settings allow for placement of a table between the therapist and the patient, further barriers should be minimized (eg: large decorative pieces kept on the table etc).
4. There should always be access to a door close by for the doctor and patient, especially when seeing patients who may be violent. Violent patients should never be seen alone.
5. Always introduce yourself and greet the patient.
6. Face the patient during the interview. Use open body language(don't cross your arms because that puts a physical barrier between you and the subject).
7. Sit or stand at his/her level to avoid any appearance of "talking down" to the patient.
8. Leaning forward slightly shows interest in the patient.
9. Make appropriate eye contact with the patient.
10. Most importantly: relax. This may be done when adequate time is assured for each consultation, and intrusions are minimized.
11. Beginning the interview with open-ended questions encourage the patient to elaborate on his perspective. Open-ended questions usually start with who, what, where, how, when, or auxiliary verbs such as could, would or can. For example, asking a question such as "how may I help you?" "Could you tell me about what brings you here?" can provide us with details that may prove instrumental to the success of diagnosing a patient, as this allows the patient to talk about reasons for the consultation. A closed question is one that can be answered with yes, no or a simple one-

word response. This approach severely limits the quality of information that can be gathered. A focused question may not allow us to get all reasons for consultation, leaving the patient frustrated.

12. Further the interview may become a little more focused in clarifying the complaints mentioned. This is done with semi-open ended questions such as "could you tell me a bit more about your sleep pattern, which you said is disturbed.." in a patient who has consulted the doctor for insomnia.
13. Using close-ended questions allow us to extract information about various complaints that the patient may not have told us in detail. For example: "Do you have early morning awakening? "
Once a complaint is clarified fully, we may then move to the next one in a sequence.
14. Encouragement of what a patient communicates, conveys acceptance of what is being said. Techniques such as a nod of the head, a verbal "yes" or a statement asking the person to go on, encourage patients to continue to share information. All these help patients share information, giving the doctor time to glean more information.
15. Use nonverbal communication with care because your patient will read the clues you give with your facial expression, body language and tone of voice. More than 80 % of communication messages are nonverbal. Use encouraging nods, so he/she continues to speak openly.
16. Active listening helps assess the situation correctly, reduces defensiveness of the speaker, avoids the need for them to repeat the information, reduces emotions that block clear thinking and most importantly, helps the speaker feel cared for and understood. Effective listening techniques include restating what was said, paraphrasing, asking for clarification, asking questions, reflecting on the person's feelings and validating what the person said.
17. Clarification may be done by using statements such as "Can you give me an example of..."
"tell me more.." This makes a patient go into the depth of an issue.
18. Reflect the feelings of what the patients may have communicated verbally or non-verbally to you, along with the content of what he has expressed in the conversation . Eg:"It sounds like you are angry, are you saying....." to encourage the patient to move further into areas of emotional significance.

19. Validating someone is acknowledging their thoughts, feelings or opinions about a situation by saying "You are really upset by that" or "It makes sense that you'd be worried." It relaxes a patient.
20. When a person says one thing, but does another, a psychiatrist will often confront this behavior. Confronting allows the psychiatrist to inform the person that the doctor is aware of the discrepancy, pointing out the problem to the person who may be unaware that his actions differ from his words. This technique is useful when patients are unaware of their psychological conflicts such as in those with a dissociative disorder or when the patient is willfully withholding information.
21. Stay away from non-therapeutic habits such as asking irrelevant personal questions, stating personal opinions or showing disapproval. Avoid false reassurance or sympathy .It makes the patient feel less powerful. Asking "why" questions, can make your patient defensive and it must be kept to minimum.
22. In psychiatry, it is often necessary to speak to family members, to supplement the history taken from the patient. Sometimes we need to clarify history from the family members due to inconsistencies in history (eg: dissociative spells where the patient has no 'memory' of the episode or in substance use disorder where the patient willfully withholds information). It is good practice to ask the patient if he would be comfortable with the physician talking to his family members, before interviewing the family or friends who have accompanied him (except perhaps psychotic and catatonic patients who cannot give consent). Most patients cooperate better, when spoken to first (especially children). It is important not to make patients feel left out.
23. Time management is an important skill for most of us .It is healthy to ensure adequate time to patients. Typically first consultations take more time than follow up visits and so should be allotted adequate time. This is time saving in the long run, preventing missed diagnosis and therefore wrong treatment strategies!

It is wise to schedule appointments ahead of time. After a physician is in practice for some time, experience teaches us how much time we may need, to assess each patient. It is advisable to see fewer patients than our natural capacity so as not to overextend ourselves, leading to exhaustion and poor quality of care.
24. To avoid burnout, plan time for relaxation between patients.
25. Speak to the patient in his language whenever possible. Avoid

- technical medical jargon to help the patient understand you better.
26. Warmth and kindness are expected from the clinician. Conscious effort needs to be put to bring this into practice
 27. Avoid being judgemental. When judgments come up it means that we are reminded of stereotypes. This may be communicated to the patient when required, as a statement. For example when we perceive a person as being "lazy" it can be communicated as a statement such as "it seems to me that you have not completed your assignments"
 28. At the end of the clinical interview make sure you explain to the patient and family in local language what his diagnosis is ,why he needs therapy/ medications, how to take it and for how long .Patient also needs to know why he has to get investigations done, if any, and when his follow up visit may be. After this, allot time for questions or doubts that the patient may have about diagnosis or treatment plans.
 29. Before ending the session, greet the patient and always inform the patient where to find you, so that he knows where he can get help, should any problem arise.

This is a brief account of how to establish a good rapport with a patient. These are the skills generally required for managing most patient interactions. However, some special skills are required when talking to psychiatric patients with specific disorders. Let us now briefly look at some of these skills:

Section-A : Communicating with a depressed patient:

Depressed patients may have a lot of negative thinking. They may have feelings of hopelessness and suicidal ideas. There is a decreased interest in surroundings, an unwillingness to participate in their own treatment. Confusion and anxiety are frequently also present along with the sad mood. They may be irritable, tearful, or extremely quiet .A lack of confidence to talk to a doctor, who may be seen as an authority figure, is also sometimes seen.

Depressed patients are sensitive to a rejecting attitude. We must be careful that our body language does not reflect this attitude. If they sense rejection, they may to not want to communicate further with the physician. Being warm and approachable to such patients is a must.

Acknowledge the sadness, irritability, or withdrawal. The technique of reflecting the patient's mood status back to him and paraphrasing when talking to him will help him open up further, because of a sense of being understood. Appropriate encouragement to talk helps most patients talk about their experiences.

In talking to depressed patients, despite encouragement, the patient may remain silent. It is necessary to allow such silences to permit him to think. The physician being comfortable with such silences allows the patient to gradually begin to express what is troubling him. Depressed patients tend to ruminate about sad events. Focus on the present when a depressed person wants to ruminate.

Confused thoughts are typical of depression; so the therapist works toward helping the patient state what he is thinking, clearly. Asking questions, paraphrasing and summarizing are helpful in achieving clarity. Try using the phrase, "If I'm understanding you right..." to assist the patient to organize his thoughts.

Do not provide advice about how to solve their problems unless the patients request it explicitly. Patients can often solve their own problems by generating various options, as they begin to get better. Listening is the best gift to your patient.

Offer hope and confidence that problems will get better with continued therapy. This encouragement is a lifeline to a depressed person.

In cases of severe depression, a patient may not want to communicate at all. In such cases it is a good idea to encourage the patient to talk, gently. If this is met with resistance, acknowledge that he may not want to talk and you respect that decision. However, explain the advantages of talking to a clinician. Keep doors open for communication.

Patients should always be asked about the intent for self harm. Most suicidal patients may not express it spontaneously, but are often willing to talk about it. The assumption that we may introduce ideas of suicide by merely asking about it, is not logical, as most patients with depression have thought about it already, at some point in the illness. In such patients, we must assess intent, lethality, impulsivity and the ability to procure material to make the attempt. Such of those patients who are likely to indulge in self harm should be admitted to psychiatry inpatient units, treated as priority, and kept under a close watch.

It is a good idea while communicating with a depressed patient to educate them about the cause of depression, that it results due to neuro chemical imbalances in the brain, and that it is unlikely to decrease without medical help.

Section-B : Talking to Anxious patients

Patients with anxiety need a great deal of reassurance, and may be frequent visitors to various physicians.

In communicating with these patients, use an unhurried approach. Allow the patient enough time to develop a sense of comfort in knowing that you will attend to his complaints. As most anxious patients are brushed off by doctors, as he/she may tend to be more demanding.

Avoid interviewing the patient in a stimulating environment. It may worsen anxiety. Do not leave the patient during the interview, as these patients may panic.

Acknowledge anxious behavior, clarify and reflect. This allows the patient to talk about his anxieties. Acknowledge the clients distress and concerns, while staying firm that the likelihood of those concerns becoming a reality are lesser than what the patient might estimate .

Encourage the clarification of thoughts and feelings as patients with anxiety often have cognitive errors such as catastrophising and jumping to conclusions.

Observe and manage your own anxiety when dealing with anxious patients .Being calm and composed will develop patients confidence in you.

In patients of anxiety, we must recognize the value of defense mechanisms. Remember the patient is attempting to make the anxiety tolerable, to the degree that he can. Recognize the defense mechanism and provide reality, without attempting to remove the defense mechanism.

((Don't offer several alternatives and decisions to the anxious patients as they may feel overwhelmed. The therapist can become more directive in this case.))

Assist the patient in recognizing his /her strength and capabilities from his account of his own past, so that he can use those situations to help him in the present.

Section-C : Talking to Patients with Psychotic disorders

Psychotic patients have decreased attention span, may have decreased concentration and formal thought disorders, making their ability to concentrate on the interview less. The presence of delusions may occupy their thought processes and hallucinations may distract them. Thus interviewing the psychotic patient may need a more structured approach and more close-ended questioning pattern.

These patients are also better interviewed in less stimulating environment, especially if they are irritable or violent.

Always make sure there is some security measure that can be applied if the patient gets violent (such as security personnel) and

also a means of exit from the room if required.

A psychotic patient may have delusions, which he believes to be a certainty. When talking to such patients it is important for us to keep in mind not to behave in a manner which confirms the delusion. (for example, closing doors to "prevent persecutors" from getting in to harm patient). This makes the delusion harder to treat. Don't confront the delusions directly. This may make the patient disagree strongly and become uncommunicative. In handling a delusional patient, it is preferred initially to establish an empathetic communication by actually talking about the distress the patient faces as a consequence of the delusion.

At a point when the patient has a better rapport, it is time to make attempts to bring the patient to wonder about the truth of delusions with gentle questioning.

In hallucinating patients, remember the psychotic experience is real for the patient, similar to other perceptions he has. They are convinced of their perception as reality you are of yours. When confronted directly, it may result in breakdown of the communication. Instead it is better to clarify the type of hallucinations and the details fully. An enquiry as to if the patients believes them to be real may be made to gauge insight.

When attempting to increase insight into hallucination, it's usually more helpful to make comments from a perspective of 'opinion' or personal experience whilst acknowledging the patient's own standpoint such as:

"I know the voices are real to you but I just can't hear them. I wonder if it might be another hallucination."

Follow this up with a question to get them to think about what you said:

"What do you think? Could it be a hallucination?"

In talking to a Psychotic patient who has formal thought disorder, whose concentration is poor, it is better to avoid very open-ended questioning style and make the questioning more directed and structured. When the patient loses his thread of thought, gentle redirecting the conversation with appropriate questions is recommended. If the patient has thought block the same kind of technique is used.

The Patients with psychotic illness are often ignored in a clinical interview and time is often spent gathering information from the family members, making the patient feel left out of his therapy. Most patients

of psychosis have islands of lucidity. As they recover with antipsychotics these expand. It is then that we can attempt to educate the patient so that insight is gained and built upon. The benefit of this engagement translates to development of better reality testing and better compliance.

Section-D : Talking to patients with somatization disorder

The patients in this category use physical symptoms to express their distress. Most of them have been to several doctors and been told that they have no physical problem. From the standpoint of the physician, the symptoms may seem exaggerated and the worries irrational, but the patient's suffering is always real.

The first challenge is describing the condition to the patient in a manner that avoids conveying to the patient it is "imaginary" or that he is "faking" it. In order to achieve this goal, physicians must understand, that the concept of somatization, is beyond the grasp of the patient's mind and beyond medicine's usual way of understanding disease. We can communicate to the patient a statement such as "The results of my examination and of the tests we conducted, show that you do not have a life-threatening illness. However, you do have an impairing medical condition, which I see often but which is not completely understood. However, there are a number of interventions that can help you deal with the symptoms better than you have so far."

Most of these patients are quite reluctant to engage in therapy because they do not have insight about the basis of somatic symptoms. These patients are fearful that the doctors will not listen to their "physical complaints" and may dismiss their suffering.

When the symptom is of a somatic origin physician/ psychiatrist must acknowledge the suffering conveyed by the symptoms without necessarily accepting the patient's explanation for the symptoms. Explore the nature of the physical complaints and also the impact of those complaints on the patient's social occupational and personal life. The patient is more likely to explore psychological conflicts only when they feel that their physical complaints are not being dismissed and when they feel the psychological conflicts will not be declared as the cause of their complaints.

Whenever a new symptom arises it is treated with curiosity and investigated if required, rather than maintaining a judgmental attitude.

The goal of therapy with somatizing patients is to open their mind to consider psychological factors important for their well being, rather than focusing on bargaining about need for further search for medical illness.

Planned frequent follow up visits, at short intervals are seen to be useful to reduce anxiety of the patient and makes him confident that he will get medical attention even when he is not in a health crisis. The physician also begins to shift the focus away from the patient's physical symptoms, to the psychosocial context that may be affecting them. A time-honored opening question that is comfortable for physician and patient is: "How have your symptoms interfered with your everyday life?"

Here, the psychiatrist is willing to work with the patient on his symptoms and on distress caused by symptoms.

Section-E : Talking to patients with obsessive compulsive disorder

Patients with obsessive compulsive disorder and anankestic patients have a need to be in control of situations. They usually hate being in situations where people take decisions on their behalf.

Although these patients appear calm and composed, behind the outwardly aloofness, there is usually a lot of fear and anxiety. Once they get comfortable with the psychiatrist, they are anxious to discuss every detail of the illness.

Once the patient becomes comfortable discussing his symptoms, he/she can become tedious and repetitive so as not to miss any details. In such situations, bring the conversation to focus so as not to dwell exclusively on one detail of the illness.

When dealing with obsessive patients it is advisable to make sure adequate time is allotted, to explain to the patients the various therapeutic options. These patients do best when they feel they are able to understand and participate in their management. It is worthwhile to formulate a rough treatment protocol, with the help of the patient, to which adherence would be more likely. Long term plans are discussed beforehand.

Thus we have briefly discussed various strategies to help communicate with psychiatric patients. These are just rough guidelines to guide a beginner. Intricacies of these skills are learnt through experience. As a physician gains experience, seeing patients he will be able to develop his own style of communication with various types of patients.

It should be remembered, patients always so respond to genuine concern, warmth, and positive regard, over time. Skills are built on the ones we already naturally possess naturally. Werner Erhard said "The essence of communication is intention." As long as intensions are right, the rest of the skills can be learned!

"The most important thing in communication is hearing what isn't being said. The art of reading between the lines is a lifelong quest of the wise." as Shannon L. Alder correctly pointed out. To conclude, let us commit to continued honing of our communication skills!

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Psychiatry history taking and Mental status examination

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When a medical undergraduate student undergoes psychiatry posting, most common experiences are those of fear, uncertainty, amusement and indifference towards the patients suffering through "mental" ailments. This is mainly because of lack of adequate exposure, education and training about psychiatry in undergraduates. These factors hinders in developing interest in the branch and in considering as a mainstream option while opting post graduation studies.

Psychiatry is a fascinating domain of medicine. Each and every piece of history, observed signs & symptoms are unique to the patients and instead of fixed protocols followed in medicine, psychiatrist needs to develop creative interventions. This management starts with detailed history taking and is followed by skilful mental status examination.

By this chapter author aims to make history taking and mental status examination in psychiatric patients, an easy and interesting task.

Psychiatric History Taking :

By and large, history in psychiatry differs from that of other specialities in a way that in psychiatry, one has to take a detailed, descriptive account of patient's symptoms, their association with various life events, and stressors. Past, family, personal and developmental history also has significant contribution towards reaching to a diagnosis of the patients. Skilful observation of patient helps in completeness of the history obtained.

The following 'domains of evaluation' completes the psychiatric interview.

Preliminary data: Gathering patient's demographic information

like name, age, sex, language, residence, marital, educational and occupational status, helps to identify patient, his background and his future prospects. The information also indicates whether the patient is came by self, referred by other specialist or is brought against patient's will.

Informants: Due to lack of cognitive functioning, insight and distorted thinking pattern in some of the psychiatric patients, the relevant history needs to be obtained from informant. The relationship of the informant with the patient, capacity of the informant to understand and narrate patient's symptoms, the reliability (genuineness of the information) and completeness (in temporal fashion) of the information are some of the important factors which help to select the appropriate source objective data.

Chief complaints: Four to five of the chief complaints that explains the reason for patient's encounter with psychiatrist should be mentioned. These complaints should be mentioned verbatim, as patient describes it, however bizarre it might be. Medical jargons have to be avoided as far as possible. If the patient is not communicative or is unable to speak, relatives or observer's record of behavioural pattern can be mentioned. Total duration of the illness along with number of episodes and the duration of the current episode shall be mentioned.

History of present illness: This part of the history is very important and includes comprehensive and chronological picture of patient's symptoms viz., onset, duration progress, precipitating events etc. When was the last time, patient was apparently asymptomatic should be mentioned followed by, onset of the symptoms, its relation with various life events, and chronological emergence of various symptoms shall be mentioned. Change in patient's behaviour according to time frame, if they are increasing/ decreasing, episodic/ relapsing, its impact on patient's life should be asked. Appropriate explanations for said symptoms should be sought from patient as well as relatives. Important negative history should be obtained (e.g., history of fall, head injury or seizure prior to the episode)

Past illnesses: This section comprises of details regarding past psychiatric and medical illnesses and whether they are directly, indirectly related to the present illness.

History of same or any other psychiatric illness in past should be asked for. Also use of substance like alcohol, cannabis or any other substance of dependence should be asked for. The course of symptoms viz., improved, same or deteriorating should be mentioned. If patient was partially better, how much was the improvement and what were

the residual symptoms should be mentioned.

Medical history is important as significant overlap have been observed between medical and psychiatric symptoms, for e.g., anxiety symptoms in hyperthyroidism, depression in hypothyroidism. Also various physical condition itself leads to significant psychiatric morbidity, e.g., personality changes following head injury, cognitive deficit in seizure disorder etc. Treatment history of medical illnesses can also clue towards onset of various psychiatric symptoms e.g., treatment with steroids leading to manic and psychotic features, psychosis induced by anti- Koch's treatment etc.

Previous investigation and treatment records should be scanned to get reliable information about past psychiatric and or medical illness.

Treatment history: What was the treatment taken, how long, if hospitalization was needed: what was the reason, for how long, the nature of the treatment received (only medicines and or electroconvulsive therapy), and compliance with treatment, if non compliant; reason for it etc. should be described in details.

Family history: In this section, one should comment upon age and occupations of parents, parent's relationship with one another, general information about siblings, the patient's relationship with his parents and siblings, history of psychiatric illness, suicide or substance misuse in the family etc. Family member's attitude towards the illness, their concern and contribution (through over involvement, denial, anger, criticism etc.) should be assessed. The psychiatrist should be able to delineate patient's comfort and discomfort in relationship with particular family member so as to assign carer role and treatment responsibility accordingly. Drawing 'family tree' helps to record relevant information about the family.

Personal history: Personal history comprises of perinatal, developmental, childhood and adulthood history.

- ▶ **Perinatal history:** It comprises of details regarding antenatal events (psychological, physical illness in mother), drugs taken if any, full-term or premature delivery, natural birth or by caesarian section, birth complications, duration of hospital stay, defects observed at birth etc.
- ▶ **Developmental history:** Information related to motor, social and speech milestones should be gathered from the parents. Any delay or deviation in the milestones should be mentioned. The feeding pattern and toilet training should also be enquired. Also, the pattern of attachment during infancy with primary caretaker and significant others in family should be mentioned.

- ▶ **Childhood and adolescence history:** Quality of mother- child relationship, broken families, peer relationships, quality and consistency in schooling, childhood abandonment should be explored.

Patient's academic performance, level of education, academic difficulties, if school drop-out; reason for discontinuation of studies and clue towards overall intelligence abilities should be asked for.

Any abnormal pattern of behaviour like, overactive, shy, inhibited, withdrawn, outgoing, restless, thumb sucking, nail biting, involuntary movements (tics, stereotypies), temper tantrums, head banging, night terrors, bed- wetting should be mentioned if present.

Onset of puberty, areas of interest including sexual activities, peer influences, use of substance if any should be assessed.

- ▶ **Adulthood history: Should be described in following domains:**

Occupational history- choice of occupation, environment at work place, work related stress, frequent change in jobs.

Marital and relationship history- should include initiation and quality of current marital relationship, previous relationships if any, separation or divorce in a marital disharmony, reason for disharmony, attitude and trust towards spouse.

Social and Religion history- This section includes history of quality of social relationship, impact of symptoms on social relationships, religious orientation, beliefs, deviations or discrepancies in these beliefs etc.

Sexual history- This includes sexual orientation, attitude towards sexual activity, frequency and quality of sexual encounters, deviations, dysfunctions in any of the sexual response cycle etc.

Legal history- Any encounter of legal action against patient, history of violence/ substance use/ antisocial trends etc., patient's attitude to such action, impact on life in general should be enquired.

Substance use history- Use and abuse of substances like alcohol, tobacco and other substances like cannabis, opioid, barbiturates, benzodiazepines etc. The description should include duration of use, quantity, frequency, current pattern of consumption etc.

- ▶ **Pre-morbid personality (PMP):** Various aspects of patient's personality or temperament characteristic should be enquired from patients and relatives. Various aspects used to describe the PMP are: Interpersonal and social relationships, use of leisure time, attitude to work and responsibility, religious beliefs, fantasy life, habits etc

Physical Examination : A detailed physical examination including general and systemic examination is compulsory before proceeding to MSE. This can give important clue towards etiological correlation or a secondary effect of a psychiatric illness. E.g., presence of neck swelling (s/o thyroid origin) in a patient with depression and presence of signs of liver cell failure in a patient with alcohol dependence.

Mental Status Examination :

This is a structured interview which starts with observation of patient's behaviour and proceeds with detailed evaluation of various domains like, sensorium (including level of consciousness), perception, thinking process, feeling and behaviour. MSE is not a onetime event and has to be carried out to record evolution of new symptoms and remission of certain symptoms when patient is under care.

Certain skills to be learned before starting MSE:

- ▶ Be a good observer and listener: MSE starts as soon as the patient is in view. Proper observation regarding grooming, hygiene, abnormal behaviour, attitude gives clue towards underlying psychopathology.
- ▶ Empathy: As far as possible, empathetic approach (i.e. understanding patients psyche by putting oneself into his or her place) should be used.
- ▶ Open ended v/s closed ended questions: It is good to start with open ended questions and to gain patient's trust that you want to listen to the patient. Questions like 'you mentioned about certain difficulty at your work place... would you elaborate it further?' can be helpful instead of direct questions like 'You picked up fight with your colleague, do you think they are against you?'
- ▶ Restriction and closure: It is very much possible that patient will be including unnecessary information or getting in personal issues with the therapist. Hence the psychiatrist should be able to find out the right time to restrict the patient's drifts during the interview.
- ▶ Privacy and confidentiality: The information obtained during the interview should be kept between the interviewer and the client

whenever possible except in cases where the interviewer senses that the patient is harbouring certain ideations which might be dangerous to the self or the others.

The mental status examination proceeds in following pattern:

1. General appearance and behaviour: This section of MSE includes observation of the patient in following aspects:

i. General appearance:

Body habitus, overall physical health

Looks comfortable/ uncomfortable

Grooming and dressing: well groomed/ ill groomed/ inappropriately groomed

Hygiene: overall cleanliness, state of hair, nails, teeth, body odour if ill kempt

Mannerisms: including oddity of expression and responses

ii. Attitude towards examiner :

Cooperative/ Hostile/ Guarded/ Resistant/ Uncooperative/ Evasiveness/ Over compliance/ Overfamiliarity

Overall interested in interview/ apathetic/ reluctant Perplexity

iii. Psychomotor activity: It is the motor activity governed by the psychological process

Increased: Hyperactive/ Agitated/ Violent/ Excitement

Retarded: Passive/ Stupor

Anxious: Fidgety/ Restlessness/ nail biting/ clinging in children

Catatonic signs: e.g., Mutism, mannerisms, waxy flexibility, posturing, automatic obedience, negativism, psychological pillow, echolalia, echopraxia, forced grasping.

Abnormal involuntary movements: Tics/ Tremors/ Akathesia

Signs of conversion and dissociation: Pseudo seizure/ Hyperventilation/ Possession spells.

Repetitive activities: Rituals/ Autistic behaviour.

iv. Eye to eye contact: Established/ Not established/ Avoidance/ Hesitance/ Staring/ Rate of eye blinking if increased or decreased.

v. Rapport: Whether a Spontaneous, Harmonious, Working relationship with the patient (Rapport) is established or not.

vi. Hallucinatory behaviour : Verbal or non verbal gestures in response to the hallucinations.

2. Mood and Affect:

Mood: It is the sustained pervasive feeling tone of the mind which colours the perception of the world. 'How have you been feeling in mind in say last week?'

While assessing the mood of the patient, one should ask about the most predominant mood state in recent few days, say, last one week. Mood should be described in terms of its:

Quality:

Euthymic

Anxious, apprehensive and worried in anxiety and depression;

Low, empty, sad in depression;

Fearful in schizophrenia;

Euphoric, elated, exalted, ecstatic irritable in mania

Stability (labile or stable): Labile mood is showing two or more mood states in same interview with rapid shift between mood states unrelated to external stimuli.

Affect : In contrast to mood, affect is external, objectively assessed, immediate expression of emotions.

Affect can be congruent to the said mood state (e.g., patient conveys sad mood and is tearful while interviewing) or can be incongruent to mood (e.g., patient conveys that everything is okay but appears fearful and hostile when spoken to.)

Also affect can be described as:

Appropriate/ inappropriate to the situation

Intensity and Range: Restricted in range (as after treatment with typical antipsychotics); blunted/ flat (increasing reduction in intensity of affect)

Wide range (showing many emotions or different severity of one emotion during interview).

3. Speech and Thought :

Speech is verbal expression of the thought process. Hence speech and thought process is described together.

Speech can be described under following headings:

- i. Spontaneity and latency: Whether the speech is spontaneous or is following latency, increased or decreased reaction time.
- ii. Rate and Quantity of speech: Pressured speech (Rapid production of speech with subjective racing of thoughts, which does not allow others to interrupt in the flow) or retarded speech output (poverty of speech).

iii. Tone and Volume of speech: High/ Low/ Normal

iv. Flow of speech:

Smooth/ Hesitant

Increased flow: Circumstantiality/ Tangentiality/ Flight of ideas/
Clang association

Decreased flow: Blocking

Flow of speech interrupted by stammering/ stuttering/ tics etc.

4. Thought : is usually described under four headings as follows:

i. Stream of thought: It deals with the speech and flow of ideas in general and includes, flight of ideas, prolixity, retardation of thinking, thought blocking etc.

ii. Form of thought disorders including loosening of association, tangentiality, illogical thinking, word salad, neologism etc.

iii. Content of thought: Mention whether the thought process of the patient consists of obsessions, contents about panic or phobias, ideas of reference, persecution, delusions (of types; persecution, reference, grandiose, nihilism, guilt, poverty, somatic), depressive thought (e.g., helplessness, hopelessness, worthlessness, ideas of suicide). Presence of content of thought should be mentioned.

iv. Possession of thought: Patient's thought being controlled and possessed by self or some external agency, thoughts being spread to the environment through media as in thought broadcasting

5. Perception :

Disturbances in any sensory modality (auditory, visual, olfactory, tactile, and gustatory) should be explored and mentioned under following headings:

i. Hallucinations: Auditory hallucinations are most common in functional psychosis whereas, visual hallucinations are usually seen in organic psychosis e.g., delirium.

'Do you think someone talks to you when you are alone or when no one is around and it happens that others cannot hear it?', 'Are these just a noise which you can't make out (elementary), or do they talk to you (secondary), or do they talk about you among themselves (third person)?' 'Are they male voices or female voices?', 'How many of them talk?', 'What do they talk?', 'Are these voices intermittent or continuous?', 'Do they order you to do something (commanding)?'.

ii. Illusions: Is a distorted perception in any sensory modality. One needs to explore the background on which it is happening.

E.g., seeing a shadow of rope and misidentifying as snake. It should be noted if these are happening in clear consciousness or no.

- iii. Depersonalization and derealisation: These are the abnormalities in the perception of reality of self or the world. 'Have you been feeling lately that something is changed in you or around you which feel like you are dreaming or something which isn't real?'
- iv. Somatic passivity phenomena: Is the feeling of the patient of being under influence of 'external agency'.

6. Cognitive assessment :

Evaluating higher mental functions is an important section of the MSE. Disturbances in these functions are usually observed in sever psychiatric disorders or in organic brain conditions.

- i. Consciousness: Is the awareness of the person about self and the surrounding. Level of consciousness is graded as; conscious/ confusion/ clouding/ torpor/ stupor/ coma.
- ii. Orientation: Patient's orientation should be checked in terms of time, place, and person.

Time: 'Approximately what time of the day is it?', 'Is it morning/ afternoon/ evening (in case patient is unable to tell exact time)?', 'What is the day of the week and date (day of the month, month, year)?', 'Since how long you have been brought to this place (hospital)?'

Place: 'What place is this?', 'Is it a school/ office/ house/ hospital?'

Person: Ask the patient to give their identity and also to identify their relatives, staff around him.

- iii. Attention and concentration: Attention is the ability to attend a given task at hand, negating other stimuli around whereas concentration is the ability to sustain an attention.

Is the attention easily aroused and sustained?

- Tests :
- a. Digit span test (ask to repeat the digits forward and backwards)
 - b. Serial subtraction test (five serial subtraction of 7 from 100 or 3 from 40)
 - c. Days of the week forward and backward
 - d. Counting numbers backwards from 20

Number of attempts required and time taken is noted for doing these tests.

- iv. Memory: Memory is the ability to process the information received through sensory organs, to store and to recall at later time. Memory is evaluated under following headings:
 - a. Immediate retention and recall: Tested by digit span test. Also five words retention (unrelated, absent in surrounding; e.g., board, broom, tree, blue, strength) and recall (after 3 min) can be used.
 - b. Recent memory: Can be tested by address test (reading out a unknown address and recalling after 3to 5 min) or asking events in last 24 hours. E.g., 'what did you have for breakfast?', 'who came to visit you yesterday evening?'
 - c. Remote memory: Information pertaining to various life events is asked. 'When did you get married?', 'date of retirement?', 'age of the eldest child?'
- v. Intelligence: Intelligence is the ability to think rationally, act rationally and deal effectively with the environment.

Patient's education and socio cultural background should be kept in mind while asking about general knowledge; e.g., 'Name of current prime minister/ capital of country/ famous place?' (In case of literate patients); and, 'Crops taken in field during particular season, recipe of usual food item' (In case of illiterate patient, housewives).

- vi. Abstract thinking: It is the ability to form concept, think laterally beyond the literal meaning of the words.

Simple concepts: Ask similarities and differences between simple objects. E.g., salt/ sugar, table/dog, aeroplane/ bird etc.

Abstract concepts: Ask meaning of at least two commonly used phrases and proverbs.

The concepts can be intact, concretized or impaired which is usually seen in schizophrenia.

7. Judgement:

It is the ability to assess the situation in presence of possible outcomes and act appropriately.

- a. Social judgement: It includes patient's behaviour in social settings like during interview and during stay in hospital.
- b. Test judgement: Is tested by asking patient what he would do in certain situation, like, 'House catching fire', 'Stamped, addressed letter lying on the street'.

Judgement can be commented as, intact/ impaired.

8. Insight :

Insight is a degree of awareness about one's own illness.

Questions asked to judge insight: 'Do you have any illness?', 'If yes, what is the type; physical/ psychiatric?', 'What is the reason for illness?', 'Is treatment required?', 'Any idea regarding course of illness?'
Insight to be graded as follows:

Grade I : Complete denial of illness

Grade II : Awareness and denial of illness at the same time

Grade III: Awareness of illness but attributing it to some external or physical factor

Grade IV: Attribution of illness to some unknown factor

Grade V : Intellectual insight: Patient is aware of being ill and is able to attribute the symptoms to problem in thinking or feeling of self. However fails to implement this knowledge in current behaviour.

Grade VI: Emotional insight: Along with the awareness regarding illness, patient is able to implement this knowledge into future behaviour.

*** Definition of certain signs of MSE:**

- ▶ Akathisia: A syndrome characterised by unpleasant sensation of inner restlessness.
- ▶ Bizarre delusion: False belief which is absurd and humanly not possible. E.g. Aliens controlling thoughts of patients through brain implants.
- ▶ Blocking: Sudden interruption of chain of thought which resumes after a brief pause with contents being unrelated to the previous thoughts.
- ▶ Circumstantiality: Disturbance in the stream of thought which inclusion of unnecessary details before reaching the central thought.
- ▶ Clang association: Association of speech by sound of a word or rhyme rather than meaning.
- ▶ Delusion: A false, firm, unshakable belief which is not in keeping with the person's socio cultural and educational background and persists in spite of giving evidence to the contrary.
- ▶ Delusion of persecution: false belief of being harassed or being plotted.

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- ▶ Delusion of reference: False belief that the behaviour of others refers to them or the content of the talk or gestures of others are targeting them.
 - ▶ Depersonalization: A changed perception of self where feeling about reality of self is temporarily changed or lost.
 - ▶ Derailment: Sudden or gradual deviation of thought process.
 - ▶ Derealization: A changed perception of the environment where feeling about the reality of the surrounding is temporarily changed or lost.
 - ▶ Echolalia: Pathological repetition of words of one person by other.
 - ▶ Echopraxia: Pathological repetition of actions of one person by other.
 - ▶ Ecstasy: Intense sense of elevation of mood as seen in severe mania with stuporous state.
 - ▶ Elation: Moderate elevation of mood with feeling of enjoyment and increased psychomotor activity.
 - ▶ Euphoria: Mild elevation of mood with heightened sense of well being.
 - ▶ Euthymia: Normal state of mood.
 - ▶ Exaltation: Severe elevation of mood with grandiose delusions.
 - ▶ Flight of idea: Rapid successive shift in ideas with association between the ideas being by chance alone.
 - ▶ Grandiosity: Excessive and exaggerated feeling of one's importance in terms of power, worth, prestige, possession.
 - ▶ Hallucinations: A perception which occurs in absence of external stimuli.
 - ▶ Neologism: Formation of new idiosyncratic words whose meaning and association can be understood by patient alone.
 - ▶ Nihilism: Delusion of non existence of self. Belief that world is coming to an end.
 - ▶ Perseveration: Persistent repetition of words or phrase beyond the point of relevance.
 - ▶ Posturing: Odd, fixed posture maintained by patients for prolonged time.
 - ▶ Poverty of content of thought: Poor thought production so that very little information is conveyed in spite of adequate speech production.
 - ▶ Stupor: A clinical state of akinesia and mutism with relatively preserved consciousness.
 - ▶ Torpor: A state of mental or physical inactivity.

- ▶ Tangentiality: Disturbance in the stream of thought where it includes excessive, often irrelevant thought with failure to communicate the central thought.
- ▶ Waxy flexibility: Catatonic sign where person maintains body position into which they are placed.
- ▶ Word salad: Incoherent, incomprehensible mixture of words or phrases usually seen in chronic, advanced schizophrenia.

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Depression

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Mood disorders are a common. Many times they go unrecognised due to varied presentations they have. Feeling low or depressed is taken as justifiable as per circumstances. Patients also present with somatic symptoms like headaches, body aches and unless enquired will not report changes in mood. Society also values those who do not show weakness and pretend to be strong in all circumstances; hence patients do not accept that they are experiencing low mood or low energy. All these contribute to the burden of depression on society and about 15 % of cases culminate in suicide. Research shows that most of those who commit suicide had some mental illness, most commonly depression. Hence, the recognition and treatment of depression can save much more lives than that can be done by providing high end tertiary care!

By the end of this chapter reader appreciate, how common depression is, probable aetiologies, its clinical presentation, how to differentiate normal mood swings from that of pathological mood changes & how to treat depression. Aspects of suicide in the context of depression will be discussed.

Terminology:

"Mood: Mood is the pervasive and sustained feeling tone that is experienced internally and that influences a person's behaviour and perception of the external world. To understand this, recollect how you have been feeling over the last fortnight. Normally, on a day when nothing has gone wrong, you may feel low. You would find it difficult to pick up an interest in work, and time would seem to be moving slowly. So, a depressed mood affects how you interact with the external world.

- ▶ **Affect :** Affect is the external expression of mood / emotional state of an individual through facial expression, vocal inflection, gestures, and posture etc which can be observed by others at a given cross section of time.

- ▶ **Unipolar depression:** This presents with only depressive episodes without the history of hypomania or mania.
- ▶ **Attempted suicide:** It is a deliberately undertaken act which mimics the act of suicide but does not result in death. Here intention is clearly to kill him/ herself.
- ▶ **Suicide :** as a death from injury, poisoning, or suffocation where there is evidence (either explicit or implicit) that the injury was self-inflicted and that the decedent intended to kill himself / herself.

Is Depression common?: Epidemiology

Studies estimate point prevalence is 2-5%. Life time prevalence of depression is 5-17 % (average= 12%), with annual incidence of 1.59 per 100000 population. Some demographic factors associated with depression are:

- ▶ **Age:** Depressive disorders show a much higher lifetime prevalence in people younger than 45 years.
- ▶ **Sex:** Unipolar major depression is approximately twofold more common among women than men. The genetic predisposition for depression decreases with age. However, social stressors appear to place younger individuals at a greater risk for depression than elderly ones. On the other hand, isolation, medical disorders, and disability play a more important role in the development of depression in later life.
- ▶ **Marital Status:** The relationship between marital status and mood disorders is quite complex. For example, being single, divorced, or separated can be either a risk factor for depression or the result of the adverse life events generated by depressive or manic psychopathology, or both. Major depressive disorder and bipolar illness are most frequent among divorced, separated, or widowed individuals. Single women have lower rates of depression than married women do, but the opposite is true for men.
- ▶ **Socioeconomic status :** Although the relationship between depressive symptoms and lower social class is well documented, most studies found only a weak (but consistent) correlation between major depressive disorder or bipolar I illness and lower socioeconomic status.
- ▶ **Residence:** As urban communities face more stress than rural ones, it is not surprising that most studies concluded that major depression was more frequent in urban residents than in their rural counterparts.

- ▶ **Seasonal Factors :** In western studies, statistically, spring and fall are the peak times for depression, just as summer is for mania.
- ▶ **Geographic Trends :** There is a general, but weak, trend for lower prevalence of depression and higher rate of mania in regions located closer to the Equator. Consistently, at least in the Northern Hemisphere, winter depression (which affects between 1 and 6 percent of the community) seems to be more frequent in countries situated farther from it.

What Causes Depression? : Aetiology

Aetiology of depression is multifactorial. Like with other mental illnesses there are biological, genetic and psychosocial factors implicated in its causation.

Biological factors: Initially, the focus of research was on individual neurotransmitters. Now the focus is on neurocircuitry of brain, areas involved and also the neurohormonal system in depression. These can be divided into the role of biogenic amines, neurohormonal regulation, alterations in sleep and immune system and abnormalities in neuroimaging in patients with depression.

Biogenic Amines: Norepinephrine and serotonin are the two amines implicated in depression. Previously only deficiency in these neurotransmitters was hypothesised to cause depression but now regulation of receptors and their modulation is said to be more important. Studies show down regulation of beta adrenergic receptors at the onset of antidepressant action. Reserpine, a drug which causes serotonin depletion leads to depression. Also there are low levels of cerebrospinal fluid serotonin and its metabolite concentrations in suicidal patients.

Alterations in hormonal regulation: There is increased Hypothalamo- Pituitary- Adrenal (HPA) axis activity in depression. This finding is consistently documented in studies using dexamethasone suppression test. Approximately 5 to 10% of people with depression have previously undetected thyroid dysfunction. Even larger group (20-30%) show blunted TSH response to TRH challenge. Some studies have also documented abnormalities in growth hormone and prolactin levels in patients with depression.

Alteration in sleep neurophysiology: Sleep is an important biological phenomenon, alterations of which have profound effects on almost every system in the body. Depression is associated with premature loss of deep (slow wave) sleep and an increase in nocturnal arousal. This is reflected by increase in nocturnal awakenings, reduction of total sleep time, increased phasic rapid eye movements

(REM) sleep and increased core body temperature. There is significant reduction in REM latency, which is the time between going to sleep (stage 1 NREM) and onset of first REM sleep phase. Normally it is 90 minutes but is significantly reduced in depression indicating increased REM drive.

Immunological disturbance: Depression is associated with impaired cellular immunity. There is an association between clinical severity of depression, hypercortisolism and immune dysfunction.

Neuroimaging findings in depression: There is increased frequency of abnormal hyperintensities in the subcortical regions including periventricular, basal ganglia, and thalamus indicating neurodegenerative effects of mood episodes. PET findings suggest decreased anterior brain metabolism which is generally more pronounced on the left side.

Genetic Factors: Family history of depression, other mood disorders, or suicide is very common in patients with a depressive disorder. Linkage analysis shows an association between serotonin transporter gene (17q11.1-12) and depression, response to treatment and suicidal behaviour.

Psychosocial factors: Psychological stressors like significant life events (disruption of relationships, death of dear one etc) are associated with precipitation of depressive episodes. Adverse childhood experiences, child abuse etc are commonly associated with low self esteem which acts as a vulnerable factor in depression. Socioeconomic status has an influence in depression. Stress associated with a low socioeconomic status may be a causative factor (Social causation theory) or it may be a result of depression (social drift theory).

Clinical Features :

Patients with depression present to the doctors with either core features of depression or with indirect presentations, the latter being more common. During history taking both patient and informant can contribute useful information. Usually there is a gradually increasing sadness of mood often described by the patient as feelings of sadness, blue, irritability, hopelessness, discouraged, down in the dumps, inability to feel pleasure, 'not caring anymore' etc. This can be distinguished from normal variations of mood by its persistence for most of the day, nearly every day with little variation and often a lack of responsiveness to changes in the circumstances. Associated with this sadness is the 'Anhedonia' described by patients as markedly diminished interest or pleasure in all or almost all activities. Informant will describe himself as a person not participating in routine chores or

functions and not showing an interest or pleasure in activities that he used to enjoy before. Sometimes felt by them as 'we are living with a changed or different person'. If not recognised early, this may become a reason for quarrels at home as it may be perceived as deliberate behaviour by the family.

Depressed patients commonly experience feelings of worthlessness (it is not worth living presently), hopelessness (no hope in the future) and there may be an excessive or inappropriate guilt which may be delusional. This makes them lonely, and they tend to quit their jobs. They eventually develop suicidal ideation. Presence of hopelessness is the one of the most important risk factor for a suicidal attempt or completed suicide. Suicide is the major cause of mortality in depression. (15% of patients end their life.) Usually there is quite an amount of preparation before the act. Suicide ideations may start weeks or months before the actual attempt. Detailed evaluation of patient reveals that they chose a method that is perceived as fatal. They take care, so that they are not rescued. They chose a time and place when chances of discovery are minimal. If home, they will close all the doors and windows so that they have sufficient time and privacy to make the attempt. If rescued from the attempt, many patients do not exhibit guilt about the act, and may continue to make plans, though outwardly denying them. Hence it is advisable not to take any promises at face value and take all necessary precautions to avoid future attempts. Some patients with depression will attempt suicide after starting treatment with antidepressants. This is said to be due to an improvement in energy levels, an ability to plan the act clearly, and the will to execute the plan, which had hitherto been lacking. USFDA has now issued a BLACK BOX WARNING with all antidepressants, that the use of drugs in depression may increase suicide ideation. There is common belief that enquiring about suicidal ideation provokes such behaviour, though there is no basis for it. On the contrary, patients are often relieved that the doctor appreciates the magnitude of their suffering. Suicidal ideation is commonly expressed indirectly (e.g., in a wish not to wake up or to die from a malignant disease, bidding good bye to near ones, making a will or preparations for the last rites). Some depressed persons are tormented with suicidal obsessions and are constantly resisting unwanted urges or impulses to destroy themselves. Others might yield to such urges passively (e.g., by careless driving or by walking into high-speed traffic). A third group harbours elaborate plans, carefully preparing a will and making an insurance. Deliberate planning indicates a high suicidal risk.

Along with emotional symptoms there are changes in biological activity in depression. Sleep is disturbed. There can be insomnia (decreased sleep) or hypersomnia (increased). Typically patients report non refreshing sleep with wakening 2-3 hours sooner than the usual. Polysomnography shows there is decreased REM latency (onset of first REM episode after falling asleep, normally which is 90 minutes). They do not feel fresh after a night of sleep, and sadness is typically worst on awakening in the morning. This correlates with the fact that the most common time for suicides is the early morning hours. Appetite is typically decreased, with weight loss, but there may be increased appetite with weight gain. Patients report a loss of taste in food, and a lack of desire in eating. Relatives are usually worried about this as it is a definite change in their premorbid eating pattern. They also experience a lack of desire for sexual activity.

Changes in psychomotor activity are also evident. There is marked psychomotor retardation or agitation, which are noticed by those around the patient. Relatives usually report that the patient is inactive, appears dull, and remains aloof. During the interview the patient sits in a stooped posture with eyes cast down, sagging angles of mouth and wrinkles on fore head. They will have a minimal change of expressions on their face and will use minimum movements of hands and body to express themselves. On other hand, patients with psychomotor agitation will be restless, angry and irritable.

Another important sphere of symptoms is cognitive disturbances. Classically described cognitive view of depression considers negative evaluations of the self, the world, and the future (the negative triad) also called Beck's Triad. Faulty thinking patterns are clinically expressed as (1) ideas of deprivation and loss; (2) low self-esteem and self-confidence; (3) self-reproach and pathological guilt; (4) helplessness, hopelessness, and pessimism; and (5) recurrent thoughts of death and suicide.

Some patients with moderate to severe depression have psychotic features. Negative thinking acquires grossly delusional proportions and is maintained with such conviction that the thoughts are not amenable to change by evidence to the contrary. Usually delusions are those regarding health, financial status, moral worth, and relationship to others. Thus, severely depressed patients may have delusions of worthlessness and sinfulness, reference, and persecution-often they believe that they deserve punishment. They may have fleeting auditory or visual hallucinations with an extremely unpleasant content along the lines of their delusions (e.g., hearing accusatory voices or seeing themselves in coffins or graveyards). Hallucinations are

fragmentary with few words and usually coloured by mood state: 'you are rotten', 'you deserve it' etc. Psychotic features where content is driven by mood state are called as mood congruent psychotic features. Very rarely there may be mood incongruent psychotic features, contents of which cannot be explained by mood state. Cotard's Syndrome (nihilistic delusions) is present in some patients. It is characterized by delusions of negation to a varying degree. Patients may believe that their bodies or self has disappeared and they no longer exist, even that the whole universe no longer exists. It occurs more commonly in women and is often associated with anxiety and irritability. May be associated with mutism, delusions of self blame, olfactory hallucinations (e.g. of rotting smells) and therefore a refusal to eat. This phenomena could be caused by an organic brain disease (acute or chronic) e.g. parietal lobe tumour.

In some patients mood change is accompanied by measurable alterations of biorhythms that implicate midbrain dysfunction. This type of depression is called as Melancholic type or in current terminology, depression with somatic syndrome. Biological concomitants of melancholia include profound reductions in appetite, sleep, and sexual functioning, as well as alterations in other circadian rhythms, especially early morning worsening of mood and psychomotor performance.

Clinical picture of depression may change with age at which it presents. Some age specific features are:

- ▶ Prepubertal children. Depression may present as separation anxiety, school refusal or phobias. They tend to be more irritable than sad.
- ▶ Adolescents. Negative or antisocial behaviour may appear. Feelings of wanting to leave home, not being understood and approved of, restlessness, grouchiness, aggression, sulkiness, uncooperativeness, social withdrawal, school difficulties, inattention to personal appearance, increased emotionality (particular sensitivity to rejection in love relationships) or substance abuse may appear.
- ▶ Elderly. There may be symptoms suggesting dementia, such as disorientation, memory loss and distractibility. Loss of interest or pleasure in the individual's usual activities may appear as apathy, and difficulty in-concentration as inattentiveness. These symptoms make the differentiation between pseudodementia (due to depression) and dementia (an Organic Mental Disorder) particularly difficult.

Diagnosis :

Classificatory systems (ICD & DSM) need the presence of at least persistent low mood or decreased interest in pleasurable activities along with at least three other symptoms for 15 days to make diagnosis of major depressive disorder.

Treatment :

Management of the patient includes a decision for the need of inpatient care, investigations to be done, medication to be started, and the duration for which the patient must be treated. Common reasons for admission to hospital are; Serious risk of suicide, Serious risk of harm to others, significant self neglect, severe depressive symptoms, severe psychotic symptoms, lack or breakdown of social supports, initiation of ECT, treatment resistant depression , a need to address comorbid conditions. If suicide risk is considered, admission should be to a ward where observation and monitoring are possible. Prevent access to all medications and harmful objects (e.g. fruit knife, ropes, mirrors and glass bottles, bed sheets and dupattas etc.). Relatives are to accompany patients, with close supervision from ward staff. No promises are to be taken for granted! Remember that suicide risk is maximum as patients start to improve.

There are no specific tests for depression. Investigations focus on exclusion of treatable causes and other associated conditions. Standard tests include Complete Blood Counts (CBC), ESR, B12/ folate levels, KFT, LFT, sugars. Focused investigations (as indicated by history and physical signs) include thyroid function tests, Thyroid antibodies, CT/ MRI, HIV, VDRL, Dexamethasone suppression test (Cushing's disease) etc.

Treatment options: Pharmacological,, psychological , and other biological therapies.

Pharmacological treatment can be initiated on an outpatient basis in mild to moderate cases. Choice of antidepressant is guided by safety (side effect profile) and tolerability, physician familiarity with drug, presenting symptoms and history of prior treatments. For patients presenting with lack of energy/ hypersomnia use more adrenergic/ stimulatory agents like Fluoxetine and SNRI's like venlafaxin. For Patients with sleep disturbances use sedating agents like Imipramine (TCA) Mirtazapine etc. Those with mixed anxiety symptoms SSRIs or Imipramine is a better choice. If obsessive symptoms are present, use Clomipramine or SSRIs. If suicide risk is present avoid TCAs as over consumption is fatal due to cardio toxicity. SSRIs are safer in such cases. Some patients cannot tolerate drugs due to gastro intestinal (GI)

side effects. Mirtazapine is then a better choice. If sexual impairment is a prominent feature then Bupropion is a better choice.

For mild to moderate depression psychotherapy especially Cognitive Behavioural Therapy (CBT) may be used alone or in combination with pharmacotherapy. Combination treatment has the best results. Cognitive behavioural therapy in depression focuses on the cognitive triad originally described by Aaron Beck. In planned sessions the therapist attempts to change these negative views.

Electroconvulsive therapy (ECT) may be considered as first line therapy when there is severe depression with self neglect, high suicide risk, marked psychomotor retardation, depression with melancholic features. ECT is also the first line of treatment for depression with psychotic features. Combination treatment of antidepressant and antipsychotic agents can also be considered. Single agents with dual actions such as amoxapine (a tetracyclic antidepressant with significant D2 antagonism) or antipsychotics such as olanzapine and quetiapine (antipsychotic with mood stabilising actions) may be effective in treating both depressive and psychotic symptoms.

Duration of treatment depends on duration of previous episodes if any, response to treatment and need for maintenance treatment. In first episode, continue treatment for 6 months to 1 year after remission. In recurrent episodes treatment should be continued for at least the duration of previous episodes. If period between episodes is less than 3 years or episodes are severe, prophylactic treatment should be maintained for at least 5 years (otherwise risk of relapse is 70-90% within 5 years).

Course and Prognosis :

Points to remember are:

- ▶ Depression may occur at any age, although late onset depression may be milder, more chronic, more likely to be associated with life events and more likely to have sub-clinical prodrome.
- ▶ Duration of depressive episodes on an average is 6 months (25% will last up to 1 year).
- ▶ Episodes of recurrent depression tend to be shorter (1-4 months).
- ▶ Risk of recurrence in later life is high (approximately 30% at 10 years; 60% at 20 years).
- ▶ Risk of recurrence is greater if there are residual symptoms after remission, there are significant life events and lack of social support.

- ▶ Suicide rates for severe depressive episodes may be up to 13% with higher rate for those who required admission (12-19%) with an average of 15%.
- ▶ Good prognostic factors : acute onset, endogenous depression, earlier age of onset.
- ▶ Poor prognosis is seen with insidious onset, neurotic depression, elderly, those with residual symptoms, low self confidence, comorbidity (substance use, medical illnesses etc), lack of social support, high suicide risk.

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Bipolar Affective Disorder (BPAD)

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Bipolar disorder or bipolar affective disorder (historically known as manic-depressive disorder) is characterized by repeated (i.e. at least two) episodes in which the patient's mood and activity levels are significantly disturbed. As the term says both the extremes (bi-polar) of mood (high and low) are found alternating in this disorder. There could be an elevation of mood and increased energy and activity (mania or hypomania), and also on other occasions a lowering of mood and decreased energy and activity (depression). Characteristically, recovery is usually complete between episodes. As patients who suffer only from repeated episodes of mania are comparatively rare, and resemble (in their family history, premorbid personality, age of onset, and long-term prognosis) those who also have at least occasional episodes of depression, such patients are classified as bipolar.

Epidemiology

The prevalence of the bipolar disorders is between 1.5% and 3 % of the general population. Unlike depressive disorders, the incidence is same for men and women. The average age of onset has been reported to be in the early 20s, with at least 20% of cases arising in adolescence. However the age of onset is often obscure because many patients typically suffer one or more depressive episodes prior to first manic or hypomanic episode; these individuals receive a formal diagnosis at a later age although their true onset of illness was earlier.

Etiology

1. Environmental factors - it has been presumed that stressful events constitute one type of environmental factor that may play role in the development of bipolar disorders. Life events that are often associated with development of bipolar disorders in women include pregnancy and delivery with postpartum period carrying greatest risk. Substance abuse like cannabis, alcohol etc has been implicated in precipitation of mood episodes in those who are at risk genetically.

2. Heritable factors - The heritability of bipolar disorders is estimated to be 60-70 % and thus are more important than in other depressive disorders. At present none of the putative linkage locations or associations is widely accepted as genetic loci in causation of bipolar disorders. In addition, gene-environment interactions may predict the occurrence in certain individuals.

Pathophysiology

Abnormalities in the structure and/or function of certain brain circuits could underlie bipolar disorders. Functional MRI findings suggest that abnormal modulation between ventral prefrontal and limbic regions, especially the amygdale, likely contribute to poor emotional regulation and mood symptoms. Of the biogenic amines, norepinephrine and serotonin are the two neurotransmitters most implicated in the pathophysiology of mood disorders.

Clinical features and diagnosis

As stated earlier, the occurrence of manic episode alone or in addition with a history of one or more depressive episodes defines the bipolar disorder.

- 1) Manic Episodes - Mania is a distinct period of elevated or irritable mood, which can take the form of euphoria, and lasts for at least a week (less if hospitalization is required). Three degrees of severity are specified here:
 - ▶ Hypomania - There is a persistent mild elevation of mood (for at least several days on end), increased energy and activity, and usually marked feelings of well-being and both physical and mental efficiency. Increased sociability, talkativeness, overfamiliarity, increased sexual energy, and a decreased need for sleep are often present but not to the extent that they lead to severe disruption of work or result in social rejection. Irritability, conceit, and boorish behaviour may take the place of the more usual euphoric sociability
 - ▶ Mania without psychotic symptoms - Mood is elevated out of keeping with the individual's circumstances and may vary from carefree joviality to almost uncontrollable excitement. Elation is accompanied by increased energy, resulting in overactivity, pressure of speech, and a decreased need for sleep. Normal social inhibitions are lost, attention cannot be sustained, and there is often marked distractibility. Self-esteem is inflated, and grandiose or over-optimistic ideas are freely expressed. Perceptual disorders may occur, such as the

appreciation of colours as especially vivid (and usually beautiful), a preoccupation with fine details of surfaces or textures, and subjective hyperacusis. The individual may embark on extravagant and impractical schemes, spend money recklessly, or become aggressive, amorous, or facetious in inappropriate circumstances. In some manic episodes the mood is irritable and suspicious rather than elated. The episode should last for at least 1 week and should be severe enough to disrupt ordinary work and social activities more or less completely.

- ▶ Mania with psychotic symptoms - Inflated self-esteem and grandiose ideas may develop into delusions, and irritability and suspiciousness into delusions of persecution. In severe cases, grandiose or religious delusions of identity or role may be prominent, and flight of ideas and pressure of speech may result in the individual becoming incomprehensible. Severe and sustained physical activity and excitement may result in aggression or violence, and neglect of eating, drinking, and personal hygiene may result in dangerous states of dehydration and self-neglect.
- 2) Depressive episodes - Depressed mood, loss of interest and enjoyment, and increased fatigability are usually regarded as the most typical symptoms of depression. As with manic episodes, the clinical presentation shows marked individual variations, and atypical presentations are particularly common in adolescence. In some cases, anxiety, distress, and motor agitation may be more prominent at times than the depression, and the mood change may also be masked by added features such as irritability, excessive consumption of alcohol, histrionic behaviour, and exacerbation of pre-existing phobic or obsessional symptoms, or by hypochondriacal preoccupations. For depressive episodes of all three grades of severity, a duration of at least 2 weeks is usually required for diagnosis, but shorter periods may be reasonable if symptoms are unusually severe and of rapid onset.
 - 3) Mixed episodes - Although the most typical form of bipolar disorder consists of alternating manic and depressive episodes separated by periods of normal mood, it is not uncommon for depressive mood to be accompanied for days or weeks on end by overactivity and pressure of speech, or for a manic mood and grandiosity to be accompanied by agitation and loss of energy and libido. Depressive symptoms and symptoms of hypomania or mania may also alternate rapidly, from day to day or even from hour to hour.

Course of illness

Manic episodes usually begin abruptly and last for between 2 weeks and 4 - 5 months (median duration about 4 months). Depressions tend to last longer (median length about 6 months), though rarely for more than a year, except in the elderly. Episodes of both kinds often follow stressful life events or other mental trauma, but the presence of such stress is not essential for the diagnosis. The first episode may occur at any age from childhood to old age. The frequency of episodes and the pattern of remissions and relapses are both very variable, though remissions tend to get shorter as time goes on and depressions to become commoner and longer lasting after middle age.

Subtypes

There is no clear consensus as to how many types of bipolar disorder exist. In DSM-IV-TR and ICD-10, bipolar disorder is conceptualized as a spectrum of disorders occurring on a continuum. The DSM-IV-TR lists three specific subtypes

▶ **Bipolar I disorder**

One or more manic episodes. A depressive or hypomanic episode is not required for diagnosis, but it frequently occurs.

▶ **Bipolar II disorder**

No manic episodes, but one or more hypomanic episodes and one or more major depressive episode. Hypomanic episodes do not go to the full extremes of mania (i.e., do not usually cause severe social or occupational impairment, and are without psychosis), and this can make bipolar II more difficult to diagnose, since the hypomanic episodes may simply appear as a period of successful high productivity and is reported less frequently than a distressing, crippling depression.

▶ **Cyclothymia**

A history of hypomanic episodes with periods of depression that do not meet criteria for major depressive episodes. There is a low-grade cycling of mood which appears to the observer as a personality trait, and interferes with functioning.

▶ **Bipolar III disorder**

This subtype includes those individuals who have had switch over to manic episodes following treatment of depressive episodes with medications.

Complications

Bipolar disorder carries an increased risk of suicide and accidental death. Suicides are more common during depressed or mixed

manic/depressive states and while intoxicated. Accidental injury and death are more common in manic/ hypomanic episodes owing to risk taking behaviour and poor judgement. The risks of substance abuse, divorce, truancy, job loss and financial distress are markedly increased in untreated cases.

Management of bipolar disorder

Mood stabilizing agents such as lithium salts, valproate, carbamazepine or lamotrigine constitute the mainstay of medical management for the bipolar disorders, particularly for maintenance treatment. During acute phases of either manic or depressive episodes, antipsychotic medications, benzodiazepines, antidepressant medications or electroconvulsive therapy may also be indicated.

Psychotherapy is aimed at alleviating core symptoms, recognizing episode triggers, reducing negative expressed emotion in relationships, recognizing prodromal symptoms before full-blown recurrence, and, practicing the factors that lead to maintenance of remission. Cognitive behavioural therapy, family-focused therapy, and psychoeducation have the most evidence for efficacy in regard to relapse prevention, while interpersonal and social rhythm therapy and cognitive-behavioural therapy appear the most effective in regard to residual depressive symptoms.

Note: For more details, please refer to Chapters on Psychopharmacology & Psychotherapy

Anxiety Disorders

Obsessive Compulsive Disorder, Post Traumatic Stress Disorders, Phobias, Panic Disorder and Acute Stress Reaction,

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Case Vignette I

Mr G aged 39years presented to the physician with his wife aged 29 years, with complaints about frequent quarrels. He said the quarrels were most often related to issues of cleanliness at home and wife's reluctance to allow any relative or family friend into their home since 2-3 years. He reported that she would insist on thorough washing of hands and feet for 20-30 minutes before he enters their home, despite the fact that he would have left home a while earlier, after bathing! Anyone who visited them had to thoroughly wash themselves in the same manner. A great deal of time was spent washing and cleaning the home, adversely affected functioning throughout the day. Wife reported that her husband's behavior was not the result of a fear of infections. She felt that her own cleanliness had become so much in excess of that required, that it had led to skin lesions in her. She acknowledged the issue was indeed disrupting her family life, and expressed her helplessness over the issue.

Case Vignette II

A 12 year boy was brought by his parents to the physician with complaints that he makes 6-7 calls from school enquiring about his father. This started a month ago, initially with one call during lunch break, which gradually increased, with the boy making repeated requests to school authorities to make a phone call to his father. The school authorities refused permission for the same. The child reported that he gets repeated images of his father like he was and that they had garlanded his father's photograph. He feels very distressed and compelled to enquire about him immediately. His father has not been able to convince the child or reassure him.

Above case vignettes are about individuals with a diagnosis of Obsessive compulsive disorder which according to WHO is the 10th leading cause of disability in world.

Obsessive Compulsive Disorder

- ▶ 4th commonest psychiatric disorder
- ▶ Life time prevalence 2.5%
- ▶ Even among Children - 1% are affected
- ▶ F>M or near Equal
- ▶ Age of Onset : earlier in Men (Avg: 19, F;22) 30% - 10-15yrs, Overall 65% < 25yrs others > 30yrs
- ▶ Younger age/Increased Familial risk ;poor outcome

Obsession are IDEAs or IMAGEs or IMPULSEs which Reoccurs in Stereotyped manner, which is Invariably Distressing (at later stages less or no distress) even though Perceived as Senseless, Individual usually Unsuccessfully tries to resist them but is Recognized as individual's own thought (in comparison to psychotic symptoms where Individuals blames it on external source)

Compulsions are Mental / Physical acts or rituals which are Stereotyped behaviours to prevent harm (for self or other), Not enjoyable but sense of compulsion to carry out them and any effort to avoid such acts/rituals causes intense anxiety.

According to WHO, Obsession or Compulsions or Both should persist for most of the days for at least 2 weeks to make diagnosis of Obsessive compulsive Disorder.

Common Obsessions and Compulsions are

- ▶ Contaminations & Washing
- ▶ Doubts & Checking
- ▶ Symmetry or Ordering
- ▶ Contrast Thinking
- ▶ Saving or Hoarding
- ▶ Mental compulsions like counting the stars in sky

Causes :

- ▶ Genetic : nearly one third of first degree relative also have OCD, Monozygotic twins 80-50%
- ▶ Dysregulation of Serotonin function: Serotonin deficiency in CNS
- ▶ Brain imaging: Increased blood flow in the frontal lobes (fronto-orbital gyrus), basal ganglia (esp. the caudate), anterior cingulate gyrus.(abnormalities are normalized with effective treatment)

- ▶ Aetiologically related?? Between 11-80 % of Tourette's patients have obsessional symptoms And 20 % of OCD patients suffer from tics
- ▶ Autoimmune?? Obsessive compulsive symptoms following streptococcal infections & co-occurrence of OC symptoms in Sydenham's chorea and also PANDAS; Pediatric Autoimmune Neuropsychiatric disorders

Management:

- ▶ Evaluate for co-morbidities like depression
- ▶ Severity of OC symptoms can be assessed using Yale-Brown Obsessive compulsive scale (Y-BOC S)
- ▶ Educating Individual and family about the disorder
- ▶ Exposure And Response Prevention Therapy (ERP) with CBT
- ▶ Pharmacological : TCA's - Clomipramine 200-300mg, SSRI : Fluvoxamine 100-200mg, Sertraline 100-200mg, Fluoxetine 20-60mg.

Therapy and Medications to be continued at least 1-2years after remission.

Course and outcome: OCD is characterized by waxing and waning course

Episodic course - full remission in 10 to 15%, Proportion of subjects achieving full remission increases as the follow up is extended. About 40-50% of patients who achieved full/ partial remission subsequently relapsed and Deteriorating course in 5 to 15% .Rest-chronic fluctuating course

Predictors of Poor outcome: Earlier age at onset, Male gender, Chronic course, Poor social functioning at baseline, Magical symptoms, Mixed OCD, Hoarding type of compulsion, Comorbid tic disorder or schizotypal personality disorder, Hallucinations, delusions

Post Traumatic Stress Disorder

Case Vignette 1

Mrs G aged 37 years, spouse of an army officer lost her children and her husband in Tsunami, although she survived. Few weeks later she was brought with complaint that she has episodes wherein she is unresponsive to surroundings, had lost pleasure in everything she enjoyed previously and fearful. Mrs G narrated that during such episodes she has flashbacks with reliving of the trauma. She also has sense of numbness during episodes. She avoids everything that reminds her of her son or her husband as those things trigger an intense episodes.

Post Traumatic Stress Disorder affects nearly 5%-9% lifetime prevalence among those exposed to catastrophic events. Some consider it has rare condition as it may remit over a period of time. WHO recognizes that the symptoms should appear within 6 months of trauma, which is exceptional severity like rape, catastrophic nature such as war, tsunami, earthquake, terrorism, serious accident.

Most of the patients recover with time. Anxiety and depression are common. Patients should be evaluated for Suicide and substance use disorders especially alcohol and smoking.

Management of this condition involves non pharmacological interventions like : Exposure Therapy with imagery, Cognitive Behaviour therapy, Eye movement desensitization & Reprocessing (EMRD) therapy.

Pharmacological therapy involves use of Antidepressants like SSRI or TCA. SSRI have been more commonly used.

Combination of both therapies may be more effective in treatment of PTSD.

PHOBIA

SOCIAL ANXIETY DISORDER/ SOCIAL PHOBIA

Epidemiology:

- ▶ Life time prevalence about 12.1%
- ▶ Fourth common psychiatric disorder, after depression, alcohol abuse and specific phobia.
- ▶ Mean age of onset- 13 to 20 years of age.
- ▶ Female preponderance.

Aetiology:

Genetic factors: higher rates in first degree relatives, monozygotic twins.

Neurobiological factors: imaging studies have demonstrated increased activity in regions associated with fear and anxiety; dysregulation of serotonin and dopamine.

Social factors: fearful and socially avoidant mothers, overprotective parents, being the object of ridicule, being bullied are commonly reported.

Clinical features

- ▶ Situations where an individual feels he is being evaluated by others, causes incapacitating anxiety and a desire for escape or avoidance.
- ▶ They are sensitive, self critical and perfectionists, and go to great lengths to avoid negative evaluation of others.
- ▶ They experience somatic symptoms such as blushing, trembling, dry mouth, or perspiring, which they feel will be noticed by others, proving their incompetence.
- ▶ They tend to leave anxiety provoking situations,(escape), or forego them entirely (avoidance).
- ▶ They experience significant impairment in social, educational, and occupational functioning.
- ▶ Less likely to marry, more likely to divorce.
- ▶ They have fewer friends and more difficulty getting along with those they have.
- ▶ Unemployment, underemployment, and financial dependence are characteristic.

Comorbid and differential diagnosis

- ▶ 81% of persons with primary social anxiety disorder meet criteria for atleast one other lifetime psychiatric disorder.
- ▶ Panic disorder with agoraphobia: unexpected panic attacks, later age of onset, female predominance, feel more at ease in the presence of others.
- ▶ Generalised anxiety disorder: the hallmark of worry is heightened focus on possible catastrophic consequences across several domains of life, more commonly experience headache, insomnia, and fear of dying.
- ▶ Depression: individuals with depression withdraw due to lack of pleasure or energy, indifferent about social situations.

Course:

Chronic disorder, unlikely to remit without treatment.

Childhood shyness and behavioural inhibition early manifestations of the disorder.

Treatment :

- ▶ Cognitive behavioural interventions.
- ▶ Exposure
- ▶ Exposure with cognitive restructuring
- ▶ Cognitive behavioural group therapy

- ▶ Individual cognitive behavioural therapy
- ▶ Social skills training
- ▶ Relaxation strategies

Pharmacotherapy:

- ▶ SSRI's: paroxetine, sertraline, fluoxetine, fluvoxamine, and escitalopran.
- ▶ SNRI's: venlafaxine
- ▶ Beta blockers: propranolol.
- ▶ Buspirone
- ▶ Gabapentin and pregabalin.

Specific Phobia

Epidemiology

- ▶ Life time prevalence of 12.5%
- ▶ Age at onset varies with the phobia, tending to have an earlier age of onset than other anxiety disorders.
- ▶ Female preponderance.

Aetiology :

- ▶ Genetic transmission- higher rates in first degree relatives; concordance rates for animal phobia higher in monozygotic than dizygotic twins; concordance rates the same in both for situational phobias.
- ▶ Psychological theories - symptoms of phobia are thought to be related to unresolved unconscious conflicts. The anxiety is experienced, but the source of anxiety is shifted onto an unrelated and harmless object, and the real source of anxiety is kept from consciousness.
- ▶ Classical conditioning theory holds that phobias are learned through the association of negative experiences with an object or situational.

Clinical Features :

- ▶ Marked and persistent fear that is excessive or unreasonable, cued by the presence or anticipation of a specific object or situation.
- ▶ Commonly feared objects include animals, aspects of nature, or blood.
- ▶ Fear and avoidance cause significant interference with an individual's normal routine, career, academic pursuits, or social/interpersonal activities.

- ▶ Many maintain a normal routine by following a lifestyle that minimizes exposure to the phobic stimulus.

Course :

- ▶ Individuals with specific phobias acquire their fears early in life, and the disorder persists for many years.
- ▶ They often adapt their lifestyle to avoid the phobic stimulus.
- ▶ Persons with the most severe specific phobias seek treatment. A change in lifestyle that might bring them in contact with the feared stimulus (accepting a job that requires frequent air travel), and the experience of a panic attack in anticipation forces them to seek help.

Treatment

Pharmacotherapy:

- ▶ Drug treatments less effective.
- ▶ Beta blockers reduce some symptoms of sympathetic arousal during exposure to feared stimuli, but fail to decrease subjective fear.
- ▶ Benzodiazepines facilitate approach to the feared stimuli, but reduce efficacy of behaviour therapies.

Cognitive behavioural interventions:

- ▶ Systematic desensitization: combining progressive relaxation and graduated imaginal exposure to the feared stimulus.
- ▶ Applied relaxation
- ▶ Applied tension: designed specifically for blood-injection-injury phobia. Patient is asked to tense different muscle groups instead of relaxing them, thereby countering parasympathetic arousal.
- ▶ Exposure: prolonged and repeated in vivo exposure to feared stimuli is by far the most studied and effective form of treatment for specific phobia.
- ▶ Cognitive restructuring: help patients to monitor irrational thoughts and change underlying beliefs, so that they are better able to enter feared situations.

Panic Disorder

Case Vignette :

A 24 year old male presented for consultation with a six month history of episodic anxiety. These episodes occurred spontaneously, characterised by intense anxiety, palpitation, sweating, trembling, feeling of choking, fear of losing control or going crazy, and fear of dying. These episodes would increase in intensity, last for about fifteen to thirty minutes, and gradually decline.

Diagnosis : Panic Disorder

History :

- ▶ Derives its name from the Greek God 'Pan', god of flocks. Pan was known for frightening animals and humans out of the blue.
- ▶ Hippocrates presented cases of phobic avoidance in 400 BC
- ▶ One of the first modern description was by Benedikt around 1870, describing individuals who developed sudden anxiety and dizziness in phobic places.

Clinical Features

- ▶ The most characteristic type of panic attack is the spontaneous 'out of the blue' episodes of extreme anxiety. Some individuals have panic attacks in certain situations some of the time, but not always, called 'situationally predisposed panic attacks'.
- ▶ In order of frequency of symptoms, palpitations, pounding heart, tachycardia, sweating, trembling or shaking, shortness of breath or smothering, feeling of choking, chest pain or discomfort, nausea or abdominal distress, feeling dizzy, unsteady, lightheaded or faint, derealisation or depersonalisation, fear of losing control or going mad, fear of dying, paraesthesia, and chills or hot flushes.
- ▶ By definition panic attacks involve four or more symptoms to meet the diagnosis for the disorder.
- ▶ Panic attacks with fewer than four symptoms have been labelled 'limited symptom attacks' or 'little panic attacks'.
- ▶ The anxiety is crescendo by nature, building to a peak in ten minutes. They can last for several minutes and in some patients for hours. The frequency and severity of panic attacks vary greatly between individuals and at times, in individuals. Typically, they tend to have one to two attacks per week.
- ▶ Many patients have panic attacks that awaken them from sleep. They occur early in sleep, during slow wave sleep.
- ▶ A significant number of them develop fear and avoidance of situations associated with previous attacks. They fear situations where escape is difficult or embarrassing, or where help might not be available.
- ▶ Clusters of situations are associated with avoidance. They typically include public transportation, riding in or driving a car, crowds, shopping and places where one must stand in a queue, and other enclosed spaces.
- ▶ This is due to the fear of developing panic attacks in these situations, and has hence been called the 'what if' syndrome, emphasising that there is a 'fear of the fear'.

- ▶ One third to half the patients develop agoraphobic avoidance.
- ▶ There are a group of patients who have what are called non fearful panic attacks. These involve the sudden onset of physiological symptoms without the cognitive components of fear or anxiety. These are primarily medical patients, usually with cardiac problems, who have episodes of sudden tachycardia and palpitations but no fear.

Diagnosis :

DSM IV

- ▶ Repeated, unexpected panic attacks.
- ▶ They need to be followed by atleast one month of persistent anxiety about potential recurrence of further panic attacks, or a significant behavioural change because of these attacks.

Comorbid Diagnosis

- ▶ Depression
- ▶ Bipolar disorder
- ▶ Alcohol abuse/dependence
- ▶ Other anxiety disorders

Differential Diagnosis :

- ▶ Generalised anxiety disorder

Medical causes:

- ▶ Endocrine- hyperthyroidism, hypo parathyroidism, hypoglycaemia, phaeochromocytoma, carcinoid syndrome, cushings disease.
- ▶ Neurological - seizures, vestibular disease.
- ▶ Respiratory - chronic obstructive pulmonary disease, asthma
- ▶ Substance induced - caffeine, cocaine, marijuana, theophylline, amphetamines, steroids.
- ▶ Alcohol/sedative withdrawal.
- ▶ Anaemia.
- ▶ Cardiac - mitral valve prolapse

Epidemiology

- ▶ Seen to occur in 7 - 9 % of the population (Range 1.8 - 22.7 %)
- ▶ Striking uniformity of prevalence, world wide
- ▶ F:M::2:1
- ▶ Two peaks of onset: 15 to 24 yrs; 45 to 54 yrs.

Etiology

Biological Factors

- ▶ Genetic predisposition: 2 - 20 fold increase in first degree relatives; higher concordance in monozygotic twins. Genetic: environmental influence is 1:1.
- ▶ Brain noradrenaline systems- noradrenergic agents stimulate panic attacks in patients with the disorder, as they increase the firing rate of the locus ceruleus, thought to be a part of the brain anxiety circuit. Most effective medications for the disorder decrease locus ceruleus firing rate, and panicogenic agents stimulate it.
- ▶ Serotonin - an increase in 5HT transmission is believed to decrease panic disorders as 5HT neurones in ventrolateral periaqueductal grey appear to inhibit sympathoexcitation and the fight or flight response. Rapid depletion of 5HT has been shown to increase panic responses to flumazenil. SSRI's are effective, and they increase 5HT transmission after long term use. PET studies have demonstrated reduction in brain 5HT_{1A} receptors and 5HT transporter binding.
- ▶ GABA - this system is almost certainly involved in panic disorder. Benzodiazepines agonists are effective in treatment; GABA antagonists have panicogenic effects. PET studies have demonstrated decreased benzodiazepine binding in the inferior brain areas, including the inferior parieto-temporo-occipital areas.
- ▶ Cholecystokinin - pentagastrin : patients with panic disorder develop panic attacks with the administration of pentagastrin. Recent studies implicate CCK gene polymorphism in panic disorder.
- ▶ Brain imaging - data has demonstrated a brain circuit for fear and anxiety involving the extended amygdala circuit (amygdala, hippocampus, periaqueductal grey, locus coeruleus, thalamus, cingulate, and orbitofrontal areas).

Psychological Factors

- ▶ 60-96% of cases found to have a precipitating factor: separation/loss, relationship difficulties, taking on a new responsibility, physiological stressors (childbirth, surgery etc)
- ▶ Early parental loss, physical/sexual abuse, overly protective parents and less caring - at risk
- ▶ Dependent personality traits were associated with the development of anxiety disorders.
- ▶ Individuals with panic attacks have been found to have a phobic attitude or temperament.

- ▶ An integrated model utilizing both biological and psychological factors has been proposed.

Course and Prognosis

- ▶ Spontaneous panic attacks are the first manifestation, followed by anticipatory anxiety, and agoraphobia
- ▶ 90% of them have mild phobic or hypochondriacal, milder symptoms prior to the onset of their first panic attack.
- ▶ Recovery rates vary from 25 to 75 % for 1-2 yrs follow up.
- ▶ Over a 5 yr follow up only 10 - 30 % had fully recovered.
- ▶ Commonly, about 50% are neither well nor very sick, with mild symptoms most of the time.
- ▶ Poor responses were associated with initial high symptom severity, high agoraphobic avoidance, low socio economic status, less education, longer duration, limited social networks, death of a parent, divorce or unmarried status, and personality disorders.

Treatment

Medication :

- ▶ SSRI's: fluoxetine (10-20 mg); sertraline (50-200 mg); paroxetine (10-40mg).
- ▶ They are better tolerated, have milder side effects.
- ▶ SNRI's: venlafaxine (75-225 mg)
- ▶ TCA's: imipramine (50-200 mg); clomipramine (25-150mg). Poorer tolerability than the other groups.
- ▶ BENZODIAZEPINES: alprazolam (2-10mg); clonazepam (1-4mg); lorazepam (1-7mg); diazepam (5-40mg).
- ▶ Advantages - rapid response and a greater reduction in everyday anticipatory anxiety.
- ▶ Disadvantages - lack of efficacy against depression and difficulties with the tapering and discontinuation of treatment.
- ▶ MAOI's : effective in treatment, but concerns about its safety and the requirement of a tyramine diet limit their use.
- ▶ OTHER ANTIDEPRESSANTS : bupropion, mirtazepine, inositol, reboxetine, buspirone - limited evidence supporting their use.

Length of Treatment :

Continuation of effective treatment for 12 - 18 months or longer.
Discontinuation should be gradual over 1-2 months.

Psychological Treatment

Psychodynamic psychotherapy- little research demonstrating its efficacy. In an extension of this work, emotion focused treatment

has been developed which explores fears of being abandoned or trapped. A specific form of dynamic psychotherapy 'panic focused psychodynamic psychotherapy' has been recently shown to be effective.

Behavioural Treatments

▶ **Exposure Treatments**

- ▶ They utilize in vivo exposure to phobic situations, wherein there is habituation of their anxiety.
- ▶ Cognitive Behavioural Therapy
- ▶ It begins with education about the disorder, cognitive models, self monitoring of symptoms, cognitive restructuring, habituation to fearful cues, anxiety management techniques and education to prevent relapse.
- ▶ A combination of medication and CBT was found to be more effective than either treatment alone.

Acute Stress

30 year old lady presented with palpitations, sweating, anxiety, difficulty in breathing and restlessness, since a day. Onset of the symptoms was after a fire which broke out in the kitchen as she was cooking, the previous day. She had entered the kitchen at about 12 noon and started cooking. She had lit the gas stove, and had turned to fetch the container, when she heard a loud sound and felt a terrible heat on her back. She had screamed and run out of the kitchen. Her husband had called the fire brigade immediately, and within half an hour the fire had been put out. The patient began to have the above symptoms immediately after this. She had been unable to sleep that night, and as her symptoms increased, her family had brought her for consultation.

Diagnosis : Acute Stress Reaction. (ICD - 10)

Clinical Features

Exceptionally stressful life events can cause severe psychological symptoms that are transient. There is an initial stage of a 'daze', narrowing of attention, inability to comprehend stimuli, and disorientation. This is followed by a rapidly changing picture of symptoms, which diminish after 24 to 48 hours and are minimal after about three days.

Stressors that are traumatic (rape, criminal assault, natural catastrophe) as well as unusually sudden changes in the social position and / or network of the individual (domestic fire or multiple bereavement) are considered as significant.

Common symptoms include the following:

Palpitations, sweating, trembling, dry mouth, difficulty in breathing, choking, chest pain, nausea, dizziness, derealisation or depersonalization, fear of losing control, fear of dying, hot flushes, numbness or tingling, muscle tension, restlessness, keyed up, difficulty concentrating, irritability, difficulty getting to sleep.

Diagnosis

- ▶ Exposure to exceptional mental or physical stress
- ▶ Symptoms of generalised anxiety disorder - atleast 4 symptoms
- ▶ Additional symptoms to determine severity: social withdrawal, narrowed attention, disorientation, aggression, hopelessness, overactivity, excessive grief.
- ▶ Onset within one hour
- ▶ Transient course, symptoms begin to diminish within 48 hours
- ▶ No other concurrent (within last 3 months) mental or behavioural disorder, except for generalized anxiety disorder or personality disorder.

Epidemiology

- ▶ There is little research into what proportion of people develop acute stress reactions to severe stress. Estimates range from 14 % in motor vehicle accident survivors to 33 % in witnesses of mass shooting.

Aetiology

Psychological Theories

- ▶ Individuals respond to stimuli with a fear response as they are linked with a traumatic event in memory. Strong emotional responses are then experienced. These are seen as responses to an acute stressful event.

Biological Theories

- ▶ Extreme stress affects neuronal functions, and the resulting changes are responsible for the symptoms of acute stress disorder.
- ▶ Catecholamines, neurotransmitters, glucocorticoids, serotonin, and endogenous opioids have been studied as potential mediators.
- ▶ Excessive stimulation of the CNS at the time of the traumatic experience can result in permanent neuronal changes, most theories implicate prolonged stress
- ▶ Fear conditioning and progressive neural sensitization in the weeks after trauma. When a traumatic event (unconditioned

stimulus) occurs, people typically respond with fear (unconditioned response). The strong fear elicited by the trauma will lead to strong associative conditioning between the fear and the stimuli surrounding the trauma. As reminders of the trauma occur, (conditioned stimuli) people then respond with fear reactions (conditioned response)

- ▶ Extreme sympathetic arousal at the time of the traumatic event may result in the release of stress chemicals, consolidating trauma memories.
- ▶ Some theorists have proposed that excessive stimulation of the CNS at the time of trauma can result in permanent neuronal changes.

Predictors of Acute Stress Disorder

- ▶ A history of a psychiatric disorder
- ▶ Depressive disorder
- ▶ Dissociative symptoms prior to the traumatic event
- ▶ Previous trauma

Treatment

- ▶ Debriefing: critical incident stress debriefing is promoted as an adaptation to the traumatic event. It is conducted in a group within 24 to 72 hours of the trauma. It has been found that though the intervention has been useful, there is no overall positive effect on psychological symptoms.
- ▶ Cognitive-behaviour therapy: there is evidence to show that CBT is helpful and prevents the development of chronic post-trauma reactions.
- ▶ Pharmacological interventions: benzodiazepines, anxiolytics, tricyclic antidepressants, SSRI's.

Advice about Management :

- ▶ Ensure safety and security, provide support and practical assistance, encourage active use of their social support.
- ▶ Short term anxiolytics, and long term antidepressants, if required.
- ▶ Cognitive behaviour therapy.

Schizophrenia

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Introduction

"Schizophrenia" - We all would have heard of it as a psychotic disorder. Much is understood, but so much more remains to be understood. In simple words, it is a syndrome of variable, but profoundly disruptive psychopathology that involves cognition (thoughts), emotion, perception, and other aspects of behaviour. Though there is a lot to learn about this disorder, this chapter would be highlighting only the important aspects.

History

Though there are written descriptions of the symptoms of Schizophrenia throughout history, it was only in the 19th century that it emerged as a medical condition. Benedict Morel, a French Psychiatrist, used the term "démence précoce", which was later translated as "dementia praecox" by Emil Kraepelin, emphasising the change in cognition (dementia) and early onset (precox). Eugene Bleuler coined the term "schizophrenia", and described the four A's - Association disturbances of thought, Autism, Affective disturbances, and Ambivalence which describe the core domains of Schizophrenia. Kurt Schneider contributed to the first rank symptoms of schizophrenia, which though not specific, help in making a diagnosis. They are : 1) audible thoughts, 2)voices arguing or discussing or both, 3)voices commenting, 4)somatic passivity experiences, 5)thought withdrawal and other experiences of influenced thought, 6)thought broadcasting, 7) delusional perceptions, and 8)all other experiences involving volition (action), affects, and made impulses.

Epidemiology

The lifetime prevalence of schizophrenia is about 1% worldwide. The annual incidence of schizophrenia ranges from 0.5 - 5.0 per 1000, with some geographic variation. It is found in all societies and geographical areas, and incidence and prevalence rates are equal

worldwide. It is equally prevalent in men and women. The peak of ages of onset is 10-25 for men and 25-35 for women. Persons with schizophrenia have higher mortality rate from accidents and natural causes than the general population. Studies show that up to 80% of all schizophrenic patients have medical co-morbidities, 50% of which goes undiagnosed. They are more likely to have been born in winter and early spring. Substance abuse is very common and up to 90% of schizophrenics may be dependent on Nicotine.

Etiology

Genetic factors - there is an increased rate of schizophrenia and schizophrenia related disorders among the biological relatives of patients with schizophrenia. This likelihood is correlated with the closeness of the relationship with the affected relative. In monozygotic twins, there is approximately 50% concordance compared to the dizygotic twins where it is about half to quarter of it. Similarly, there is 12% prevalence in a child with only one parent with schizophrenia compared to about 40% in a child with both parents diagnosed to have schizophrenia. Psychosocial factors may contribute to the development of the illness in genetically vulnerable individuals. There have been several genes detected through linkage and association studies, that probably are involved in the genetic transmission of this illness.

Biochemical factors - there have been a whole gamut of neurochemicals which are thought to be involved. The dopamine hypothesis states that an excessive dopaminergic activity is probably responsible. It does not specify if it is due to an excess release of dopamine, presence of a larger number of, or hypersensitivity of the dopamine receptors to dopamine, or a combination of these mechanisms. Excess dopamine has been linked with the severity of positive psychotic symptoms along with excess of D2 receptors in the caudate nucleus in drug naive patients with schizophrenia.

Serotonin excess has also been posited as a cause of both positive and negative symptoms in schizophrenia. There has been inconclusive data about the involvement of norepinephrine. Anhedonia - the impaired capacity to experience pleasure seen in schizophrenics has been attributed to the involvement of this neurochemical. Glutamate has been associated with neurotoxicity with the psychotic state. The other neurochemicals that have been associated are: GABA, Neuropeptides, Acetylcholine and Nicotine.

Neuropathology - There has been significant progress in revealing a potential neuropathological basis for schizophrenia,

primarily in the limbic system and the basal ganglia with inclusion of the cerebral cortex, the thalamus and the brainstem. Neuroimaging studies have consistently shown enlarged lateral and third ventricles and some reduction in cortical volume. The loss of brain volume results from reduced density of the axons, dendrites, and the synapses and also upon a theory about excessive pruning during adolescence. There is a reduced symmetry in several brain areas in schizophrenia. The parts of the limbic system have shown a decrease in the size of the region including the amygdala, the hippocampus and the parahippocampus. There has been neuronal disorganization along with functional abnormality noted in the hippocampus. It is noted in the prefrontal cortex as well. There is evidence of volume shrinkage or neuronal loss to the extent of 30 - 45% in the medial dorsal nuclei of the thalamus. There have been inconclusive reports about volume reduction in globus pallidus and substantia nigra, parts of the basal ganglia.

Neural Circuits - concepts evolve over time and there is a shift of focus from discrete areas of the brain to specific neural circuits. The circuits that have been implicated are the dopaminergic tracts in the prefrontal cortex. Dysfunction of the anterior cingulate basal ganglia thalamocortical circuit has been implicated in the production of the positive symptoms and the dysfunction of the dorsolateral prefrontal circuits underlies the production of the negative or deficit symptoms.

Electrophysiology - abnormal records have been noted, most often an increased sensitivity to activation procedures, decreased alpha and increased theta and delta activities. They are also sensitive to background noise and unable to filter out irrelevant sounds which may be associated with a genetic defect. Schizophrenia like psychosis has been reported to occur more frequently than expected in patients with complex partial seizures. One specific mention should be made about P300 which is a large, positive evoked potential that occurs about 300 milliseconds after a sensory stimulus is detected. The major source of P 300 is from the limbic system structures of the medial temporal lobes. The P 300 has been statistically smaller than the comparison groups. There are a large number of evoked potential abnormalities in patients with schizophrenia. Other evoked potential reported to be abnormal are N100 and the contingent negative variation.

Eye Movement Dysfunction - this may be a trait marker for schizophrenia where there is disorder of smooth visual pursuit and disinhibition of saccadic eye movements. It is also seen in first degree relatives of patients with schizophrenia. The eye movement

dysfunction has been detected in 50 - 85% of patients with schizophrenia compared to 25% in psychiatric patients without schizophrenia and 10% in those who are not psychiatrically ill patients.

Psychoneuroimmunology - the immunological abnormalities include decreased T-cell interleukin-2 production, decreased number and responsiveness of peripheral lymphocytes, abnormal cellular & humoral reactivity to neurons and the presence of brain derived antibodies.

Psychoneuroendocrinology - there is persistent non-suppression on the dexamethasone suppression test. There is also blunted release of prolactin and growth hormone on GnRH or TRH along with blunted release of growth hormone on apomorphine stimulation.

Psychosocial and Psychoanalytic Theories

Clinicians should consider both psychosocial and biological factors affecting schizophrenia. Sigmund Freud postulated that schizophrenia developed from developmental fixations producing defects in ego development and those contributing to the symptoms of schizophrenia. The intrapsychic conflict arising from the early fixations and the ego defect, which may have resulted from poor early object relations, contribute to the psychotic symptoms. Margaret Mahler emphasised upon the distortions in the reciprocal relationship between the infant and the mother. Psychoanalytic theory also postulates that the various symptoms of schizophrenia have symbolic meaning for individual patients. Regardless of the theoretical model, all psychodynamic approaches are founded on the premise that psychotic symptoms have meaning in schizophrenia.

Family Dynamics - the famous "Double Bind" concept formulated by Gregory Bateson and Donald Jackson which describes a hypothetical family in which children receive conflicting parental messages about their behaviour. Theodore Lidz emphasised upon the "Schisms and the Skewed Families", two abnormal patterns of family behaviour. The other most important aspect is of the "expressed emotions" in the families which may involve overt criticism, hostility, and over involvement towards a person with schizophrenia. Studies have revealed about the relapse rates being high in families with high levels of expressed emotions.

Diagnosis

ICD-10 Diagnostic Criteria for Schizophrenia

General Criteria

G1. Either at least one of the syndromes, symptoms, and signs

listed under (1) below, or at least two of the symptoms and signs listed under (2) should be present for most of the time during an episode of psychotic illness lasting for at least 1 month (or at some time during most of the days).

- (1) At least one of the following must be present
 - (a) thought echo, thought insertion or withdrawal, or thought broadcasting
 - (b) delusions of control, influence or passivity, clearly referred to body or limb movements or specific thoughts, actions, or sensations; delusional perception;
 - (c) hallucinatory voices giving a running commentary on the patients behaviour, or discussing the patient among themselves, or other types of hallucinatory voices coming from some part of the body;
 - (d) persistent delusions of other kinds that are culturally inappropriate and completely impossible (eg., being able to control the weather, or being in communication with aliens from another world).
- (2) Or at least two of the following:
 - (a) Persistent hallucinations in any modality, when occurring everyday for at least 1 month, when accompanied by delusions (which may be fleeting or half formed) without clear affective content, or when accompanied by persistent overvalued ideas;
 - (b) Neologisms, breaks, or interpolations in the train of thought, resulting in incoherence or irrelevant speech;
 - (c) Catatonic behaviour, such as excitement, posturing or waxy flexibility, negativism, mutism and stupor;
 - (d) "negative symptoms", such as marked apathy, paucity of speech, and bunting or incongruity of emotional responses (it must be clear that these are not due to depression or to neuroleptic medication).

G2. Most commonly used exclusion clauses

- (1) If the patient also meets criteria for manic episode or depressive episode, the criteria listed under G1 (1) and G1 (2) above must have been met before the disturbance of mood developed.
- (2) The disorder is not attributable to organic brain disease or to alcohol - or drug - related intoxication, dependence, or withdrawal.

The "pattern of course" has been described as being continuous, episodic with progressive deficit, episodic with stable deficit, episodic remittent, incomplete remission, complete remission etc after an observation period of 1 year at least.

The various subtypes of schizophrenia are: Paranoid, Hebephrenic, Catatonic, Undifferentiated, Residual, Simple schizophrenia. Postschizophrenic depression is also included along with 'other schizophrenia' and 'schizophrenia undifferentiated'.

Paranoid Schizophrenia

- A. The general criteria for schizophrenia must be met.
- B. Delusions or hallucinations must be prominent (such as delusions of persecution, reference, exalted birth, special mission, bodily change, or jealousy; threatening or commanding voices, hallucinations of smell or taste, sexual or other bodily sensations).
- C. Flattening or incongruity of affect, catatonic symptoms, or incoherent speech must not dominate the clinical picture, although they may be present to a mild degree.

Hebephrenic Schizophrenia

- A. The general criteria for schizophrenia must be met.
- B. Either of the following must be present:
 - (1) definite and sustained flattening or shallowness of affect;
 - (2) definite and sustained incongruity or inappropriateness of affect
- C. Either of the following must be present:
 - (1) Behaviour that is aimless and disjointed rather than goal-directed.
 - (2) Definite thought disorder, manifesting as speech that is disjointed, rambling or incoherent.
- D. Hallucinations or delusions must not dominate the clinical picture, although they may be present to a mild degree

Catatonic Schizophrenia

- A. The general criteria for schizophrenia must be met.
- B. For a period of at least 2 weeks one or more of the following catatonic behaviours must be prominent:
 - (1) stupor (marked decrease in reactivity to the environment and reduction of spontaneous movements and activity) or mutism;
 - (2) excitement (apparently purposeless motor activity, not influenced by external stimuli);

- (3) posturing (voluntary assumption and maintenance of inappropriate or bizarre postures).
- (4) negativism (an apparently motiveless resistance to all instructions or attempts to be moved, or movements in the opposite direction);
- (5) rigidity (maintenance of a rigid posture against efforts to be moved);
- (6) waxy flexibility (maintenance of limbs and body in eternally imposed positions);
- (7) command automatism (automatic compliance with instruction).

Undifferentiated Schizophrenia

- A. The general criteria for schizophrenia must be met.
- B. Either of the following must apply:
 - (1) Insufficient symptoms to meet the criteria for any of the subtypes
 - (2) So many symptoms to meet the criteria for more than one of the subtypes listed above are met.

Postschizophrenic depression

- A. The general criteria for schizophrenia must have been met within the past 12 months but are not met at the present time.
- B. One of the conditions in criterion G1(2) a,b,c, or d for general schizophrenia must still be present.
- C. The depressive symptoms must be sufficiently prolonged, severe, and extensive to meet criteria for at least a mild depressive episode.

Residual Schizophrenia

- A. The general criteria for schizophrenia must have been met at some time in the past but are not met at the present time.
- B. At least four of the following "negative" symptoms have been present throughout the previous 12 months:
 - (1) Psychomotor slowing or reduced activity
 - (2) Definite blunting of affect
 - (3) Passivity or lack of initiative;
 - (4) Poverty of wither the quantity or the content of speech
 - (5) Poor nonverbal communication by facial expression, eye contact, voice modulation or posture
 - (6) Poor social performance or self - care.

Simple Schizophrenia

- A. There is a slow but progressive development, over a period of at least 1 year, all of three of the following
- (1) a significant and consistent change in the overall quality of some aspects of personal behaviour, manifest as loss of drive and interests, aimlessness, idleness, a self absorbed attitude, and social withdrawal.
 - (2) Gradual appearance and deepening of "negative" symptoms such as marked apathy, paucity of speech, under activity, blunting of affect, passivity and lack of initiative, and poor non verbal communication (by facial expression, eye contact, voice modulation, and posture)
 - (3) Marked decline in social, scholastic, or occupational performance.
- B. At no time are there any of the symptoms referred to in criterion G1 for general schizophrenia, nor are there hallucinations or well-formed delusions of any kind' i.e., the individual must never have met the criteria for any other type of schizophrenia or for any other psychotic disorder.
- C. There is no evidence of dementia or any other organic mental disorder.

DSM-IV defines schizophrenia as a disturbance of at least 6 months duration with two or more symptoms active for at least one month.

Other subtypes include 'Bouffee Delirante' (Acute Delusional Psychosis) used in French classificatory system, Latent schizophrenia, 'Oneiroid' schizophrenia which refers to a dream like state in which patients may be deeply perplexed and not fully oriented. Paraphrenia is sometimes used as a synonym for paranoid schizophrenia. Early-onset Schizophrenia for those with onset in childhood whereas Late-onset schizophrenia with onset after age 45, usually common in women.

Clinical Features

No clinical sign or symptom is pathognomonic for schizophrenia. The patient's symptoms change with time and clinicians must consider the patient's educational, intellectual ability, and culture.

Typically, the patient may have had a schizoid or schizotypal personality, being characterised as quiet, passive, and introverted as a child. In the prodromal phase, the symptoms and signs may be non specific. Obsessive compulsive, or somatic symptoms may be the

presenting picture. Family and friends may eventually notice that the person is changed in some way, and functioning inadequately. The patient is found to be involved in philosophy, exhibit interest in abstract ideas, the occult or in religion. Additionally there may be marked peculiar behaviour, abnormal affect, unusual speech, bizarre ideas and strange perceptual experiences. The prodromal symptoms and signs usually get noticed retrospectively once the overt symptoms and signs in the form of delusions or hallucinations develop.

The general appearance may range from a completely dishevelled, screaming, agitated person to an obsessively groomed, completely silent, and immobile person. They may exhibit bizarre behaviours. In contrast, in catatonia, the patient may be in stupor, exhibiting signs such as mutism, negativism and automatic obedience. They may also be poorly groomed, with mannerisms, tics, stereotypies, and echopraxia.

Psychomotor activities (goal directed activities) may be reduced. The speech may vary from being irrelevant, incomprehensible to being relevant and comprehensible along with variation in the tone, tempo, volume and prosody of speech. The stream of thought may be lost which is called 'formal thought disorder' or 'loosening of associations'. There may be derailment, tangentiality, circumstantiality, neologisms, echolalia, verbigeration, word salad and mutism. The mood may vary from being perplexed to being anxious or blunt. The perceptual abnormalities may occur in any of the five special senses but the most common hallucinations are however auditory, with voices often being threatening, obscene, accusatory or insulting. There may be impulsiveness, violence, and the risk of suicide and homicide about which one should be very cautious. There may be cognitive deficits across orientation, attention and concentration, memory, mathematical ability, general fund of information and judgement as well. The most important would be the loss of insight with the patient which poses a challenge to treat, as they may be uncooperative.

Somatic Co- Morbidity

Localizing and nonlocalizing neurological signs (also known as hard and soft signs) like dysdiadochokinesia, astereognosis, primitive reflexes are common in patients with schizophrenia. Apart from the disorder of saccadic eye movements, they also have an elevated blink rate. They will be unable to perceive the prosody of the speech. They are also more prone for Obesity, Diabetes Mellitus, Cardiovascular disease, HIV, COPD and Rheumatoid Arthritis.

Differential Diagnosis

One should always rule out secondary psychotic disorders which may be due to neurological and medical causes like Epilepsy, neoplasms, AIDS, B12 deficiency, Pellagra etc. Then other psychotic disorders like mood disorders, personality disorders, etc should be ruled out. Malingering and Factitious disorders should also be ruled out.

Treatment

Although antipsychotic medications remain the mainstay of treatment for schizophrenia, psychosocial interventions, including psychotherapy can augment the clinical improvement. Psychosocial modalities should be integrated into the drug treatment regimen as they would benefit from their combined use.

Hospitalization - it is usually indicated for diagnostic purposes, for stabilization of medications and compliance, for patient's safety because of suicidal or homicidal ideation, and for grossly disorganized or inappropriate behaviour, including inability to take care of basic needs like food, clothing and shelter. A short stay of a few weeks (4 - 6 weeks) may be planned.

Pharmacotherapy - Antipsychotics remain the mainstay of treatment for schizophrenia. Antipsychotics are divided into two main groups: the older conventional, first generation antipsychotics or dopamine receptor antagonists (DRA's), and the newer, second generation antipsychotics or serotonin dopamine antagonists (SDA's). But both have one common feature of antagonizing the post synaptic dopamine receptors in the brain. To name a few, Haloperidol, Trifluoperazine, Chlorpromazine, Fluphenazine, Flupenthixol and Zuclopenthixol are the commonly used first generation antipsychotics. Among the latter group, Risperidone, Olanzapine, Aripiprazole, Quetiapine, are very commonly used. Clozapine is another medication in that group, but usually reserved as a last resort for treatment resistant states in view of its efficacy as well as side effects. It can be used as a first line medication as well. Whilst on treatment, it is also important to monitor and manage the side effects associated with the antipsychotics, like extrapyramidal side effects, tardive dyskinesia, sedation, postural hypotension, prolactin elevation and for the metabolic syndrome with the newer generation antipsychotics.

Phase of Treatment

Treatment of acute psychosis/ Acute Phase - acute psychosis requires immediate attention and this phase lasts from 4 - 8 weeks. It is usually associated with agitation resulting from frightening delusions,

hallucinations or suspiciousness. Antipsychotics and Benzodiazepines are usually used to calming the patients with rapid effect.

Treatment during Stabilization and Maintenance Phase - these follow the acute phase. The goals of this phase are to prevent psychotic relapse and to assist patient's functioning. Noncompliance is a major issue and this has to be taken care of by compliance enhancement therapy. In few noncompliant patients, it is usually best to start on depot antipsychotics. It is generally recommended that multiepisode patients receive treatment for at least 5 years, and many experts recommend pharmacotherapy on an indefinite basis.

Some may respond poorly to treatment which may amount to about 40%. Before considering as a poor responder, it is important to assure that they received an adequate trial of the medication. A 4 - 6 week trial on an adequate dose of an antipsychotic medication is a reasonable trial for most patients. Patients who show a mild improvement during this period may continue to improve at a steady rate for 3 - 6 months. If a patient has responded poorly to a conventional DRA, it is unlikely that this individual will do well on another DRA and changing to an SDA is likely to be helpful.

Among other biological therapies, Electro Convulsive Therapy (ECT) has been studied in both acute and chronic schizophrenia which is as effective as antipsychotic medication and its best when augmented with the medications.

Psychosocial Therapies

There are a variety of methods to increase social abilities, self sufficiency, practical skills, and interpersonal communication in schizophrenia patients. The goal is to develop social and vocational skills for independent living. Among the various types, a few important ones are briefed below.

Social Skills Training - also referred to as behavioural skills therapy. This is mainly indicated to improve the skills when the person relates to others. The symptoms that are targeted are poor eye contact, unusual delays in response, odd facial expressions, lack of spontaneity in social situations and inaccurate or lack of perception of emotions in other people.

Family Oriented Therapies - this therapy focuses upon educating the family along with the patient about the illness along with identifying and avoiding potential troublesome situations. In the long run, it also addresses the stress-reducing and coping strategies for the family members and also helps towards the patient's integration into everyday life.

Vocational Therapy - a variety of methods and settings are used to help patients regain old skills or to develop new ones which may include workshops, part-time employment programmes. Enabling patients to become employed and productive is one of the chief goal. There is a new concept of Assertive Community Treatment (ACT) in western countries helping the patients to reintegrate in his/her environment by providing treatment, rehabilitation and intensive intervention.

The other therapies available are - group therapy, Individual psychotherapy, Personal therapy, Art therapy to mention a few.

Course and Prognosis

Characteristically, the symptoms begin in adolescence. Social and environmental changes like the life events or using a substance or a relative's death may all act as precipitating events. The changes may start with the development of prodromal symptoms in days to few months before the onset of overt psychotic symptoms. The classic course is one of exacerbations and remissions. The pattern of illness during the first 5 years after the diagnosis is generally indicative of the patient's course. There is deterioration in the baseline functioning following each relapse of the psychosis and this failure to return to the baseline is the major distinction between schizophrenia and mood disorders. Positive symptoms tend to become less severe with time, but the socially debilitating negative or deficit symptoms may increase in severity.

About 1/3 of schizophrenia patients have integrated social existence. Most others have lives characterised by aimlessness, inactivity, frequent hospitalizations, and in urban settings poverty and homelessness. Reported remission rates range from 10-60%, and about 20 - 30% of schizophrenia patients are able to lead somewhat normal lives. Another 20 - 30% continue to experience moderate symptoms and the rest 40 - 60% of patients remain significantly impaired for their entire lives.

contd.....

The following table may be helpful in understanding the good and the poor prognostic factors

Good Prog nostic factors	Poor Prognostic factors
Late onset	Young onset
Obvious precipitating factors	No precipitating factors
Acute onset	Insidious onset
Good premorbid social, sexual, and work histories	Poor premorbid social, sexual and work histories
Mood disorder symptoms (especially depressive disorders)	Withdrawn, autistic behaviour
Married	Single, divorced or widowed
Family history of mood disorders	Family history of schizophrenia
Good support systems	Poor support systems
Positive symptoms	Negative symptoms
	Neurological signs and symptoms
	History of perinatal trauma
	No remission in 3 years
	Many relapses and history of assaultiveness

Substance use disorders

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Substance abuse is a complex problem which affects not only the user but also their families as well as rest of the society. It impacts every strata of the society and has both medical and social consequences. Since the beginning of human race, substance use has been documented and members of almost every society have used indigenous psychoactive substances. The common substances of abuse are listed in Table-1. Some of the important substances are further elaborated in subsequent sections.

There have been differences in the description of the magnitude and context of psychoactive drug use depending on differing social, moral and cultural values in different societies. In general, substance use is considered maladaptive if used under inappropriate circumstances or in greater amounts than generally considered acceptable within the social limits of one's culture.

Medical diagnosis of substance-related disorders requires universally accepted diagnostic criteria that can be generalised across cultures. The World Health Organisation (WHO) in International Classification of Diseases (ICD-10) (WHO, 1992) has tried to give such criteria and has identified the substance related disorders in following categories:

1. Acute intoxication
2. Harmful use
3. Dependence syndrome
4. Withdrawal state
5. Psychotic disorder
6. Amnesic syndrome
7. Others
8. Unspecified

ICD-10 defines dependence as "a cluster of physiological, behavioural, and cognitive phenomena in which the use of a substance or a class of substances takes on a much higher priority for a given individual than other behaviours that once had greater value". For a definitive diagnosis of dependence, three or more of the following have been present together at some time during the previous year:

1. A strong desire or sense of compulsion to take the substance;
2. Difficulties in controlling substance-taking behaviour in terms of its onset, termination, or levels of use;
3. A physiological withdrawal state when substance use has ceased or been reduced;
4. Evidence of tolerance;
5. Progressive neglect of alternative pleasures or interests because of psychoactive substance use;
6. Persisting with substance use despite clear evidence of overtly harmful consequences

ICD-10 also defines "Harmful use" as mental or physical harm that may be associated with impaired judgement clearly caused by use of a substance within a 12 month period. There must be clear evidence that the substance use was responsible for (or substantially contributed to) physical or psychological harm, including impaired judgement or dysfunctional behaviour. The nature of the harm should be clearly identifiable (and specified). The pattern of use has persisted for at least 1 month or has occurred repeatedly within a 12-month period. The disorder does not meet criteria for any other mental or behavioural disorder related to the same drug in the same time period (except for acute intoxication).

Table-1: Classes of Substances of Abuse in ICD-10 (WHO, 1992)

Class	Common Examples
Alcohol	Beer, wine, sherry, whiskey, vodka, gin
Opioids	Heroin, morphine, methadone, codeine, hydromorphone, oxycodone, meperidine, fentanyl, pentazocine, buprenorphine
Cannabinoids	Bhang, ganja, Marijuana, hashish, hash oil
Sedatives/ hypnotics	Benzodiazepines, barbiturates
Cocaine	Coca leaves or paste, cocaine hydrochloride, cocaine alkaloid (crack)

Stimulants	Amphetamine, dextroamphetamine, methamphetamine, methylphenidate, diet pills, khat, Coffee, tea, soft drinks, analgesics, cold remedies, stimulants, diet pills
Hallucinogens	Lysergic acid diethylamide (LSD), psilocybin, dimethyltryptamine, mescaline, Phencyclidine, ketamine
Tobacco	Cigarettes and other types of tobacco products
Inhalants	Aliphatic, aromatic, and halogenated hydrocarbons (eg, gasoline, glue, paint, paint thinners, other volatile compounds)
Other	Anabolic steroids, nitrite inhalants, nitrous oxide, and various over-the-counter and prescription drugs that do not readily fall into the other categories

Bio-psycho-social model:

No individual theory by itself can completely conceptualise the aetiology of substance use disorders. The integration of biological, psychological, and social theories can to an extent explain the heterogeneity of substance abuse and dependence (Griffiths, 2005).

Biological factors- Individual differences in susceptibility to effects of different drugs, differential metabolism and cellular adaptation in response to exposure to any drug may contribute to the development of substance use disorders.

Psychological factors- Presence of comorbid psychiatric disorders, medical illnesses (eg, chronic pain), exposure to stressful situations and particular personality types can lead to the development of substance use disorders.

Social factors- Peer group attitudes toward drugs, shared beliefs, and availability of drugs in any given society are an integral element of substance use disorders.

Epidemiology

Trends in substance use vary from country to country and fluctuations occur in the prevalence rates across time periods. As per World Drug Report, 2012, the extent of global illicit drug use is between 3.4-6.6 % of the adult population (persons aged 15-64). Approximately 1 in every 100 deaths among adults is attributed to illicit drug use. Globally, the two most widely used illicit drugs remain cannabis (global annual prevalence ranging from 2.6 to 5.0 per cent) and amphetamine-

type stimulants (ATS), excluding "ecstasy", (0.3-1.2 per cent).

The National Health Survey, 2004 (NHS) demonstrates that alcohol, cannabis, opium and heroin are the major drugs of abuse in India. The current prevalence rates (subjects who had used within the last one month) according to the NHS are as follows:

- ▶ Alcohol: 21.4%
- ▶ Cannabis: 3.0%
- ▶ Opiates: 0.7%
- ▶ Any illicit drug: 3.6%

It was projected that there were about 62.5 million alcohol users, about 8.7 million cannabis users and about 2 million opiate users in the country. 17-26% of current users were classified 'dependent' users according to the WHO definition (ICD- 10). Injecting drug use (IDU) was reported (ever) by 0.1 percent of the population. Among opiate users, opium use (0.5%) was most frequently reported followed by heroin (0.2%) other opiates (0.2%).

Alcohol

Alcoholic beverages are readily available at affordable cost with minimal legal restrictions. In India, alcohol has been available as commercial products as well as also brewed at home. Some of the commonly used alcoholic beverages include:

Beer: made by the process of fermentation of starch by combining yeast and malted cereal, such as corn, rye, wheat or barely; contains 4 to 8 % of alcohol.

Wines: made from grapes or other fruits such as peaches, plums or apricots. These fruits undergo a period of fermentation and ageing. They usually have an alcohol content ranging between 40 to 50 %.

Distilled Spirits: produced by distilling ethanol by fermentation of grains, fruits or vegetables. It is also referred to as 'hard liquor'. These include gin, rum, vodka, tequila and whiskey. The usually contain around 40 percent alcohol.

Intoxication: Alcohol is a CNS depressant. The clinical features of intoxication develop gradually and in stages that depend on dosage and time following administration. Initially, there are symptoms and signs suggestive of CNS excitation like increased activity, verbal communication, and often aggression, which occurs early or at low dosages. This CNS stimulation is thought to be an effect of depression of inhibitory control mechanisms. Higher blood concentrations of alcohol cause mild impairment of motor skills and slowing of reaction time, followed by sedation, decreased motor coordination, impaired

judgment, diminished memory and other cognitive deficits, and eventually diminished psychomotor activity and sleep. At still higher concentrations, alcohol can induce stupor, and ultimately coma and death.

Withdrawal: Sudden cessation of alcohol consumption can lead development of a withdrawal state which can range from mild symptoms which resolve spontaneously to severe ones which can be life threatening. The signs and symptoms of withdrawal include anxiety or psychomotor agitation, tremors, craving, autonomic hyperactivity, insomnia, sensory distortions or hallucinations, nausea or vomiting. Very severe withdrawal can result in seizures and delirium. 'Withdrawal seizures' can develop 24 to 72 hours following the last drink. 'Delirium tremens' typically develops 48 to 72 hours following cessation of drinking and is characterised by clouding of consciousness, severe tremor, visual and tactile hallucinations, agitation and fidgetiness. Delirium tremens is considered a medical emergency.

Wernicke's encephalopathy: Chronic alcohol consumption leads to depletion of thiamine which can result in a classical triad of confusion, ataxia, and nystagmus. Ophthalmoplegia occurs due to cranial nerve III and VI palsies. Around 20% of patients go on to develop neuronal damage in the diencephalic brain regions resulting in anterograde amnesia, a condition known as 'Korsakoff's psychosis'.

Long term consumption of alcohol can cause multiple medical complications. Some of associated complications are (Lieber, 1998):

1. **Metabolic and nutritional:** Gout, hyperlipidemia, hypoglycaemia, weight loss or obesity, opportunistic infections, electrolyte imbalances, vitamin deficiencies etc.
2. **Gastrointestinal:** Esophagitis, gastritis, pancreatitis, alcoholic liver disease, malabsorption syndromes, cancer etc.
3. **Endocrine:** Pancreatic insufficiency, increased ACTH, glucocorticoid, or catecholamine release, inhibited testosterone synthesis (male hypogonadism), inhibition of ADH and oxytocin release etc.
4. **Neurologic:** Dementia, amnesia, cerebellar degeneration, neuropathy etc.
5. **Cardiovascular:** Hypertension, stroke, arrhythmias, coronary heart disease etc.

Sedatives/hypnotics

Benzodiazepines are psychotropic medicines that are very widely prescribed, in both psychiatric as well as non-psychiatric conditions. Non supervised use of benzodiazepines, abuse, and dependence remain critical problems. The intoxication effects are like that of any other CNS depressant. Cessation of drug use leads to undesirable, and potentially harmful, withdrawal symptoms (such as seizures).

Opioids

Opioid use and addiction has occurred for centuries. The term opiate is properly limited to the natural alkaloids found in the resin of the opium poppy (*Papaver somniferum*). Opioids bind to specific opioid receptors in the nervous system and other tissues. There are three principal classes of opioid receptors, μ , κ , δ (μ , kappa, and delta), although up to seventeen have been reported, and include the ϵ , ι , and λ (Epsilon, Iota, Lambda and Zeta) receptors.

Opioids can be divided into:

1. Natural: alkaloids contained in the resin of the opium poppy, primarily morphine, codeine, and thebaine.
2. Semi-synthetic: created from either the natural opiates or morphine esters, such as hydromorphone, hydrocodone, oxycodone, oxymorphone, ethylmorphine and buprenorphine etc.
3. Synthetic: such as fentanyl, pethidine, levorphanol, methadone, tramadol and dextropropoxyphene etc.

Unrefined opium is often smoked using a water pipe. Refined opioids can also be inhaled, a method often preferred by new users. Intravenous use of heroin (mainlining) is popular because of the sudden "rush" produced.

Opioids are activating at low dosages and sedating at higher dosages. Opioids intake causes euphoria or dysphoria, feelings of warmth, facial flushing, itchy face, dry mouth, and pupil constriction. Severe intoxication may result in respiratory suppression, areflexia, hypotension, tachycardia, apnea, cyanosis, and death.

Withdrawal of opioids results in hyperalgesia, photophobia, goose flesh, diarrhoea, tachycardia, increased blood pressure, gastrointestinal cramps, joint and muscle aches, and anxiety and depressed mood. Spontaneous withdrawal results in intense craving.

Medical complications:

General health: Chronic fatigue, sleep problems, nausea or vomiting, sexual disinterest, traumatic injuries

Pulmonary: Pulmonary oedema, overdose, respiratory depression

Infectious diseases: Intravenously or sexually transmitted hepatitis or HIV, thrombophlebitis, pulmonary emboli or abscess (Torpy et al, 2004).

Cannabinoids

Cannabinoids are derived from a genus of plants which include *Cannabis sativa*, *Cannabis indica*, and *Cannabis ruderalis*. Marijuana is the common name for the plant. The primary psychoactive constituent of marijuana is delta-9-tetrahydrocannabinol, although many other active cannabinoids are known. The highest concentrations of the psychoactive cannabinoids are found in the flowering tops of both male and female plants. Cannabis products can be smoked, eaten or mixed with drinks. 'Bhang' is a preparation from the leaves and flowers (buds) of the female cannabis plant, smoked or consumed as a beverage. 'Ganja' is prepared from flowering tops of the female plant. 'Hashish' is composed of compressed or purified preparations of stalked resin glands, called trichomes, and collected from the unfertilized buds of the plant. 'Charas' is the name given to a hashish form of cannabis which is handmade in Indian sub-continent. 'Hash oil' is a resinous matrix of cannabinoids produced by a solvent extraction of Cannabis.

The acute effect of cannabis intake includes an initial period of "high" (euphoria) and is followed frequently by a period of drowsiness or sedation. The main effect of cannabis is distortion of perception. Cognitive and performance tasks, including memory, reaction time and motor coordination are impaired. Dilation of conjunctival blood vessels and tachycardia may be present. Very high doses can lead to panic attack, paranoia, hallucinations, illusions, thought disorganization, and agitation. Chronic cannabis use can lead to 'amotivational syndrome' manifested by apathy, dullness, impairment of judgment, concentration, and memory, anhedonia. Regular heavy users of cannabis may suffer repeated short episodes of psychosis (Johns, 2001).

There is no typical cannabinoid withdrawal reaction. Many patients report no withdrawal on sudden cessation of cannabinoids. Some patients may report insomnia, irritability, anorexia, or slight nausea.

Psychostimulants: Cocaine & Amphetamines

Cocaine is an alkaloid derived from *Erythroxylon coca*. Cocaine is considered to be the most addictive recreational drug and abused by

snorting, injecting, or smoking and rarely by sublingual route. Amphetamine and amphetamine-like stimulants are available for the treatment of obesity, attention-deficit/hyperactivity disorder, and narcolepsy. Diversion of prescribed stimulants into the illegal market is relatively common.

The main clinically relevant pharmacologic action of cocaine and amphetamine-related stimulants is the blockade of reuptake of the catecholamine neurotransmitters norepinephrine and dopamine. The consequences of noradrenergic reuptake blockade include tachycardia, hypertension, vasoconstriction, mydriasis, diaphoresis, and tremors.

Sudden withdrawal from stimulants can cause dysphoria, psychomotor retardation, fatigue, increased appetite and intense craving.

Psychiatric effects of cocaine and other stimulants include severe depression, bipolar disorder, paranoid psychosis and auditory, visual, and tactile hallucinations. In addition to psychiatric effects, cocaine has numerous, well known medical complications such as vasculitis, pneumo mediastinum, gastrointestinal bleeding, maculopathy, hypertension, arrhythmias and myocardial infarctions, severe hyponatremia, amyotrophic lateral sclerosis, myelopathy, subarachnoid hemorrhage seizure, cilioretinal artery occlusion and sudden death (Gawin & Ellinwood, 1988).

Tobacco

Tobacco is one of the most commonly used substances of abuse all over the world. Tobacco products are products made entirely or partly of leaf tobacco as raw material, which are intended to be smoked, sucked, chewed or snuffed. Cigarette smoking is the most common method of use. Other methods of use include cigar smoking, pipe smoking, and smokeless tobacco (snuff). All contain the highly addictive psychoactive ingredient, nicotine.

As per WHO Global Adult Tobacco Survey (GATS) India Report 2009-2010, the tobacco epidemic is one of the biggest public health threats the world has ever faced. It kills nearly six million people a year of whom more than 5 million are users and ex users and more than 6,00,000 are non-smokers exposed to second-hand smoke. Approximately one person dies every six seconds due to tobacco and this accounts for one in 10 adult deaths. Up to half of current users will eventually die of a tobacco-related disease.

The acute effects of nicotine intake include improved mood, skeletal muscle relaxation, and diminished anxiety and appetite. Many

tobacco users also report enhanced cognitive effects including enhanced attention, problem solving, learning, and memory. Withdrawal symptoms include craving, anxiety, depression, irritability, headaches, poor concentration, sleep disturbances, enhanced blood pressure, and increased heart rate.

Tobacco use can cause multiple medical complications including increased risk of many serious illnesses like pulmonary disease (eg, emphysema, lung cancer); cardiovascular disease (eg, coronary artery disease); peripheral vascular disease, particularly with chronic use; dental disease (eg, oral cancer, especially with smokeless tobacco), nicotine stomatitis, and stained teeth; and diminished birth weight in babies of mothers who smoke.

Hallucinogens

Hallucinogens are divided into two major categories: the indoalkylamines (such as D -lysergic acid diethylamide [LSD], dimethyltryptamine [DMT], psilocin, psilocybin, and diethyltryptamine [DET]) and the phenylethylamines (such as trimethoxyphenylethylamine [mescaline], 3-4-methylenedioxy methamphetamine [MDMA]; (called "ecstasy" on the streets), 2-5-dimethoxytryptamine (DOM-STP), and 3-4-methylenedioxy amphetamine [MDA]). Other hallucinogens include peyote (mescaline, from Mexican cactus), Myristicafragrans (nutmeg), and morning-glory seeds (similar to LSD). Arylcyclohexylamines include phencyclidine (PCP; called "angel dust," "crystal," "weed," and "hog" on the streets) and ketamine (McDowell, 2005).

Intoxication with hallucinogens causes hallucinations and disturbance of thoughts and perception in multiple sensory modalities. Other features include sensory changes (eg, colors, shapes), synesthesia (the misperception of a sensory stimulus of one modality with that of a different one), delusions, paranoia, derealization, depersonalization, cognitive impairment, coordination problems, behavioral changes, euphoria (or dysphoria), nausea, tremors, time distortion, dizziness, weakness, and giddiness. Sometimes, hallucinogens can lead to a "bad trip" which involves striking dysphoria. Suicidal or homicidal tendencies may be enhanced. Long-term complications of hallucinogen intake may include flashbacks. PCP use may lead to paranoid hallucinations, violent behaviors, and self-abuse.

Medical complications of hallucinogens include hypersalivation, catalepsy, perspiration, rigidity, myoclonus, stereotyped movements, hyperreflexia, cardiac arrhythmia, hypertension, and convulsions. Withdrawal symptoms are not common with hallucinogens; only mild symptoms of anxiety may occur.

Inhalants

Inhalants are aromatic, aliphatic, and halogenated hydrocarbon compounds whose vapors can be intentionally inhaled to produce psychoactive effect. They are classified into four broad groups: volatile solvents (e.g., typewriter correction fluid, typewriter diluent fluid, glue, paint thinner and gasoline), aerosols (e.g., hair spray and spray paint), gases (nitrous oxide and ether), and nitrites (like amyl-, butyl-, and isobutyl-nitrites) (McDowell, 2005). Inhalants are often found in legally and easily obtained products.

The inhalants produce an instant and short-lived high with euphoria and disinhibition. Intoxication by volatile inhalants generally lasts only several minutes. It can lead to confusion and sedation. Physical effects include analgesia, respiratory depression, hypotension, and ataxia. Inhalant exposure can lead to involvement of multiple organ systems including central nervous, gastrointestinal, cardiovascular, respiratory, peripheral nervous system, renal and hepatic. Withdrawal from inhalants leads to only minor dysphoria and anxiety.

Laboratory Findings

The diagnosis of substance related disorders is mainly based on clinical history. However, many laboratory investigations might be useful in the evaluation and care of substance abuse patients. Urine drug screens provide objective information as to what drugs are in the patient's system.

Some other blood chemistries may be useful, especially in alcoholic patients. The toxic effects of alcohol on the liver are evaluated with liver function tests, such as serum glutamic oxaloacetic transaminase (SGOT) and serum glutamic pyruvic transaminase (SGPT). Gamma-glutamyl transpeptidase (GGT) is the most sensitive monitor of alcohol consumption.

Treatment

The biopsychosocial model is a useful guide to the treatment of substance use disorders. Treatment of substance dependence is a multistage and multidisciplinary process in which the patients go through detoxification, rehabilitation, and relapse prevention. It requires both pharmacologic and non-pharmacologic measures.

Non-pharmacologic Treatments

Some of the important non-pharmacological measures for treatment of dependence of substances include:

1. **Psycho-education:** Psycho-education refers to the education offered to people regarding substances and substance related harms. Family members are also educated.
2. **Twelve Step Facilitation Therapy (TSF)** (eg, Alcoholics Anonymous, Narcotics Anonymous, Cocaine Anonymous): (Chappel & DuPont, 1999) TSF is an active engagement strategy involving in 12-step self-help groups to facilitate early recovery from alcohol abuse, alcoholism, and other drug abuse and addiction problems. It is based on behavioural, spiritual, and cognitive principles with mainly three key ideas predominating:
 - i. **Acceptance:** realization that drug addiction is a chronic problem over which the individual has no control, and that abstinence is the only alternative.
 - ii. **Surrender:** giving oneself over to a higher power, accepting the fellowship and support structure
 - iii. **Active involvement** in 12-step meetings
3. **Motivational Enhancement Therapy (MET):** (Miller, 2000) MET aids the patients in clarifying his or her own perceptions and beliefs in order to direct him or her in a more decisive way to seek help for the treatment of dependence.
4. **Relapse Prevention Therapy (RPT):** (Marlatt et al, 2002) RPT is a behavioural self-control program that teaches individuals with substance dependence how to anticipate and cope with the potential for relapse. Coping skills training is the cornerstone of RPT, teaching clients strategies to understand relapse as a process, identify and cope effectively with high-risk situations, cope with urges and craving, and learn how to live a more balanced lifestyle. Coping skills training strategies include both cognitive and behavioural techniques.
5. **Relaxation training:** The aim of relaxation therapy is to improve health, build up resistance to stress, cope with change, and improve quality of life overall by using relaxation techniques.
6. **Vocational and physical rehabilitation:** It is a process which enables persons with functional, psychological, developmental, cognitive and emotional impairments or health conditions to overcome barriers to accessing, maintaining or returning to employment or other useful occupation.

Pharmacologic Approaches

Alcohol

Detoxification is done by a long-acting benzodiazepine, such as diazepam or chlordiazepoxide to suppress the withdrawal symptoms. The dose of the benzodiazepine is then tapered over next 5-7 days. In case of liver damage due to chronic alcohol use, benzodiazepines which are not hepatotoxic like lorazepam and oxazepam are used. All drugs currently used for the treatment of CNS depressant withdrawal have dependence liability. Proper education concerning the risks and benefits, particularly with regard to the potential for dependence must be imparted. Patients in alcohol detoxification should be prescribed thiamin and multiple vitamins to prevent neurologic and cognitive effects of chronic drinking.

Some medications are used for pharmaco-prophylaxis to prevent relapse to drinking (Garbutt et al, 1999). Aversion therapy with disulfiram in doses of 125-500 mg per day is used. Disulfiram inhibits metabolism of alcohol by inhibiting acetaldehyde dehydrogenase and hence leading to increase in acetaldehyde concentration which causes a reaction of flushing, sweating, nausea and tachycardia. It has be used with caution as it can cause reaction with many other drugs and alcohol containing food items like metronidazole, or vinegar.

Naltrexone is approved by the FDA to directly help prevent alcohol relapse by blocking opioid receptors which in turn help in lowering craving and reducing the reinforcing effects of alcohol. It is prescribed in doses of 50 mg per day.

Acamprosate has binding affinity for GABAA and GABAB receptor sites. It helps in reducing craving for alcohol, although the exact mechanism of action for the same is unclear. It with used with caution in case of renal impairment. Usual dose range is 666 mg three times a day for patients with weight > 60 kg and 666 mg twice a day for patients with weight < 60 kg. Other drugs that have been used in the pharmaco-prophylaxis for alcohol are baclofen, topiramate and buspirone. However, the efficacy of these drugs is yet to be established.

Opioids

Opioid withdrawal may be treated in several ways (O'Connor & Kosten, 1994). Opioid substitutes like methadone and buprenorphine are used to treat the acute withdrawal reaction and gradually tapered off. Alpha-2 agonists like clonidine in doses of 0.1 to 0.3 mg three to four times a day can be used to reduce withdrawal symptoms. Clonidine has the advantage of not being an opioid and not having addicting properties. Regular monitoring of blood pressure

is necessary while administering clonidine. Other medications like NSAIDs for muscle cramps, loperamide for loose stools, and promethazine for nausea are often used as adjunctive medications.

Long term pharmaco-prophylaxis of opioid dependence can be done either by Opioid Substitution Therapy (OST) or antagonist treatment using Naltrexone. OST programmes generally use Methadone, L-alpha-acetylmethadol (LAAM) or Buprenorphine. LAAM is no longer used due to the risk of developing torsades de pointes. In India, buprenorphine is being primarily used for substitution as part of maintenance treatment. OST works on the principle of harm-reduction by reducing injecting drug use, hence reducing chance of spreading HIV and by reducing criminal behaviour often found in the patients.

Naltrexone is an opioid antagonist which blocks the effects of opioids. It is long acting drug and is given in dose of 50 mg per day. It blocks the effects of opioids, especially euphoria, and discourages patients from substance seeking behaviour.

Cannabinoids

The treatment of cannabinoid dependence is done largely through non-pharmacological methods. Anxiolytic medications are used in cases of severe agitation or anxiety.

Psychostimulants

The treatment of stimulant intoxication is usually supportive care. Anxiolytics or neuroleptics may be needed for agitation or anxiety. Medications like carbamazepine, phenytoin, and tricyclic antidepressants have been used to prevent relapse, but the evidence for their efficacy is yet to be determined. Cocaine overdoses can be treated using chlorpromazine which is useful in reducing CNS and CVS problems.

Nicotine

Non-pharmacologic approaches are frequently used to help tobacco users quit smoking. Pharmacological interventions include Nicotine Replacement a (NRT) and non-nicotine medications. NRT is delivering nicotine in various formulations like gums, lozenges, patches, nasal spray and inhalers. NRT aims at substituting nicotine and thereby reducing the craving for tobacco products. It is usually given for a period of 6-12 weeks followed by gradual tapering over another 6-12 weeks.

Non-nicotine medications include Bupropion is given in doses 150-300 mg per day. Bupropion is an anti-depressant which also

reduces craving for nicotine. Clonidine can be used to reduce withdrawal symptoms. Other anti-depressants and benzodiazepines may be helpful in some patients (Burke et al, 2008).

Hallucinogens

Detoxification from low dosages of hallucinogens can often be achieved with a safe, structured environment and emotional support. Anxiolytics may be needed occasionally. Long term treatment to prevent relapse is mostly based on non-pharmacological methods.

Inhalants

Inhalant intoxication usually resolves on its own. Supportive care might be required in some cases. Reassurance is one of the most important ingredients of treatment. There is no established treatment for preventing relapse and non-pharmacological methods form the mainstay of treatment.

Treatment of co-morbidities

Psychiatric treatment of comorbid conditions, such as depression, anxiety disorders, bipolar affective disorder, etc., is very important constituent of treatment for substance related disorders. Proper diagnosis and treatment helps in reducing the rate of relapses. Medical complications of drug use have to addressed specifically too. The treatment of substance use should not be in isolation but rather in consideration of any medical or psychiatric comorbidity.

Dissociative Disorders

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Dissociative disorders are under diagnosed or misdiagnosed by physicians due to unfamiliarity with their symptomatology. Even though the concept of dissociative disorders is a little complex, it is necessary to be able to identify them, as these individuals consult the primary care physicians initially. The tenth edition of the International Statistical Classification of Diseases and Related Health Problems (ICD-10) classifies the dissociative disorders among the neurotic, stress-related, and somatoform disorders. The ICD-10 explicitly states that the term hysteria should be avoided because of its lack of precision. The ICD-10 dissociative [conversion] disorders include dissociative amnesia, dissociative fugue, dissociative stupor, trance and possession disorder, and dissociative disorders of movement and sensation. The latter includes dissociative motor disorders, dissociative convulsions, and dissociative anesthesia and sensory loss. Ganser's syndrome and multiple personality disorder are classified under other dissociative disorders.

History

Hippocrates coined the term "Hysteria" meaning the "wandering womb". Jean martin charcot demonstrated that dissociative symptoms are produced by hypnotic suggestions; later Hilgard gave the neodissociation theory. The word conversion was coined by Sigmund frued which means presentation of unconscious emotional conflict with somatic complaints. The word "hysteria" is no more used, with the word 'dissociative', (conversion) having taken its place.

Aetiology

Psychodynamic model: Frued explained that the repressed unconscious emotional conflicts causing anxiety get converted to physical symptoms, giving symbolic value to those conflicts. Repression, he said, is a primary ego defense mechanism which represses anxiety provoking emotional conflicts into the unconscious part of our mind.

Sociocognitive model: It states that dissociative symptoms are learned unconscious responses, learning having occurred after witnessing the illness in friends or relatives, occurring in susceptible individuals under severe stress.

Neurobiological theories: Information processing theory (Oakley), Somatic marker hypothesis (Damasio) and the striatalthalamocortical hypotheses (Vuilleumier) none of which are confirmatory.

Clinical Features

The essential feature of the dissociative disorders is a disruption in the usually integrated functions of consciousness, memory, identity, or perception of the environment. Typically, the onset is sudden, often associated with a temporally related stressor. The symptoms are not intentionally produced or feigned.

General Clinical phenomenon in dissociative disorders
<ol style="list-style-type: none">1. Secondary gain: This refers to the added attention shown by relatives after appearance of symptoms, a relief from role obligations, and getting others to give in to his demands.2. Primary gain: There is a relief from anxiety resulting from internal emotional conflicts as symptoms have symbolically represented them.3. La belle indifference: Patient may show a lack of concern to seemingly serious symptoms, with an unusual calm facial expression.4. Modeling or Identification: the patient may model his symptoms on those seen in a friend or relative.

Often, the recovery is quick, depending upon the type and severity of the stressor. Physical evaluation reveals no medical illnesses.

Dissociative amnesia: Inability to recall important personal information usually of a traumatic or stressful event that is too much to be explained by ordinary forgetfulness, with no underlying medical problem. This is a common type of dissociative disorder, more prevalent among females. Amnesia could be circumscribed (inability to recall all personal events during particular period of time) which is very common; selective (only some selective material), continuous (all personal events after stressor), or generalized (personal events of whole life), which is very rare.

Dissociative fugue: Episodes of sudden unexpected travel from home with amnesia for original identity, and living purposefully by adopting a new identity. The person is unaware of his amnesia. This disorder is seen to occur commonly in males.

Dissociative identity disorder: Also referred to as multiple personality disorder. A person presents with being two or more distinct personalities, each being unaware of the other and functioning independently, with a wide range of behaviors.

Trance and possession disorder: A temporary loss of both the sense of personal identity and awareness of surrounding, sometimes as if controlled by some spirit. Commonly seen in Indian and African countries, and predominantly seen among females.

Dissociative disorder of movement and sensation: Characterized by a loss or interference in movements or sensations. Includes dissociative motor disorder (astasia abasia, aphonia), dissociative convulsions (psuedoseizures), dissociative anesthesia and sensory loss (psychogenic deafness or blindness). Mixed dissociative disorder includes all of the above, in combination.

Ganser's syndrome: Complex disorder described by Ganser, characterized by "approximate answers", usually associated with other dissociative symptoms.

Assessment

The main objective of assessment is to rule out any medical condition, by detailed physical examination and investigation if required. Usual differential diagnosis include: substance intoxication, psychotic disorders, mood disorders, head trauma, dementia, neurological disorders like convulsions (Temporal lobe epilepsy) hemiplegia, paraplegia and coma.

Treatment

Behavior therapy: removal of secondary gain by tactfully neglecting the dissociative symptoms, which will reduce reinforcement and result in reduction in symptoms.

Abreaction : through the process of interview or under the guidance of intravenous thiopentone (narcoanalysis), unconscious conflicts are brought to conscious awareness. Strong suggestions are made for a change.

Supportive treatments: supportive psychotherapy, counseling to increase coping skills to face stressors and problems in day today life.

Medications: may require short term anti anxiety drugs (benzodiazepines); rarely require long term drug treatment.

Media and Dissociative Disorder

Multiple personality disorder has major attention of media since long time. This is portrayed in movies like the "Three Faces of Eve,

Eybil", in regional movies like "Aparichith", originally made in Tamil as "Anniyan". They have all become very popular.

Course and Prognosis

In most cases these disorders are of short duration and disappear completely, but in some cases recurrences occur despite good efforts to treat.

Clinical Pearls for Dissociative Seizures (Pseudoseizures)
1. Sudden in onset
2. Occurs in presence of people, never occurs in sleep
3. Often preceding stressor present
4. Atypical features, and symptoms and signs vary from attack to attack
5. Prolonged seizure duration, no tongue bite or self injury, more pelvic thrust
6. Absence of autonomic signs like salivation, incontinence, dilated pupils, and plantar positive reflex
7. May avoid noxious stimuli during attack
8. No preictal phenomenon or postictal confusion, patient may remember all events occurred during the attack without memory impairment
9. EEG will be normal and there will be no increase in prolactin levels
10. It is always better to depend upon multiple source of data like, video EEG monitoring, recording ictal and interictal EEG, subjective and objective clinical characteristics, course of seizures, induction procedures for seizure and even Brain imaging studies in doubtful cases

Clinical Pearls for Dissociative Motor and Sensory Disorders

1. The symptoms cannot be explained on current anatomical and physiological principles for eg. Stock and glove distribution
2. Symptoms are based on patients knowledge and concept of disease
3. In dissociative blindness patient may have a tubular or tunnel vision, and is able to do his basic work without any injuries or falls. All objective signs in dissociative blindness or deafness will be normal
4. Astasia-Abasia is a gait disturbance seen in dissociative disorder; it is wide based, bizarre, jerky, and dramatic, with exaggerated body movements. The gait cannot be typified as belonging to any known gait disorder.
5. Tremors and other movement disorders in this state will usually worsen with attention.
6. In dissociative paresis or paralysis classical neurological signs are absent. Passive resistance to movements, normal reflexes, occasional body movements are seen. Avoid injuries-Arm release sign-when affected limb is raised and released it usually falls right angle to body in hemiplegic but by the side in dissociative paralysis. Legs when released also fall rapidly in hemiplegic but not so in dissociative. Hoovers sign can be tested in hemiplegic.
7. Dissociative unresponsive patients - Resist eye opening, there is fluttering of eyelids when eyelashes are stroked, rigid body posture. There will be normal brain stem reflexes when examined, along with normal papillary response. May respond to painful noxious stimuli.

Somatoform Disorders

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Somatoform disorders are characterized by repeated presentation of physical symptoms, which do not have any adequate physical basis, and a persistent request for medical investigations despite repeated negative findings and reassurances by doctors. In ICD -10, Somatoform disorders are divided into the following categories:

1. Somatization disorders.
2. Undifferentiated somatoform disorder.
3. Hypochondriacal disorder.
4. Somatoform autonomic dysfunction.
5. Persistent somatoform pain disorder.
6. Other somatoform disorder.
7. Somatoform disorder unspecified.

Somatization Disorder (Briquet Syndrome)

It is characterized by the presence of recurrent and multiple, frequently changing somatic complaints of several years duration, for which medical attention has been sought, but are not due to any physical disorder.

It usually begins in early adult life and runs a chronic but fluctuating course. Lifetime prevalence in women varies from 0.2-2% and in men <0.2%. It is more common in the less educated, poor and those from lower occupational groups.

Etiology :

The exact etiology is not known, but probably multiple factors are at work.

1. Familial factors: It has been found that the risk to develop the disorder is 10-20% in female first degree relatives of probands with somatization disorder, whereas male relatives show an increased risk of antisocial personality and alcoholism.

Genetic factors, environmental factors or both can cause the familial aggregation. There is also evidence for genetic relationship between attention deficit disorder with hyperactivity in children and somatization disorder. Tendency to somatize has been linked to emotional closeness in family, family modeling and reinforcement of illness behavior.

2. Neurophysiological basis: Patients with somatization disorder have been shown to have a low pain threshold. Some abnormality in information processing system have also been reported, like distractibility, difficulty in differentiating between target and non target stimuli, and impaired verbal communication. This leads to inability to habituate to repetitive stimuli.

3. Sociocultural factors: It has been reported that the tendency to perceive and report distress in psychological or somatic terms is influenced by various social and cultural factors, such as the degree of stigma associated with particular symptoms. Qualitative analysis has shown that somatic symptoms of psychogenic origin are socially advantageous.

Clinical Features

1. Patients presents with multiple, recurrent and frequently changing somatic complaints in the absence of physical disorder.
2. The symptoms are present for several years and duration of at least 2 years is needed for diagnosis.
3. The symptoms are vague, presented in a dramatic manner, and may involve any part of the body. The common symptoms are: gastrointestinal (abdominal pain, nausea, vomiting, belching, regurgitation etc), abnormal skin sensation (numbness, soreness, itching, burning, tingling) pain in various body parts, sexual and menstrual complaints (menorrhagia, dysmenorrhoea).
4. There is frequent change of treating physicians and persistent refusal to accept the advice or reassurance of several doctors that there is no physical explanation for the symptoms.
5. Some degree of impairment of social and family functioning attributable to the nature of the symptoms and resulting behavior.
6. Marked depression and anxiety are frequently present. Dependence upon or abuse of medication (sedatives and analgesics) often results from the frequent use of medications.

Differential Diagnosis

1. Physical disorders: It is important to rule out physical disorders particularly those which present with vague and multiple somatic symptoms.
2. Depressive and anxiety disorder.
3. Hypochondriacal disorder: In somatization disorder the emphasis is on the symptoms themselves and their effects, whereas in hypochondriacal disorder, attention is directed more to the presence of an underlying progressive and serious disease and its disabling consequences. The patients tend to ask for investigations to confirm the nature of the disease whereas in somatization disorder patients ask for treatment to remove the symptoms.
4. Delusional disorders (such as schizophrenia with somatic delusions, and depressive disorder with hypochondriacal delusion). The bizarre qualities of the belief together with fewer physical symptoms of more constant nature are typical of delusion disorder.

Treatment

Goals of treatment:

- Reduced frequency and severity of physical complaints.
- Improvement in social adjustment.
- Reduction in cost and frequency of medical treatment.

Treatment mainly consists of:

1. Supportive Psychotherapy: It is the treatment of choice. The first step is to enlist the patient in the therapeutic alliance by establishing rapport. For this, the patient needs to be told that it is necessary to see him/her a few times to obtain details of the illness, for reviewing his medical history and prior diagnostic evaluation. The second step is to explain to the patient that he is suffering from somatization disorder which is a real disorder. This reassures the patient that his illness has been understood and diagnosed.
2. Behavior Modifications: After rapport is established, attempts at modifying behavior are made, eg: ignoring symptoms and positively reinforcing 'good behavior'.
3. Relaxation Therapy, with graded physical exercises.
4. Drug Therapy: Antidepressants and Benzodiazepines can be given on a short term basis for depression and anxiety. Drugs should be used with caution, as risk of drug abuse is high in these

patients.

5. Family involvement is important to give information and also help with treatment.

Undifferentiated Somatoform Disorder

This category should be considered when the forceful and dramatic manner of complaints is lacking and the physical complaints are fewer in number or associated impairment of social and family functioning is absent.

Hypochondriacal Disorder (Hypochondriasis)

Hypochondriasis is defined as a persistent preoccupation with the possibility of having one or more serious and progressive physical disorders or disfigurement, based on person's own interpretation of normal body function or minor physical abnormality.

The other important features are:

1. Complete physical examination and investigations do not show presence of any significant abnormality.
2. Persistent refusal to accept the advice or reassurance of several doctors even when the investigations done are normal.
3. The fear or belief is not a delusion.
4. Preoccupation with medical terms and syndromes is common. There is repeated change of physician and patients tends to ask for investigation to confirm his disease.
5. The patients fear drugs and their side effects and seek reassurances by frequent visits to different physicians.
6. Marked depression and anxiety are often present, and may justify additional diagnosis.

The usual age of onset is in the late third decade. It occurs in both men and women. The course is usually chronic with remission and relapses. Obsessive personality traits and narcissistic personality features are frequently seen.

Etiology:

There are three theories of origin of hypochondriasis.

1. Psychodynamic theory : A dynamic theory describes hypochondriasis as an alternate channel to deflect sexual, aggressive or oral drives or an ego defence against guilt and low self esteem or a sign of excessive self concern. The aggressive and hostile wishes towards others are transformed into physical

complaints through repression or displacement.

2. Socio-cultural theory: Hypochondriasis has also been visualized as a learned social behavior, serving the purpose of non-verbal interpersonal communication. The behavior was learned because of its success in the past in eliciting caretaking and in securing the other secondary gains of sick role. The sick role serves to convey their distress and disability to others, serving nonverbal communication.
3. Neuropsychological theory: According to this theory hypochondriasis is the result of an underlying perceptual or cognitive abnormality. The patients amplify and augment normal bodily sensations and perceive them as noxious and intense. They have lower threshold for physical discomfort.

Treatment :

Treating individuals with hypochondriasis is challenging. For the treatment to be successful, regular contact with a single doctor is important. Basic principles of treatment can be outlined as follows:

1. Treatment by a single physician, with whom the patient feels confident.
2. Supportive approach and regularly scheduled visits, those are not on as needed basis or based on development of new symptoms.
3. Focusing on symptoms and brief examination in initial visit to facilitate rapport and gradually concentrating on social or interpersonal problems.

The treatment approach should be of care rather than cure. The patient should be helped in learning to tolerate their symptoms and coping with their issues. Selected patients respond to supportive psychotherapy. Group therapy has also been found useful. Drugs may be used if there are significant depression or anxiety symptoms.

Somatiform Autonomic Dysfunction

This disorder was introduced in ICD-10, but it's not included in DSM-IV TR. In this disorder the symptoms are presented by the patients as they were due to a physical disorder of a system or organ that is largely or completely under autonomic innervations or control;

Example:

1. Heart and cardiovascular system ("cardiac neurosis", palpitation)
2. Upper gastrointestinal tract (gastric neurosis, hiccough,

dyspepsia)

3. Lower gastrointestinal tract (flatulence, irritable bowel syndrome)
4. Respiratory system (psychogenic forms of cough, hyperventilation)
5. Genitourinary system (psychogenic increase of frequency of micturition and dysuria)
6. Other organ or system

The symptoms are usually of two types: The first type is objective signs of autonomic arousal - palpitation, sweating, flushing and tremor. The second type is idiosyncratic subjective and non specific - sensation of fleeting aches and pains, burning sensation, heaviness, tightness, sensation of being bloated or distended. There is preoccupation with and distress with the possibility of a serious but often unspecified disorder of the particular organ. Physical examination and investigations do not show presence of any significant abnormality. The preoccupation persists despite repeated assurances and explanations.

Treatment :

It consists of:

1. Supportive psychotherapy.
2. Relaxation techniques: Jacobson's progressive muscular relaxation.
3. Drug treatment: The symptoms of anxiety and depression usually respond to benzodiazepines and antidepressants.

Persistent Somatoform Pain Disorder

It is characterized by persistent, severe and distressing pain which cannot be explained fully by a physiological process or a physical disorder. There is often a precipitating stressful event and secondary gain maybe present. Repeated change of physician is common. The affected person often assumes a 'sick role'. Abuse and dependence of analgesics and minor tranquilizers is common. The disorder is more common in women with an onset in third or fourth decade.

Etiology :

1. Psychodynamic theory: Pain in these patients serves the purpose of punishment and atonement for unconscious guilt. Their childhood histories are marked by physical abuse, use of pain as punishment and emotional distance from parents.
2. Behavioural theory: Pain related behavior might also be learnt by operant and classical conditioning. The behaviors are learnt for the first time and are reinforced by increased attention from family

and friends and relief from carrying out undesirable activities such as hard physical labour. Classical conditioning occurs when certain neutral objects and settings begin to evoke pain behavior by their association with pain, such as his work place.

3. Interpersonal theory: Pain serves as nonverbal interpersonal communication and may be used for manipulation or gaining advantage in interpersonal relationship. Sometimes, pain may be maintained in the patient when it is psychologically important to the other family members to do this. This is also called tertiary gain. Prior social models and cultural attitudes may also predispose certain individuals to develop chronic pain related behavior.
4. Neurophysiological theory: Serotonin has been implicated. Endorphins and serotonin metabolism are decreased in cerebrospinal fluid of chronic pain patients. There is dysfunction of corticofugal inhibitory system resulting in insufficient inhibition of afferent stimulation which results in amplification of heightened arousal to somatic sensory input (pain).

Treatment :

Goals of treatment:

1. Controlling drug misuse.
2. Decreasing subjective pain intensity.
3. Increasing activities of daily living.
4. Teaching competent coping skills to deal with impairment and suffering.
5. Providing vocational evaluation and rehabilitation.

The treatment modalities include:

1. Drugs: If analgesics are needed, aspirin and non steroidal anti inflammatory drugs should be used, in as restricted a manner as possible. Antidepressants such as amitriptyline, imipramine, doxepine have been found effective. Anticonvulsants such as phenytoin, carbamazepine are effective in treating neuropathic and neuralgic pain.
2. Behavioral intervention:
 - a) Behavioral modification using principles of operant conditioning to discourage pain related behavior and to shape and reinforce new health related behavior.
 - b) Relaxation training, cognitive therapy, graduated exercise

programme maybe use.

The family and other figures important to the patient may be involved in management.

3. Psychotherapy: Family therapy, group therapy along with supportive psychotherapy can be use. The focus should be on exploring how pain is being used as an aid in interpersonal communication and the role it plays in patients' daily life.

Other Somatoform Disorders

In these disorders the presenting complaints are not mediated through the autonomic nervous system, and are limited to specific systems or parts of the body. This is in contrast to the multiple and often changing complaints of the origin of symptoms and distress found in somatization disorder. Tissue damage is not involved.

Any other disorders of sensation not due to physical disorders, which are closely associated in time with stressful events or problems, or which result in significantly increased attention for the patient, either personal or medical, should also be classified here. Sensations of swelling, movements on the skin, paraesthesias are common examples. The following disorders are also included here:

- a) Globus hystericus.
- b) Psychogenic torticollis and other disorders of spasmodic movements.
- c) Psychogenic pruritis
- d) Psychogenic dysmenorrhoea
- e) Teeth-grinding.

Sleep and Its Disorders

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Normal Sleep

Sleep is a universal behaviour, and nearly one third of our life is spent in sleep. Sleep is necessary for survival. Prolonged sleep deprivation leads to severe physical and cognitive impairment, and finally death.

Physiology of Sleep

Sleep is made up of two physiological states: non rapid eye movement sleep (NREM sleep) and rapid eye movement sleep (REM sleep). NREM sleep has four stages, stage-1 through stage - 4. During NREM sleep, most physiological processes function at a lower level than in the state of wakefulness. In contrast, REM sleep is associated with high levels of physiological activity and brain activity, similar to the state of wakefulness.

Physiologically, the sleep cycle start with NREM sleep for 90 minutes after the sleep onset. NREM yields to the first REM episode of the night. The duration between the sleep onset and first REM episode is called as REM latency. In normal adults the REM latency is consistently around 90 minutes.

Non Rapid eye movement sleep (NREM Sleep)

NREM sleep is a peaceful state relative to waking. Pulse rate is slowed by five to ten beats per minute below the level of restful waking and is regular. Respiratory rate and blood pressure also tend to be low, with a small minute to minute variation. NREM sleep is divided into four stages, Stage1 to Stage 4. The deepest portion of NREM sleep is associated with unusual arousal characteristics. When persons are aroused 30 minutes to one hour after sleep onset -usually in slow wave sleep -they are disoriented, and their thinking is disorganised. There is amnesia for the events that occurred during brief arousal. Arousal from stage 3 or stage 4 may result in specific problems like enuresis, or somnambulism

Rapid eye movement sleep (REM sleep)

This is also called paradoxical sleep. Pulse, respiration, and blood pressure during REM sleep are much higher than during waking and minute to minute variability of respiratory rate and pulse is high. Ventilatory response to increased levels of carbon dioxide is depressed; thermoregulation is altered in contrast to the homeothermic state in wakefulness and NREM sleep. Poikilothermia is seen, which results in failure to respond to changes in ambient temperature with shivering or sweating whichever is appropriate to maintain body temperature. In men every REM sleep is accompanied by partial or full penile erection, a feature that is absent in organic impotence. In psychological impotence nocturnal tumescence is present. During REM sleep there is near total paralysis of postural muscles (Skeletal muscles). Dreams in REM sleep is abstract and surreal (surreal= subconscious mental activity). Dreams do happen in NREM sleep, but it is purposeful and clear.

Sleep Cycle

The cyclical nature of sleep is regular and reliable. REM period occurs every 90-100 minutes during the night. The first REM tends to be shortest, usually lasting less than ten minutes, later, they may last for 15-40 minutes. Most REM sleep occurs during the last third of sleep.

Sleep patterns change during the life span. In neonates REM sleep represents more than 50% of total sleep and EEG patterns move from the alert state directly to REM state without going through stages 1 to 4. By 4 months of age, the percentage of REM sleep drops to 40% of total sleep and entry into sleep occurs with an initial period of NREM sleep.

Regulation of Sleep

Nor epinephrine, Acetylcholine, Dopamine and Serotonin are the major neurotransmitters implicated in regulation of sleep. Brain Acetylcholine is particularly involved in production of REM sleep. The sleep disturbance in depression is associated with disturbance in central cholinergic activity. The loss of cholinergic neurons in the basal forebrain results in decrease in an REM and slow wave sleep. Norepinephrine plays an important role in controlling the normal sleep pattern. Drugs that increase firing of noradrenergic neurons reduce REM sleep and increase wakefulness. Many studies support the role of Serotonin in sleep regulation. Decrease in synthesis of Serotonin or destruction of dorsal raphe nucleus decreases sleep. Evidence also shows that Dopamine has an alerting effect. Drugs that

increase dopamine tend to produce arousal and wakefulness. Dopamine blockers increases sleep time.

Functions of sleep

Sleep serves the following functions-

1. Restorative.
2. Homeostatic.
3. Thermoregulation.
4. Energy conservation.

Requirement of Sleep

There are two types of individuals in terms of duration of sleep, Short sleepers and Long sleepers.

Short sleepers

Individuals who require fewer than 6 hours of sleep and function adequately. Short sleepers are generally efficient, adept and content.

Long sleepers

Individual who sleep for 9 hours and who function adequately. Long sleepers have more REM periods and more eye movements in each period than short sleepers. Long sleepers are mildly depressed, anxious and socially withdrawn.

Sleep Wake Rhythm

The natural clock follows a 25 hour cycle. Influence of external factors like light dark cycle, daily routines, meal periods and other external synchronisers entrain persons to a 24 hour clock. Sleep is also influenced by biological rhythms. Adults usually sleep once or twice in a day. This rhythm is not present at birth, but develops over the first two years of life. Different phases of the menstrual cycle exhibit changes in sleep pattern. Naps taken at different times of day differ in proportion of REM and NREM sleep. A nap taken in the morning or at noon has a great deal of REM sleep, whereas a nap taken in the afternoon or evening has much less REM sleep.

Sleep Disorders

According to 2nd edition of international classification of sleep disorders, sleep disorders can be divided as given in table 1

Table 1. Outline of the Second Edition of the International Classification of Sleep Disorders**I. Insomnia**

1. Adjustment Insomnia
2. Psychophysiological Insomnia
3. Paradoxical Insomnia
4. Idiopathic Insomnia
5. Insomnia Due to Mental Disorder
6. Inadequate Sleep Hygiene
7. Behavioral Insomnia of Childhood
8. Insomnia Due to Drug or Substance
9. Insomnia Due to Medical Condition
10. Insomnia Not Due to Substance or Known Physiological Condition, Unspecified (Nonorganic Insomnia, NOS)
11. Physiological (Organic) Insomnia, Unspecified

II. Sleep-Related Breathing Disorders**A. Central Sleep Apnea Syndromes**

1. Primary Central Sleep Apnea
2. Central Sleep Apnea Due to Cheyne-Stokes Breathing Pattern
3. Central Sleep Apnea Due to High-Altitude Periodic Breathing
4. Central Sleep Apnea Due to Medical Condition Not Cheyne-Stokes
5. Central Sleep Apnea Due to Drug or Substance
6. Primary Sleep Apnea of Infancy

B. Obstructive Sleep Apnea Syndrome

1. Obstructive Sleep Apnea, Adult
2. Obstructive Sleep Apnea, Paediatric

C. Sleep-Related Hypoventilation/Hypoxemic Syndrome

1. Sleep-Related Nonobstructive Alveolar Hypoventilation, Idiopathic
2. Congenital Central Alveolar Hypoventilation Syndrome

D. Sleep-Related Hypoventilation/Hypoxemia Due to Medical Condition

1. Sleep-Related Hypoventilation/Hypoxemia Due to Pulmonary Parenchymal or Vascular Pathology
2. Sleep-Related Hypoventilation/Hypoxemia Due to Lower Airway Obstruction
3. Sleep-Related Hypoventilation/Hypoxemia Due to Neuromuscular and Chest Wall Disorders

E. Other Sleep-Related Breathing Disorder

1. Sleep Apnea/Sleep-Related Breathing Disorder, Unspecified

Hypersomnia of Central Origin Not Due to a Circadian Rhythm Sleep Disorder, Sleep-Related Breathing Disorder, or Other Cause of Disturbed Nocturnal Sleep

0. Narcolepsy with Cataplexy
1. Narcolepsy without Cataplexy
2. Narcolepsy Due to Medical Condition
3. Narcolepsy, Unspecified
4. Recurrent Hypersomnia
Kleine-Levin Syndrome
Menstrual-Related Hypersomnia
5. Idiopathic Hypersomnia with Long Sleep Time
6. Idiopathic Hypersomnia without Long Sleep Time
7. Behaviorally Induced Insufficient Sleep Syndrome
8. Hypersomnia Due to Medical Condition
9. Hypersomnia Due to Drug or Substance
10. Hypersomnia Not Due to Substance Use or Known Physiological Condition (Nonorganic Hypersomnia, NOS)
11. Physiological (Organic) Hypersomnia, Unspecified (Organic Hypersomnia, NOS)

Circadian Rhythm Sleep Disorders

0. Circadian Rhythm Sleep Disorder, Delayed-Sleep-Phase Type
1. Circadian Rhythm Sleep Disorder, Advanced-Sleep-Phase Type
2. Circadian Rhythm Sleep Disorder, Irregular Sleep-Wake Type
3. Circadian Rhythm Sleep Disorder, Free-Running Type
4. Circadian Rhythm Sleep Disorder, Jet Lag Type (Jet Lag Disorder)
5. Circadian Rhythm Sleep Disorder, Shift Work Type (Shift Work Disorder)
6. Circadian Rhythm Sleep Disorder Due to Medical Condition
7. Other Circadian Rhythm Sleep Disorder
8. Other Circadian Rhythm Sleep Disorder Due to Drug or Substance Use

Parasomnias

Disorders of Arousal (from NREM Sleep)

1. Confusional Arousals
2. Sleepwalking
3. Sleep Terrors

A. Parasomnias Usually Associated with REM Sleep

1. REM Sleep Behavior Disorder (including Parasomnia Overlap Disorder and Status Disociatus)
2. Recurrent Isolated Sleep Paralysis
3. Nightmare Disorder

B. Other Parasomnias

1. Sleep-Related Dissociative Disorder
2. Sleep Enuresis
3. Sleep-Related Groaning (Catathrenia)
4. Exploding Head Syndrome
5. Sleep-Related Hallucinations
6. Sleep-Related Eating Disorder
7. Parasomnia, Unspecified
8. Parasomnia Due to Drug or Substance
9. Parasomnia Due to Medical Condition

Sleep-Related Movement Disorders

0. Restless Legs Syndrome
1. Periodic Limb Movement Disorder
2. Sleep-Related Leg Cramps
3. Sleep-Related Bruxism
4. Sleep-Related Rhythmic Movement
5. Sleep-Related Movement Disorder, Unspecified
6. Sleep-Related Movement Disorder Due to Drug or Substance
7. Sleep-Related Movement Disorder Due to Medical Condition

Isolated Symptoms, Apparently Normal Variants, and Unresolved Issues

0. Long Sleeper
1. Short Sleeper
2. Snoring
3. Sleep Talking
4. Sleep Starts (Hypnic Jerk)
5. Benign Sleep Myoclonus of Infancy

6. Hypnagogic Foot Tremor and Alternating Leg Muscle Activation during Sleep
 7. Propriospinal Cyclones at Sleep Onset
 8. Excessive Fragmentary Myoclonus
- Other Sleep Disorders
0. Other Physiological (Organic) Sleep Disorders
 1. Other Sleep Disorder Not Due to Substance or Known Physiological Conditions
 2. Environmental Sleep Disorder

NOS, not otherwise specified; NREM, non-rapid eye movement; REM, rapid eye movement

Insomnia

Insomnia is difficulty in initiating or maintaining sleep. It is the most common sleep complaint and may be transient or persistent.

Adjustment Insomnia

The adjustment sleep disorder is a transient insomnia presumably caused by acute stress, conflict, or change. The course is usually brief, lasting a week to several months. The problem resolves when the stressor is removed. The first day of school, an impending examination, a change in employment, or the death of a loved one can lead to brief insomnia

Psychophysiological Insomnia

The patient with psychophysiological insomnia has developed a conditioned arousal associated with the thought of sleeping. Objects related to sleep (e.g., the bed, the bedroom) will become conditioned stimuli that evoke insomnia. Daytime adaptation is usually good, however there can be extreme tiredness, and the individual can become desperate. Psycho physiological insomnia often occurs in combination with stress and anxiety disorders, delayed-sleep-phase syndrome, and hypnotic drug use and withdrawal. Other features of psychophysiological insomnia include

- (1) excessive worry about not being able to sleep
- (2) trying too hard to sleep
- (3) rumination about inability to clear one's mind while trying to sleep
- (4) increased muscle tension when getting into bed
- (5) other somatic manifestations of anxiety
- (6) ability to fall asleep when not trying to
- (7) sleeping better away from one's bedroom (including the sleep laboratory).

Stimulus control therapy is well suited for treating psycho-physiological insomnia. This is designed to improve the association between going to bed and being able to fall asleep. Improving sleep hygiene is usually beneficial. If muscle tension and rumination at bedtime are prominent features, relaxation therapy is useful .

Paradoxical Insomnia

Paradoxical insomnia is diagnosed when a patient complains of difficulty initiating or maintaining sleep and no objective evidence of sleep disruption is found. Paradoxical insomnia can occur in individuals who are apparently free from psychopathology; however, it may represent a somatic delusion or hypochondriasis.. Cognitive relabeling and/or diffusing the worry about being unable to sleep can help. A study has shown that there is an increased metabolic rate and maximum oxygen uptake in patients with paradoxical insomnia compared to normal controls

Idiopathic Insomnia

Patients with idiopathic insomnia have a lifelong inability to obtain adequate sleep. Sleep homeostatic processes may be dysfunctional. Improved sleep hygiene, relaxation therapy, and the use of hypnotic medicines are reported to be helpful.

Insomnia Due to Mental Disorder

Insomnia comorbid with psychiatric illness usually presents with both disorder of initiating and maintaining sleep. Thirty-five percent of patients seen in sleep disorders centers with insomnia as their chief complaint had a mental disorder, and half of these patients had a mood disorder.

Depressive Disorders

Ninety percent of patients with depression have insomnia.

Sleep disturbances using electroencephalographic (EEG) criteria in depression include

- (1) Generalized sleep disturbance (increased sleep latency, increased nocturnal awakenings, and early-morning awakenings)
- (2) Decreased slow-wave sleep in the first non-rapid eye movement (NREM)-REM cycle, with delta activity shifts to the second NREM period
- (3) Shortened latency to REM sleep
- (4) Occurrence of more REM sleep earlier in the night

(5) increased REM density (especially early in the night)

Treating insomnia while treating the depressive episode may improve the effect of antidepressants.

Bipolar Disorder

Patients with mania and hypomania seldom complain of sleep problems even though they sleep only for a short duration (2 to 4 hours per night), have very prolonged latency to sleep, and sometimes have reduced slow wave sleep.

If patients with bipolar disorder disrupt their sleep-wake routine and stay up very late or all night, it may provoke a manic episode.

Inadequate Sleep Hygiene

This category refers to people who have insomnia secondary to behaviours that are not conducive to good sleep. Factors that contribute to inadequate sleep hygiene include

1. Consuming caffeine or nicotine at night
2. Engaging in excessive emotional or physical stimulation within a few hours of bedtime
3. Daytime naps
4. Large variation of the daily sleep-wake schedule

Improving sleep hygiene can help to relieve insomnia. Treatment should focus on only one or two problem areas at a time.

Table2. Do's and Don'ts for Good Sleep Hygiene

	DO's	DON'T
Maintain regular hours of bedtime and arising	✓	
If you are hungry, have a light snack before bedtime	✓	
Maintain a regular exercise schedule	✓	
Give yourself an approximately an hour to wind down before going to bed	✓ ✓	
If you are preoccupied or worried about something at bedtime, write it down and deal with it in the morning	✓ ✓	
Keep the bedroom cool	✓	
Keep the bedroom dark	✓	
Keep the bedroom quiet	✓	
Take naps		✓
Watch the clock so you know how bad your insomnia actually is		✓

	DO's	DON'T
Exercise right before going to bed in order wear yourself out		✓
Watch television in bed when you cannot sleep		✓
Eat a heavy meal before bedtime to help you sleep		✓
Drink coffee in the afternoon and evening		✓
If you cannot sleep, smoke a cigarette		✓
Use alcohol to help in going to sleep		✓
Read in bed when you cannot sleep		✓
Eat in bed		✓
Exercise in bed		✓
Talk on the phone in bed		✓

Behavioural Insomnia of Childhood

This results from the child's dependency on specific stimulation, objects, or setting for initiating sleep or returning to sleep.

Limit-setting sleep disorder occurs when a child takes advantage of an inadequately enforced bedtime schedule. Childhood insomnia, as it is sometimes called, involves a child refusing to or delaying going to bed when the caretaker stipulates. Delay strategies used by the child include getting up to use the bathroom, requesting another drink, asking for another bedtime story, or complaining of hunger. Sometimes children will claim that they are afraid of the dark, that there are monsters under the bed, or some other factitious creation.

Treating Insomnia

Pharmacological Treatment

Benzodiazepine-receptor agonists represent the current standard for sedative-hypnotic medications used to treat insomnia. Zolpidem modified release, eszopiclone, and ramelteon are approved by US FDA for long-term therapy for insomnia.

Nonpharmacological Treatment: Cognitive-Behavioral Therapy for Insomnia

Behavioral techniques include

Universal sleep hygiene

Stimulus control therapy

Sleep restriction therapy

Relaxation therapies

Biofeedback.

Universal Sleep Hygiene

Sleep-enhancing directives are enumerated in Table 2. A carefully explained program of sleep hygiene, with follow-up, represents a fairly inexpensive but effective intervention.

Stimulus Control Therapy

Aims to break the cycle of problems commonly associated with difficulty initiating sleep. Attempting to undo conditioning that undermines sleep, stimulus control therapy helps reduce both primary and reactive factors involved in insomnia.

Sleep-Related Breathing Disorders

Respiratory abnormality appears or greatly worsens only during sleep and in which no significant apnoeic episodes are present. Ventilatory dysfunction is characterized by inadequate tidal volume or respiratory rate during sleep. Death may occur during sleep (Ondine's curse). Central alveolar hypoventilation is treated with some form of mechanical ventilation (e.g., nasal ventilation).

Obstructive Sleep Apnea Syndrome

Characterized by periods of functional obstruction of the upper airway during sleep, resulting in decreases in arterial oxygen saturation and a transient arousal, after which respiration (at least briefly) resumes normally. Tends to occur in patients who snore, although most snorers do not have sleep apnoea, and results in a sensation that sleep has not been refreshing. Appears more frequently in patients with smaller jaws or true micrognathia, acromegaly, and hypothyroidism. Over weight is also a major risk factor. Medical consequences include cardiac arrhythmias, systemic and pulmonary hypertension, and decreased sexual drive or function. The exact relationship of obesity, OSA, and hypertension is a matter under investigation, some arguing that hypertension is a consequence of OSA, whereas others believe that OSA and hypertension can best be viewed as difficulties arising from a common etiology, including obesity. It is an illness of middle age, primarily in men, but can occur at any age, including children.

Polysomnographic findings in Obstructive sleep apnoea;

1. There will be multiple periods of at least 10 second duration in which nasal and oral airflow ceases completely but there will be continuing efforts by the abdominal and accessory muscles of respiration to move air through obstruction which is indicated by the abdominal and chest leads.

2. Arterial oxygen saturation drops and, often is seen as bradycardia that may be accompanied by other arrhythmias, such as premature ventricular contractions.
3. At the end, an arousal reflex takes place, seen as a waking signal and possibly, as a motor artefact on the EEG channels. At this moment, sometimes called the breakthrough, the patient can be observed making brief restless movements in bed.

These events can happen both in REM and NREM sleep. Frequency is more in NREM sleep, severity more in REM sleep.

Psychiatric aspects of sleep apnoea include decreased ability to concentrate, decreased libido, memory complaints, and deficits in neuropsychological testing. Some have dysthymia feature and many have major depressive disorders.

Differential diagnosis of Obstructive sleep apnoea

1. Panic attacks, historically, which will be present during the day as well.
2. Paradoxical vocal cord movements - there will be a history of trauma or surgery
3. Nocturnal Laryngo spasm, in which patients report that they are unable to speak or can only whisper for a few minutes after awakening.

Treatment

1. Nasal continuous positive pressure airway is the treatment of choice
2. Other procedures include weight loss, nasal surgery, tracheostomy, and uvulopalatoplasty.
3. SSRIs and heterocyclic antidepressants have also been found beneficial in treatment of obstructive sleep apnoea.

Central Alveolar Hypoventilation

Refers to several conditions marked by impaired ventilation in which the respiratory abnormality appears or greatly worsens only during sleep and in which no significant apnoeic episodes are present. The Ventilatory dysfunction is characterized by inadequate tidal volume or respiratory rate during sleep. Death may occur during sleep (Ondine's curse). Central alveolar hypoventilation is treated with some form of mechanical ventilation (e.g., nasal ventilation).

Hypersomnia

Excessive sleepiness is a serious, debilitating, potentially life-threatening no communicable condition. It affects not only the afflicted individual, but also his or her family, co-workers, and the public at large.

Sleepiness can be a consequence of

- (1) Insufficient sleep
- (2) Basic neurologic dysfunction in brain systems regulating sleep
- (3) Disrupted sleep
- (4) The phase of an individual's circadian rhythm.

Fatigue, tiredness, and sleepiness are terms that are used by most people synonymously; however, one can be tired but not sleepy, sleepy but not tired, or sleepy and tired.

Sleepiness adversely affects attention, concentration, memory, and higher-order cognitive processes. Serious consequences of sleepiness include failure at school, loss of employment, motor vehicle accidents, and industrial disasters.

Primary Hypersomnia

Diagnosed when no other cause can be found for excessive somnolence occurring for at least 1 month. Sleep efficiency and the sleep-wake schedule are normal. This pattern is without complaints about the quality of sleep, daytime sleepiness, or difficulties with the awake mood, motivation, and performance. Long sleep may be a lifetime pattern, and it appears to have a familial incidence. Many persons are variable sleepers and may become long sleepers at certain times in their lives.

Treatment

Stimulant drugs are the main stay of treatment. Non sedative antidepressants like SSRIs are also beneficial.

Narcolepsy

Narcolepsy is the prototypical example of sleepiness produced by a basic central nervous system dysfunction of sleep mechanisms.

The classic form of narcolepsy is characterized by a tetrad of symptoms:

- (1) Excessive daytime sleepiness
- (2) Cataplexy
- (3) Sleep paralysis,
- (4) Hypnagogic hallucinations.

Patients with narcolepsy often have an abnormal sleep architecture in which REM sleep occurs soon after sleep onset both at night and during daytime naps.

Narcolepsy appear to be an REM sleep intrusion syndrome presumably resultant from dysfunction of REM sleep generator gating mechanisms.

Narcolepsy is estimated to afflict 10 to 60 individuals per 10,000.

Symptoms

The most common symptom is sleep attacks: Patients cannot avoid falling asleep. Often associated with the problem (close to 50 percent of long-standing cases) is cataplexy, a sudden loss of muscle tone, such as jaw drop, head drop, weakness of the knees, or paralysis of all skeletal muscles with collapse.

Other symptoms include hypnagogic or hypnopompic hallucinations, which are vivid perceptual experiences, auditory or visual, occurring at sleep onset or on awakening.

Other symptom is sleep paralysis, most often occurring on awakening in the morning; during the episode, patients are apparently awake and conscious but unable to move a muscle. If the symptom persists for more than a few seconds, as it often does in narcolepsy, it can become extremely uncomfortable.

Etiology

Hypocretin plays a critical role in narcolepsy.

A type of human leukocyte antigen called HLA-DR2 is found in 90 to 100 percent of patients with narcolepsy and only 10 to 35 percent of unaffected person

Treatment

Non pharmacological

1. Scheduled naps
2. Lifestyle adjustments
3. Psychological counselling
4. Careful monitoring of general health and cardiac status

Pharmacological

α_1 adrenergic agonist Modafinil has been approved by US FDA to improve psychomotor performance and to reduce sleep attacks in narcolepsy.

Tricyclic antidepressants and SSRIs which are REM sleep suppressants have also been proven beneficial in treatment of narcolepsy.

Circadian Rhythm Sleep Disorders

These are group of disorders where there is desynchrony between an individual's internal circadian biological clock and the desired sleep-wake cycle.

Four types of circadian rhythm sleep disorder

Delayed sleep phase type , Jet lag type, Shift work type, Unspecified

Jet Lag

Jet lag is an induced desynchrony between circadian and environmental clocks ,due to overseas journey with advent of high speed airways. Some persons find that they can prevent the symptoms by altering their mealtimes and sleep times in an appropriate direction before travelling. Melatonin taken orally at prescribed times is useful for some persons. Maximizing light exposure during the new daytime and minimizing light during the new night time are also helpful.

Shift Work Type

Shift workers commonly suffer from insomnia, excessive sleepiness, or both. Some individuals require only a short time to adjust to a shift change, whereas others have great difficulty. Frequent shift rotation adds to the problem. Shift work along with sleep disturbances have other difficulties, including accidents because of sleepiness during night time working hours and, in more extreme cases, a shift-work syndrome characterized by gastrointestinal (GI) and cardiovascular disorders.

Management ;

Various strategies, including napping before going into work in the evening or taking a scheduled nap during night time work hours, may be helpful.

Using bright light at night and avoiding light during the day have been proposed.

It may be helpful, for instance, for a night-shift worker driving home in the morning to wear sunglasses, so as not to get a large light exposure immediately before going to bed

Unspecified

Advanced Sleep Phase

Advanced sleep phase occurs when the circadian rhythm cycle is shifted earlier. Therefore, the sleepiness cycle is advanced with respect to clock time. Individuals with advanced sleep phase are drowsy in the evening, want to retire to bed earlier, awaken earlier,

and are more alert in the early morning. Individuals with this pattern of advanced sleep phase are sometimes called early birds or larks

Irregular Sleep-Wake Type

The irregular sleep-wake pattern occurs when the circadian sleep-wake rhythm is absent or pathologically diminished. The sleep-wake pattern is temporally disorganized, and the timing of sleep and wakefulness is unpredictable. Individuals with this condition have a normal amount of sleep during a 24-hour period; however, it is fragmented into three or more episodes that occur irregularly. Long daytime naps and inappropriate nocturnal wakefulness occur.

Parasomnias

Parasomnias are sometimes referred to as disorders of partial arousal. Parasomnias which occur during NREM sleep include confusional arousal, sleep walking, sleep terrors, those which occur during REM sleep include night mare disorder, recurrent isolated sleep paralysis.

Confusional Arousals

It is usually seen in children. The child will typically partially awaken from slow wave sleep and sit up. The episodes are marked by confusion, but usually the child lies back down and resumes sleep.

Sleep Walking

Sleepwalking in its classic form, as the name implies, is a condition in which an individual arises from bed and ambulates without fully awakening. Sleepwalks characteristically begin toward the end of the first or second slow-wave-sleep episodes. Sleepwalking episodes may range from sitting up and attempting to walk to conducting an involved sequence of semi purposeful actions. An individual who is sleepwalking is difficult to awaken. It is best gently to attempt to lead sleepwalkers back to bed rather than to attempt to awaken them by grabbing, shaking, or shouting. Sleepwalking is very common in children and has peak prevalence between ages 4 and 8 years. After adolescence it usually disappears spontaneously.

Treatment consists primarily of educating and reassuring the parents. Usually it is not associated with psychiatric illness. Medical intervention is rarely needed for sleepwalking.

Sleep Terrors

Sleep terror disorder is an arousal in the first third of the night during deep NREM (stages III and IV) sleep. It is almost invariably inaugurated by a piercing scream or cry and accompanied by behavioural manifestations of intense anxiety bordering on panic.

Amnesia for the episodes usually occurs. It is sometimes called pavor nocturnus, incubus, or night terror. Sleep deprivation can provoke or exacerbate sleep terrors.

Specific treatment for night terror disorder is seldom required. When medication is required, diazepam in small doses at bedtime improves the condition and sometimes completely eliminates the attacks.

Sleep-Related Bruxism

Bruxism, tooth grinding, occurs throughout the night, most prominently in stage II NREM sleep. The condition often goes unnoticed by the sleepers, except for an occasional jaw ache in the morning, but bed partners and roommates are consistently awakened by the sound. Treatment consists of a dental bite plate and corrective orthodontic procedures.

Sleep talking (Somniloquy)

Common in children and adults. Involves a few words that are difficult to distinguish. Long episodes of talking involves the sleepers life and concern. Deeper secrets are not revealed during sleep talking. Sleep talking doesn't require any treatment

Sleep related head banging

Sleep behaviour which consists of to and fro head movements occurring just before or during sleep. Treatment consists of measures to prevent head injury.

Nightmare Disorder

Nightmares are frightening or terrifying dreams. Sometimes called dream anxiety attacks, they produce sympathetic activation and ultimately awaken the dreamer. Nightmares occur in REM sleep and usually evolve from a long, complicated dream that becomes increasingly frightening. The person having been aroused to wakefulness, he or she typically remembers the dream (in contrast to sleep terrors). Some nightmares are recurrent..

Some persons have frequent nightmares as a lifelong condition; others experience them predominantly at times of stress and illness. Common in children ages 3 to 6 years (prevalence estimates range from 10 to 50 percent), nightmares are rare in adults (1 percent or less). Most patients afflicted with nightmares are free from psychiatric conditions.

Frequently occurring nightmares often produce a "fear of sleeping" type of insomnia. In turn, the insomnia may provoke sleep deprivation, which is known to exacerbate nightmares. In this manner,

a vicious cycle is created.

Treatment

Nonpharmacological

- Universal sleep hygiene
- Stimulus control therapy
- Lucid dream therapy
- Cognitive therapy

Pharmacological

Atypical antidepressants like Nefazadone (Serotonin antagonist and reuptake inhibitor) has been useful

Benzodiazepines have some beneficial effect.

Prazosin a centrally acting α_1 agonist which significantly increases REM sleep and total sleep, proven to be beneficial in treating nightmares.

Sleep-Related Movement Disorders

Restless Legs Syndrome

Restless limbs syndrome (RLS) (also known as Ekbom syndrome) is an uncomfortable, subjective sensation of the limbs, usually the legs, sometimes described as a creepy crawly feeling or as the sensation of ants walking on the skin. It tends to be worse at night, and is relieved by walking or moving about. Though cause is unknown, it appears more common in pregnancy, vitamin B12 deficiency, iron deficiency and renal disease.

Treatment include iron and vitamin supplements if detected deficient. Ropinirole, a dopamine agonist is approved by USFDA for treatment of restless leg syndrome

Sexuality, Sexual Function and its Disorders

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Sexuality:

Sex is a motive force uniting two people into intimate contact. Satisfying sexual experience is an essential part of a healthy and enjoyable life for most people. Sex is a multifaceted activity, involving complex interactions between the nervous system, the endocrine system, the vascular system and a variety of structures that are instrumental in sexual excitement, intercourse and satisfaction. Sexuality has been a consistent focus of curiosity, interest, and analysis to humankind.

Sexuality is an energy driven psychological vehicle for self-discovery, attachment, pleasure and self-esteem. The source of this energy, although unknown, was named libido nearly a century ago. For many decades psychoanalysts promoted the idea that libido provided the momentum for psychological development throughout the life. Sexuality is determined by anatomy, physiology, the culture in which the person lives, relationships with others, and developmental experiences throughout the life cycle. Thus sexuality is an important aspect of life that is expressed objectively by way of sexual function.

Normal Sexual Function:

Sexual function is our physiologic capacity for desire, arousal and orgasm. Regardless of what factors enter into sexual interest and performance, normal sexual function requires the integrity of the genitalia, the reliable co-ordination of blood flow, the activation of various smooth and skeletal muscles and the stimulation of local secretions. This is linked with cognitive processes attending to the sexual meaning of what is happening, either by focusing on external events or internal processes such as imagery. As mentioned earlier, Masters and Johnson first proposed sexual function as 'Sexual Response Cycle' consisting of three phases- desire, arousal (excitement) and orgasm. However, the division is arbitrary and it only helps to organize clinical and research oriented problems involving sexuality.

1. Desire (Libido)

It is a complex construct involving physiologic, cognitive, behavioural, developmental and cultural components. These components are thought of as the broad interest in sexual experiences including thoughts, fantasies, dreams and wishes along with an interest in initiating or engaging in sexual activity and frustration due to lack of opportunity for sexual expression. This stage is hypothetically a dopaminergic phenomenon mediated by mesolimbic dopaminergic "reward centre" including medial preoptic area (MPA) and anterior hypothalamus. The reward centre receives inputs from serotonergic and noradrenergic neurons and contains dopaminergic cell bodies. Other contributing factors include testosterone and oxytocin, as well as personality characteristics and psychosocial context.

2. Arousal

Sexual arousal is characterized by a subjective sense of sexual excitement associated with observable physiological changes such as penile tumescence in men and pelvic vasocongestion, vaginal lubrication and swelling of external genitalia in women. These responses may be accompanied in both sexes by other bodily changes like skin flushing, tachycardia etc.

Psychogenic penile erections are mediated by impulses descending from the cerebral cortex and limbic system to reach thoracolumbar sympathetic ganglia (inferior hypogastric plexus) and sacral parasympathetic ganglion. Baseline non-erect state is maintained by tonic adrenergic stimulation of μ_1 and μ_2 adrenoceptors. The sacral plexus via the pudendal and perineal nerves, initiates tactile reflexogenic erections. Hypogastric plexus mediates psychogenic penile erections. Efferent impulses from the parasympathetic vasodilator fibers in sacral plexus initiate vasodilatory mechanism for penile erection.

Psychological sexual arousal in women begins with increased clitoral length and diameter and vasocongestion of the vagina, vulva, clitoris, uterus, and possibly the urethra. Pelvic nerve stimulation results in clitoral smooth muscle relaxation and arterial smooth muscle dilation. With sexual arousal, there is an increase in clitoral cavernosal artery inflow and an increase in clitoral intracavernous pressure that leads to tumescence and extrusion of the clitoris. Engorgement of the genital vascular network increases pressure inside the vaginal capillaries and results in lubrication of the epithelial surface of the vaginal wall. The neurotransmitters that mediate clitoral and arterial smooth muscle dilation remain undetermined.

3. Orgasm

Orgasm in both sexes is characterized by climax of sexual pleasure associated with rhythmic contractions of perineal muscles,

cardiovascular and respiratory changes and a release of sexual tension.

In men, there are two physiological stages of orgasm - (i) Emission, (ii) Ejaculation

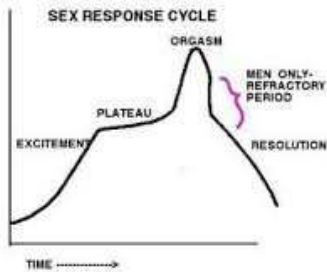
Emission involves the propulsion of seminal fluid to the bulbar urethra by the contraction of the smooth muscles of the vas deferens, prostate and seminal vesicles. This process is thought to be under the control of thoracolumbar sympathetic nerves which release norepinephrine on to alpha receptors. After emission, the external sphincter is opened to allow release of fluid. In the second stage, a local, parasympathetic, sacral spinal reflex activates the striated muscles surrounding the bulbar urethra, producing ejaculation. The rhythmic contraction of these muscles propels the semen outward. It is unclear to what degree the occurrence and intensity of orgasm are shaped by central neurochemical and cognitive processes. Smooth muscle controlled emission and striated muscle determined ejaculation involve separate nerve inputs and can be pharmacologically distinguished.

In women less is known about the neural mechanisms of orgasm and the process is assumed to be largely similar to that in the male. Women are capable of experiencing multiple orgasms in rapid succession, without the more prolonged refractory periods. Mechanisms that make this possible are not clear, although it is hypothesized that women are less sensitive to the post-orgasmic secretion of prolactin that is hypothesized to produce a refractory period in men and women.

Some women ejaculate fluid from the urethra with orgasm. Chemical analysis of this fluid confirms that while it may be mixed with small amounts of urine, it is predominantly a secretion from the paraurethral glands, thought to be a vestigial equivalent of the prostate. But this goes unrecognized when it occurs in a retrograde direction.

The graph below shows the sexual response cycle. In men there is a refractory period following orgasm during which it is physiologically impossible for them to have additional orgasms. In this period sexual stimulation does not produce an excitement. The duration of refractory period increases with age. This refractory period is usually absent in women as mentioned earlier. The table 1 shows some other male female differences in sexuality.

Table 1 Gender Differences in Sexuality



Men	Women
Genital-focused	Intimacy-focused
Performance-orientated	Sex viewed in a broader context
Orgasm mandatory	Orgasm optional
Visual stimulus has primacy	Visual stimulus often distracting
Tactile stimulus often distracting	Tactile stimulus (not exclusively genital) is enjoyed

Some authors also consider a fourth phase called 'Resolution' where there is return to baseline characterized by unaroused state with loss of vasocongestion in penis and vulva. Further, various hormones and neurotransmitters also play a significant role in sexual function. This has been summarised in the tables 2 and 3 below.

Table 2: Summary of Role of Hormones :

Stage of sexual response	Facilitate sexual function	Inhibits sexual function
Desire	Testosterone, Oxytocin	Prolactin, Cortisol
Arousal	Testosterone, Estrogen, Oxytocin	-
Orgasm	Oxytocin	-

Table3: Role of Neurotransmitters in sexual function

Stage	Facilitate sexual function	Inhibits sexual function
Desire	Dopamine, 2 antagonism	Serotonin, Histamine 2 blockade, GABA, Opioids
Arousal	NO, VIP, Dopamine Ach / NE balance	Beta blockers, Opioids, GABA, and H2 blockers
Orgasm	Dopamine, Norepinephrine	Serotonin, GABA, Opioids

Sexual Disorders:

As there are three important phases of sexual functioning, disorders in each phase have been recognized. Apart from that, sexual pain disorders, which are not a part of any phase of sexual function, are also determined. These disorders may be organic or psychogenic. Old age, systemic illnesses like diabetes, coronary artery disease and trauma (injuries involving pelvis, spinal cord and brain) are the underlying causes for organic sexual disorders. No such organic pathology is usually evident in psychogenic sexual disorders. Sexual dysfunction can also be due to an underlying psychiatric disorder like depression or psychosis, which has to be identified by careful assessment. Several prescribed drugs and substances of abuse are also known to cause sexual dysfunction. The ICD 10 by World Health Organization and DSM-V by American Psychiatric Association are the two diagnostic manuals that elaborate on sexual disorders. The following are the various sexual disorders.

Sexual Desire Disorders:

The common variety of desire disorder is called 'lack or loss of sexual desire' or 'hypoactive sexual desire disorder'. It is characterized by a deficiency or absence of sexual fantasies/desire for sexual activity. It is common in women than men. About 20% of US population suffers from this disorder. It can result from chronic stress, depression and anxiety. However factors like age, general health and life stresses must be considered while making a diagnosis. Also the diagnosis should not be made unless the lack of desire is a source of distress to the patient as different people have different levels of interest in sexual contact.

Another less common desire disorder is 'sexual aversion'. Here there is aversion to and avoidance of genital sexual contact with a sexual partner and even sexual activity by masturbation. The avoidance is due to fear or anxiety. This disturbance causes marked distress or interpersonal difficulty.

Sexual Arousal Disorders:**(i) Female sexual arousal disorder:**

This is explained in terms of the physiological sexual arousal response. There is usually a decreased 'lubrication-swelling' response of sexual excitement in vagina. However a subjective sense of arousal is often poorly correlated with it in that a women complaining of lack of arousal may lubricate vaginally, but may not experience a subjective sense of excitement. However this dysfunction causes marked distress in women. Alterations in testosterone, estrogen, prolactin and thyroxin levels are also implicated.

(ii) Male erectile disorder:

This is also known by other names such as 'failure of genital response', 'impotence', 'erectile dysfunction'. It is reported in about 20% of all men. The prevalence increases with age. However the 'fear' of impotence is much more common than actual impotence in men above 40 yrs of age. The primary problem here is the inability to achieve or maintain erection till the completion of intercourse. In psychogenic impotence, spontaneous erection, early morning erection and erection during masturbation are all preserved.

Orgasmic disorders:**(i) Female orgasmic disorder:**

This condition, also known as 'inhibited female orgasm', 'orgasmic dysfunction', and 'anorgasmia' is defined as the recurrent or persistent inhibition of female orgasm, as manifested by the recurrent delay in, or absence of, orgasm after a normal sexual excitement phase that a clinician judges to be adequate in focus, intensity and duration. In short, it is a women's inability to achieve orgasm by masturbation (clitoral stimulation) or coitus (vaginal penetration). The overall prevalence of female orgasmic disorder from all causes is estimated to be about 30%. Numerous psychological factors are associated with female orgasmic disorder. They include fears of impregnation, rejection by a sex partner, damage to the vagina, hostility for men and feelings of guilt about sexual impulses. Some women equate orgasm with loss of control or with aggressive, destructive or violent impulses. Their fear of these impulses may be expressed through inhibition of excitement or orgasm. Cultural expectations and social restrictions on women are also relevant. Many women have grown up to believe that sexual pleasure is not a natural entitlement for so-called decent women.

(ii) Male orgasmic disorder :

Orgasmic disorder is more common in women than men. It is seen in 5% of men. Also known as 'retarded ejaculation', a man achieves ejaculation during coitus with great difficulty, if at all. Some researchers think that orgasm and ejaculation should be differentiated, especially in the case of men who ejaculate but complain of a decreased or absent subjective sense of pleasure during the orgasmic experience (orgasmic anhedonia).

(iii) Premature ejaculation:

Here the orgasm and ejaculation are achieved before the person wishes to. The diagnosis is made when a man regularly ejaculates before or immediately after entering the vagina. For those who are able to penetrate, the time defined is 1 min following vaginal

penetration. Internationally, more than 30% of men aged 18-70 yrs report concern about how rapidly they ejaculate. Its prevalence increases with age. It may be more in men with anxiety disorders, especially social phobia.

(iv) Delayed ejaculation:

The distinguishing feature of delayed ejaculation is a marked delay in or inability to achieve ejaculation despite the presence of adequate sexual stimulation and the desire to ejaculate. The definition of 'delay' does not have precise boundaries. The man and his partner report prolonged thrusting to achieve orgasm to the point of exhaustion or genital discomfort and then ceasing efforts. It is the least common male sexual complaint seen in less than 1% individuals.

Sexual Pain disorders:

(i) Dyspareunia:

Dyspareunia is recurrent or persistent genital pain occurring in either men or women before, during or after intercourse. However it is much more common in women. It often coincides with vaginismus. The pain may not be necessarily due to lack of lubrication. Marked anticipatory anxiety of such pain during future intercourse is another characteristic symptom. Thus in females there is marked tightening of the pelvic floor muscles during attempted vaginal penetration. The exact prevalence is not known; however about 15% women report recurrent pain during intercourse. Gynaecological and urinary tract infections are the common organic causes of dyspareunia.

(ii) Vaginismus:

Vaginismus is an involuntary muscle constriction of the outer third of vagina that interferes with penile insertion and intercourse. This can also happen during a gynaecological examination when involuntary vaginal constriction prevents the introduction of the speculum into the vagina. It is a rare disorder. Even though the woman consciously wishes to have coitus, unconscious wish is to keep a penis from entering their bodies. A sexual trauma like rape, religious belief that sex is sin, psychological abuse by partner, episiotomy scars and vaginitis are the common causes of vaginismus.

Sexual Dysfunction due to General Medical Condition:

A variety of medical disorders are known to be associated with sexual dysfunction. Table 4 represents some of them.

**Table 4: Diseases and Medical Conditions
Implicated in Male Erectile Disorder.**

Infectious and parasitic Diseases	Neurological disorders
Elephantiasis	Multiple sclerosis
Mumps	Transverse myelitis
Cardiovascular disease	Parkinson's disease
Atherosclerotic disease	Temporal lobe epilepsy
Aortic aneurysm	Traumatic and neoplastic spinal cord diseases
Leriche's syndrome	Central nervous system tumor
Cardiac failure	Amyotrophic lateral sclerosis
Renal and urological disorders	Peripheral neuropathy
Peyronie's disease	General paresis
Chronic renal failure	Tabes dorsalis
Hydrocele and varicocele	Pharmacological factors
Hepatic disorders	Alcohol and other dependence-inducing substances
Cirrhosis (usually associated with alcohol dependence)	(Heroin, methadone, morphine, cocaine, amphetamines, and barbiturates)
Pulmonary disorders	Prescribed drugs (psychotropic drugs, antihypertensive drugs, estrogens, antiandrogens)
Respiratory failure	
Genetics	
Klinefelter's syndrome	
Congenital penile vascular and structural abnormalities	
Poisoning	
Nutritional disorders	Lead (plumbism)
Malnutrition	Herbicides
Vitamin deficiencies	Surgical Procedures
Obesity	Perineal prostatectomy
Endocrine disorders	Abdominal- perineal colon resection
Diabetes mellitus	Sympathectomy (frequently interferes with ejaculation)
Dysfunction of the pituitary-adrenal- testis axis	Aortoiliac surgery
Acromegaly	Radical cystectomy

Addison's disease	Retroperitoneal lymphadenectomy
Chromophobe adenoma	Miscellaneous
Adrenal neoplasia	Radiation therapy
Myxedema	Pelvic failure
Hyperthyroidism	Any severe disease or debilitating condition

Substance induced sexual dysfunction:

An orchestra of prescribed drugs and substances of abuse are known to cause sexual dysfunction. They are mentioned in Tables 5A and 5B given below.

Table 5A: Some Pharmacological Agents Implicated in male Sexual Dysfunctions

Drug	Impairs erection	Impairs	Ejaculation
Cyclic antidepressant drugs			
Imipramine		+	+
Protriptyline		+	+
Desipramine		+	+
Clpmipramine		+	+
Amitriptyline		+	+
Trazodone		-	-
Monoamine oxidase inhibitors			
Tranlycypromine		+	
Phenelzine		+	+
Pargyline		-	+
Isocarboxazid		-	+
Other mood- active drugs			
Lithium		+	
Amphetamines		+	+
Fluoxetine		-	+
Antipsychotics			
Fluphenazine		+	
Thioridazine		+	+
Chlorprothixene		-	+
Mesoridazine		-	+
Perphenazine		-	+
Trifluoperazine		-	+
Reserpine		+	+
Haloperidol		-	+
Antianxiety Agent			

Chlordiazepoxide	-	+
Antihypertensive drugs		
Clonidine	+	
Methyl dopa	+	+
Spiro nolalactone	+	-
Hydro chlorothiazide	+	-
Guanethidine	+	+
Commonly abused substances		
Alcohol	+	+
Barbiturates	+	+
Cannabis	+	-
Cocaine	+	+
Heroin	+	+
Methadone	+	-
Morphine	+	+
Miscellaneous drugs		
Antiparkinsonian agents	+	+
Clofibrate	+	-
Digoxin	+	-
Glutethimide	+	+
Indometacin	+	-
Phentolamine	-	+
Propranolol	+	-

Table 5B: Some Psychotropic Drugs Implemented in Inhibited Female Orgasm

Tricyclic antidepressants	Dopamine receptor antagonists
Imipramine	Thioridazine
Clomipramine	Trifluoperazine
Nortriptyline	Selective serotonergic receptor inhibitors
Monoamine oxidase inhibitors	Fluxetine Paroxetine
Tranlycypromine	Sertraline
Phenelzine	Fluvoxamine
Iso carboxazid	Escitalopram

Management:

The treatment of sexual disorders has evolved significantly since the 1970s, when Masters and Johnson focused the attention of the psychiatric community on sexual disorders. In many of the cases,

successful treatment of the primary physical/psychiatric disorder will remit the associated sexual dysfunction. A thorough history is the fundamental tool to etiologically evaluate sexual dysfunction, which further guides towards appropriate treatment. Addressing stigma related to sexual problems is equally important. Such counseling may make one to open up providing valuable information needed for diagnosis. The aims of assessment are to -

- ▶ Define the nature of sexual problems and what changes are desired.
- ▶ Obtain the information which allows formulating a tentative explanation of the causes of the problem in terms of predisposing, precipitating and maintaining factors.
- ▶ Assessment into medical disorders/medication that commonly lead to sexual dysfunction.
- ▶ Thorough genitourinary examination including relevant laboratory studies like serum prolactin levels.
- ▶ Assess what type of therapeutic intervention is indicated on the basis of this formulation.

The other model applied in Management of Sexual Disorders is PLISSIT. PLISSIT is an acronym. The P stands for permission; LI for limited information; SS for specific suggestion; IT for intensive therapy.

Treatment of impaired sexual desire:

Historically, attempts to treat hypoactive sexual desire disorder typically followed the sex therapy prototype developed by Masters and Johnson in 1970s. However, recently researchers and practitioners have begun to explore concomitant psychotherapies. Some of them are-

- ▶ Group therapy in conjunction with orgasm consistency training, which consists of directed masturbation, sensate focus exercises, male self-control and the timing of male orgasm.
- ▶ A comprehensive program of multimodal cognitive behavioural approach which entails sexual intimacy exercises, sensate focus, communication skills training, emotional skills training, reinforcement training, cognitive restructuring, sexual fantasy training and couple sex group therapy.
- ▶ Multistage treatment approach.
- ▶ Affectual awareness training: to identify negative emotions through techniques such as list making, role-playing and imagery.
- ▶ Insight and understanding: to educate couples about their feelings using variety of strategies like Gestalt therapy and Transactional analysis.

- ▶ Cognitive and systematic therapies are included to provide coping mechanisms as well as to resolve underlying relational problem.
- ▶ Behavioural therapy is aimed at initially improving non-sexual affectionate behavior with an eventual goal of introducing mutually acceptable sexual behavior.

Managing erectile dysfunction:

Masters & Johnson approach: This therapy proceeds in three stages. The first stage is called 'non-genital sensate focus' which aims to provide the couple with an opportunity to establish closeness and physical intimacy but no genital stimulation. This is followed by stage II known as 'Genital sensate focus' where stimulation of the genitals is allowed. Final stage is called 'Vaginal containment' in which couples eventually engage in intercourse. However, it has been reported that this technique has not been effective in all cases of erectile dysfunction.

Cognitive strategies: These are based on reinforcement of certain common realities about sexuality. One such approach is acceptance of occasional erectile problems as a normal variation and treating it as a lapse and not a relapse. Another concept is to experience sexuality as "pleasuring play eroticism" i.e. not to be distracted by performance demands and viewing intercourse as natural continuation of erotic flow and not as pass-fail test. Yet another strategy is to view the partner as an intimate friend rather than as a demanding critic for whom he has to perform.

Behavioural strategies: This involves establishment of sensual and erotic scenarios, which acts as transition if arousal does not result in intercourse. Sensual scenarios are pleasure oriented ways of bonding, involving and satisfying both people e.g. being playful and sharing intimacy, lying together and talking. Erotic scenarios are non-intercourse ways of experiencing arousal and orgasm. Ex: mutual oral and manual stimulation. Another helpful approach is to empower the medicated member of the couple to engage in sexual activity with an understanding that he or she can stop the process at any time. Permission to stop, if the intimacy is not experienced as pleasurable, may paradoxically reduce performance anxiety and allow for greater enjoyment. The clinician can suggest that sexual activity can take place during the part of the day when patient feels best and most capable rather than being deferred to late night, when physical and/or emotional exhaustion might pose a further impediment to success.

Pharmacological methods :

Several drugs have been found to be useful for erectile dysfunction. However the major drawbacks in many of them is that they cannot be used on a regular basis and they are not curative

- ▶ Nitric oxide enhancers - Sildenafil, vardenafil and tadalafil available as tablets, facilitate penile erection as well as vaginal lubrication within one hour of ingestion. They act by inhibiting phosphodiesterase-5. They are effective in both men and women.
- ▶ Phentolamine - It is an orally effective opioid compound, can be useful in mild erectile dysfunction, though not FDA approved. It reduces sympathetic tone and relaxes corporeal smooth muscle.
- ▶ Alprostadil - Available as injectable and transurethral form. It contains prostaglandin E1 which is a powerful vasodilator. A firm erection is produced within 2-3 min after intracavernosal injection or intraurethral insertion of a pellet and lasts for about 1 hr.
- ▶ Locally applied cream containing a mixture of three vasoactive substances aminophylline, isosorbide dinitrate and co-dergocrine mesylate is found to be effective in two small trials. A cream incorporating alprostadil also has been developed to treat female sexual arousal disorder.
- ▶ Trazodone is useful due to its adverse effect of preapism, which is utilized for erectile dysfunction.
- ▶ Hormone therapy with testosterone or GnRH and aphrodisiac herbal compounds like yohimbine (alpha adrenergic antagonist), ginseng, mucuna pruriens, withania somnifera are also found to be effective when taken for a period of few days to weeks.

Surgical approaches:

- ▶ Male prosthetic devices: A semirigid rod prosthesis provides permanent erection while the inflatable type can be deflated after use.
- ▶ Vacuum pumps: These are mechanical devices for patients without vascular disease. Vacuum is created by a ring placed around the base of penis that draws blood and maintains erection. EROS is a similar device for clitoral erection in women.

Managing premature ejaculation (PE):

i) Traditional techniques

- ▶ Squeeze Technique: It is used to raise the threshold of penile excitability. Man/woman stimulates the erect penis until the earliest sensations of impending ejaculation are felt. At this point the woman forcefully squeezes the coronal ridge of the glans, the erection is diminished and ejaculation is inhibited.
- ▶ Start - Stop Technique : This variant of squeeze technique was developed by James H. Semans. The woman stops all stimulations of the penis when the man first senses an impending ejaculation. No squeeze is used.

ii) Individual procedures:

- ▶ Physiological relaxation training: Quiet focus on breathing, body awareness and muscle relaxation is encouraged. Its purpose is to concentrate on physical sensation and to ease bodily tension.
- ▶ Pubococcygeal muscle control technique: It capitalizes on the natural ejaculatory inhibiting effect of relaxing the muscle involved in ejaculation. In this, conscious capacity to relax pelvic muscles and pubococcygeal muscle relaxation is taught while experiencing sexual arousal.
- ▶ Pelvic floor rehabilitation training: Physiokinestherapy of the pelvic floor, electrostimulation, and biofeedback are the 3 techniques taught here to provoke contractions of the pelvic floor, strengthening the muscles and improving self awareness of motor activity.
- ▶ Cognitive and Behavioural pacing techniques:
 - ▶ Cognitive arousal continuum technique: A thought pacing technique to regulate arousal and inhibit ejaculation by focusing specifically on varying levels of sexually arousing activities. Steps are:-
 1. Identify, observe and distinguish those detailed thoughts (fantasy), actions, feelings, scenarios and sequences that lead to individual's arousal pattern
 2. Make a hierarchy of them based on the understanding of the individual's incremental arousal.
 3. Thereafter during intercourse, individual is better able to regulate his level of stimulation by concentrating on items in order to increase or decrease his level of arousal.
 - ▶ Sensual awareness training/Enhancement arousal: PE is said to occur commonly when ones erotic stimuli is outside one's own body, ie typically in the sexual partner. Hence the individual is guided to focus on visual and tactile exploration of his own body. Individual learns to be familiar with his own physical sensation (awareness) and then learn to cognitively and behaviourally orchestrate his sexual arousal.

iii) Couple procedures:

- ▶ Couple sensate focus pleasuring exercise: This involves homework sessions with the couple relaxing and gently pleasuring each other until the man relaxes physiologically and concentrates on his own physical sensation during gentle stimulation by the partner.
- ▶ Partner genital exploration relaxation exercise: Partners become more comfortable and relaxing with mutual exploration,

observation and stimulation of each other's own body including genitals.

- ▶ Intercourse acclimatization: After vaginal penetration, the man stops movement and rests while the penis acclimates to the internal vaginal atmosphere until reaching a pleasure saturation point.

iv) Medical management:

- ▶ SSRIs - the adverse effect of retarded ejaculation is a benefit in PE.
- ▶ Thioridazine also impairs ejaculation, hence used in PE.
- ▶ Anxiolytic drugs (Ex: benzodiazepines) to allay anxiety which is most commonly associated with PE.
- ▶ Treatment of primary psychiatric illness where PE is secondary to it will many times also set right PE.

v) Miscellaneous methods:

- ▶ The methods like watchful waiting, drug holiday, risk factor modification are all applicable in case of PE too.
- ▶ Switching to alternative drug if PE is drug induced.
- ▶ Handling 'performance anxiety' with effective counseling and psychoeducation where that is the cause of PE.

Managing Dyspareunia by physical therapy:

Treatment is given through manual or physical means. It includes modalities like therapeutic exercises to desensitize, stretch and strengthen perineal soft tissue and pelvic muscles through Kegels exercise, along with other procedures like relaxation, postural education, and biofeedback.

Management of vaginismus:

Recent researchers have found Cognitive Behaviour Therapy (CBT) useful in the treatment of vaginismus, especially if it is of psychogenic origin. CBT strategies mainly consist of -

- ▶ Sensate focus- to reduce performance anxiety
- ▶ Vaginal dilatation either with the help of instruments or use of self-finger approach to desensitize.
- ▶ Cognitive restructuring- to change the dysfunctional thoughts interfering with sexual functioning.

Other approaches:

- (i) For sexual effects due to general medical condition/drugs
 - ▶ Treatment of the primary disorder
 - ▶ Watchful waiting

- ▶ Drug holiday
- ▶ Switching to alternative drugs
- (ii) Risk factor modification
 - ▶ Minimizing use of other medication known to cause ED
 - ▶ Alcohol & smoking cessation
 - ▶ Maintaining tight glycemic control in diabetics
 - ▶ Regular exercise is found to maintain optimum level of testosterone

Conclusion:

Sexual health is a key aspect in the overall health of an individual. Normal sexual function is rewarding to oneself and enhances the quality of life. There are several disorders associated with sexual functioning. Most of them are the abnormalities of the sexual response cycle involving desire, arousal and orgasm. Sexual disorders are either organic or psychogenic. Many medical disorders and drugs/substances are also associated with sexual dysfunction. All sexual disorders are treatable by psychological methods or psychotropic drugs as well as life style modification. Counseling to overcome stigma related to sexual problems is vital in effective management.

Child and Adolescent Psychiatry

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Introduction : Mental health problems affect 10-20% of children and adolescents worldwide. Despite their relevance as a leading cause of health-related disability in this age group and their long lasting effects throughout life, the mental health needs of children and adolescents are neglected, especially in low-income and middle-income countries.

Epidemiology:

It is important to highlight the following: World-wide up to 20% of children and adolescents suffer from a disabling mental illness. World-wide suicide is the 3rd leading cause of death among adolescents (WHR 2001). Major depressive disorder (MDD) often has an onset in adolescence, across diverse countries, and is associated with substantial psychosocial impairment and risk of suicide. Conduct disorder related behaviors tend to persist into adolescence and adult life through drug abuse, juvenile delinquency, adult crime, antisocial behavior, marital problems, poor employee relations, unemployment, interpersonal problems, and poor physical health. Eating disorders are becoming more prevalent and observable across cultures. These difficult to treat disorders also demonstrate a continuity between adolescent onset and adult risk for the presence of a psychiatric disorder.

Aetiology: There are multiple risk factors linked to the development of psychiatric disorder in childhood and adolescence. Many of these factors can be transactional and can interact with each other increasing the risk. These can range from antenatal, perinatal, post natal events, genetic factors, neurobiological, psychological and psychosocial related factors. There is a predominant role of family and parental negative life events, peer related problems, academic and school related problems which can increase vulnerability to child psychiatric disorder. However, due to the heterogeneity in the groups of disorders, it is very difficult to establish direct etiological links

between a single risk factor and a particular child or adolescent psychiatric disorder.

Over view of child and adolescent psychiatric disorders:

Pervasive developmental Disorders: The pervasive developmental disorders (PDDs) comprise a group of neuropsychiatric disorders characterized by specific delays and deviance in social, communicative, and cognitive development, with an onset typically in the first years of life. In addition to autism, various other disorders are included with the PDD class in DSM-IV. These include Asperger's disorder, Rett disorder, childhood disintegrative disorder (CDD), and pervasive developmental disorder not otherwise specified (PDD-NOS)

a. Childhood autism : A pervasive developmental disorder defined by the presence of abnormal and/or impaired development that is manifest before the age of 3 years, and by the characteristic type of abnormal functioning in all three areas of social interaction, communication, and restricted, repetitive behaviour.

b. Atypical autism: It differs from autism in terms either of age of onset or of failure to fulfil all three sets of diagnostic criteria. Thus, abnormal and/or impaired development becomes manifest for the first time only after age 3 years; and/or there are insufficient demonstrable abnormalities in one or two of the three areas of psychopathology required for the diagnosis of autism (namely, reciprocal social interactions, communication, and restrictive, stereotyped, repetitive behaviour) in spite of characteristic abnormalities in the other area(s).

c. Rett's syndrome : Typically, apparently normal or near-normal early development is followed by partial or complete loss of acquired hand skills and of speech, together with deceleration in head growth, usually with an onset between 7 and 24 months of age. Hand-wringing stereotypies, hyperventilation and loss of purposive hand movements are particularly characteristic. Social and play development are arrested in the first 2 or 3 years, but social interest tends to be maintained. During middle childhood, trunk ataxia and apraxia, associated with scoliosis or kyphoscoliosis tend to develop and sometimes there are choreoathetoid movements. Severe mental handicap invariably results. Fits frequently develop during early or middle childhood. spectrum disorders (ASDs).

d. Childhood disintegrative disorder : A pervasive developmental disorder (other than Rett's syndrome) that is defined by a period of normal development before onset, and by a definite loss, over the course of a few months, of previously acquired skills in at least several areas of development, together with the onset of

characteristic abnormalities of social, communicative, and behavioural functioning

e. Asperger's syndrome : A disorder of uncertain nosological validity, characterized by the same kind of qualitative abnormalities of reciprocal social interaction that typify autism, together with a restricted, stereotyped, repetitive repertoire of interests and activities. The disorder differs from autism primarily in that there is no general delay or retardation in language or in cognitive development. Most individuals are of normal general intelligence but it is common for them to be markedly clumsy; the condition occurs predominantly in boys (in a ratio of about eight boys to one girl. There is a strong tendency for the abnormalities to persist into adolescence and adult life and it seems that they represent individual characteristics that are not greatly affected by environmental influences.

Specific developmental disorder of motor function

The main feature of this disorder is a serious impairment in the development of motor coordination that is not solely explicable in terms of general intellectual retardation or of any specific congenital or acquired neurological disorder (other than the one that maybe implicit in the coordination abnormality). It is usual for the motor clumsiness to be associated with some degree of impaired performance on visuo-spatial cognitive tasks.

Mental retardation: Mental retardation is a condition of arrested or incomplete development of the mind, which is especially characterized by impairment of skills manifested during the developmental period, which contribute to the overall level of intelligence, i.e. cognitive, language, motor, and social abilities. Retardation can occur with or without any other mental or physical disorder. Mental retardation (MR) is defined on the basis of three essential features: subnormal intellectual functioning, commensurate deficits in adaptive functioning, and onset before 18 years. Subnormal intellectual functioning is characterized by an intelligence quotient (IQ) lower than 70, based in most cases on the administration of an appropriate standardized assessment of intelligence. Deficits in adaptive skills, which involve one's social and personal sufficiency and independence, are generally measured on instruments such as the recently re-revised Vineland Adaptive Behavior Scales or a similar scale. Various levels of MR are specified in the DSM-IV-TR: mild (IQ 50 to 70), moderate (IQ 35 to 49), severe (IQ 20 to 34), and profound (IQ <20). Most persons with MR in childhood are those with mild MR (about 85% of cases); the remainder of cases comprise those with

moderate (about 10%), severe (about 4%), and profound (1% to 2%) MR

Learning Disability : Specific learning disability means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations. The term includes such conditions as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. The term does not include children who have learning problems which are primarily the result of visual, hearing, or motor handicaps, of mental retardation, or emotional disturbance, or of environmental, cultural, or economic disadvantage

a. Specific reading disorder: The main feature of this disorder is a specific and significant impairment in the development of reading skills, which is not solely accounted for by mental age, visual acuity problems, or inadequate schooling. Reading comprehension skill, reading word recognition, oral reading skill, and performance of tasks requiring reading may all be affected. Spelling difficulties are frequently associated with specific reading disorder and often remain into adolescence even after some progress in reading has been made.

b. Specific spelling disorder : The main feature of this disorder is a specific and significant impairment in the development of spelling skills in the absence of a history of specific reading disorder, which is not solely accounted for by low mental age, visual acuity problems, or inadequate schooling. The ability to spell orally and to write out words correctly are both affected.

c. Specific disorder of arithmetical skills : This disorder involves a specific impairment in arithmetical skills, which is not solely explicable on the basis of general mental retardation or of grossly inadequate schooling. The deficit concerns mastery of basic computational skills of addition, subtraction, multiplication, and division (rather than of the more abstract mathematical skills involved in algebra, trigonometry, geometry, or calculus).

Communication disorders: Communication disorders include any difficulty that affects an individual's ability to engage in reciprocal social interactions. Thus, communication disorders are defined quite broadly. They can include the problems high-functioning individuals with autism have in engaging in conversation, the deficits in reading and writing seen in children with language-based learning disabilities, or the lack of access to language input seen in people who are deaf. Thus, the term communication disorder subsumes the many kinds of

difficulties of speech, language, and social interaction that can affect one's ability to participate in conversation and social intercourse

1.Acquired aphasia with epilepsy [Landau-Kleffner syndrome]A disorder in which the child, having previously made normal progress in language development, loses both receptive and expressive language skills but retains general intelligence. Onset of the disorder is accompanied by paroxysmal abnormalities on the EEG (almost always from the temporal lobes, usually bilateral, but often with more widespread disturbance), and in the majority of cases also by epileptic seizures. Typically the onset is between the ages of 3 and 7 years but the disorder can arise earlier or later in childhood.

2.Specific speech articulation disorder A specific developmental disorder in which the child's use of speech sounds is below the appropriate level for his or her mental age, but in which there is a normal level of language skills.

3.Expressive language disorder A specific developmental disorder in which the child's ability to use expressive spoken language is markedly below the appropriate level for his or her mental age, but in which language comprehension is within normal limits. There may or may not be abnormalities in articulation.

4.Receptive language disorder A specific developmental disorder in which the child's understanding of language is below the appropriate level for his or her mental age. In almost all cases, expressive language is markedly disturbed and abnormalities in word-sound production are common.

ADHD: Attention deficit/hyperactivity disorder (ADHD) is a syndrome of inattention, distractibility, restless overactivity, impulsiveness and other deficits of executive function. The cardinal features are impaired attention and overactivity: both are necessary for the diagnosis and should be evident in more than one situation (e.g. home, classroom, clinic). Impaired attention is manifested by prematurely breaking off from tasks and leaving activities unfinished. The children change frequently from one activity to another, seemingly losing interest in one task because they become diverted to another (although laboratory studies do not generally show an unusual degree of sensory or perceptual distractibility). These deficits in persistence and attention should be diagnosed only if they are excessive for the child's age and IQ.

This behavioural feature is most evident in structured, organized situations that require a high degree of behavioural self-control. The associated features are not sufficient for the diagnosis or even

necessary, but help to sustain it.

Oppositional Defiance disorder: This disorder is characteristically seen in children below the age of 9 or 10 years. It is defined by the presence of markedly defiant, disobedient, provocative behaviour and by the absence of more severe dissocial or aggressive acts that violate the law or the rights of others.

Conduct disorder : Conduct disorders are characterized by a repetitive and persistent pattern of dissocial, aggressive, or defiant conduct. Such behaviour, when at its most extreme for the individual, should amount to major violations of age-appropriate social expectations, and is therefore more severe than ordinary childish mischief or adolescent rebelliousness. Isolated dissocial or criminal acts are not in themselves grounds for the diagnosis, which implies an enduring pattern of behaviour.

Disorders of conduct may in some cases proceed to dissocial personality disorder. Conduct disorder is frequently associated with adverse psychosocial environments, including unsatisfactory family relationships and failure at school, and is more commonly noted in boys.

Childhood onset schizophrenia Psychotic disorders are rare in children although transient psychotic phenomena are more common in healthy and mildly disturbed children than generally recognized. As is often the case with other very early onset illnesses, psychotic disorders in children are usually more severe than their adult counterparts, and the disruption of cognitive and social development and the burden to the family can be devastating.

Depressions: Depressive disorders in childhood and adolescence are characterized by core persistent and pervasive sadness, anhedonia, boredom or irritability that is functionally impairing, and relatively unresponsive to usual experiences that might usually bring relief, such as pleasurable activities and interactions and attention from other people.

Bipolar Disorders: It is now recognized that bipolar disorder (BP) occurs in children and adolescents. However, many children and adolescents with BP have very short and frequent periods of syndromal or subsyndromal mania, hypomania, or depression, making their diagnosis especially difficult. Pediatric BP severely affects the normal development and psychosocial functioning of the child and increases the risk for suicide, psychosis, substance abuse, as well as for behavioral, academic, social, and legal problems.

Tic disorder : A tic is an involuntary, rapid, recurrent, non-rhythmic motor movement (usually involving circumscribed muscle groups), or vocal production, that is of sudden onset and serves no apparent purpose. Both motor and vocal tics may be classified as either simple or complex, although the boundaries are not well defined. Common simple motor tics include eye-blinking, Tic disorders are transient or chronic conditions associated with difficulties in self-esteem, family life, social acceptance or school or job performance that are directly related to the presence of motor and/or phonic tics. neck-jerking, shoulder-shrugging, and facial grimacing. Common simple vocal tics include throat-clearing, barking, sniffing, and hissing. Common complex tics include hitting one's self, jumping, and hopping. Common complex vocal tics include the repetition of particular words, and sometimes the use of socially unacceptable (often obscene) words (coprolalia), and the repetition of one's own sounds or words (palilalia). At the one extreme the phenomenon is near-normal, with perhaps 1 in 5 to 1 in 10 children showing transient tics at some time. At the other extreme, Tourette's syndrome is an uncommon, chronic, incapacitating disorder.

Feeding and Eating disorders:

1. Pica is defined as the persistent eating of nonnutritive substances for at least 1 month in such a fashion that such eating is inappropriate to developmental level and is not part of culturally sanctioned practice
2. Feeding disorder: It generally involves refusal of food and extreme faddiness in the presence of an adequate food supply and a reasonably competent care-giver, and the absence of organic disease. There may or may not be associated rumination (repeated regurgitation without nausea or gastrointestinal illness).
3. Failure to thrive (FTT) is a disorder of infancy and early childhood characterized by a marked deceleration of weight gain and a slowing or disruption of acquisition of emotional and social developmental milestones. Deceleration of linear growth and head circumference growth are associated but not primary phenomena.
4. Anorexia nervosa and bulimia nervosa are the two major eating disorders. They are complex syndromes with considerable psychiatric and medical comorbidities seen commonly in adolescents globally.

Substance Abuse and dependence: Substance use disorders (SUDs) encompass two major categories: substance abuse (SA) and substance dependence (SD). In addition, there are intoxication and

withdrawal states related to specific substances which as seen in adults are commonly found in adolescents as well.

Somatoform Disorders: Somatoform disorders are defined by the presence of physical symptoms that suggest a physical disorder but are not fully explained by the presence of a general medical condition, the direct effects of a substance, or another mental disorder. The symptoms must cause distress or functional impairment and should not appear to be voluntarily or intentionally produced. Seven specific somatoform disorders are described in the DSM-IV: somatization disorder; undifferentiated somatoform disorder; conversion disorder; pain disorder; hypochondriasis; body dysmorphic disorder (BDD); and somatoform disorder, not otherwise specified.

Delirium and Catatonia : Children and the elderly reportedly are at higher risk to the development of delirium under circumstances of physiological stress. Children are thought to be more vulnerable because of immature and evolving structural and biochemical brain development. Intrinsic predisposing patient vulnerabilities in addition to age would include a previous delirium episode, preexisting cognitive impairment, a CNS disorder, and increased blood brain barrier permeability. Environmental risk factors include social isolation, sensory extremes, visual or hearing deficits, immobility, as well as environmental novelty or stress. Other risk factors include medical illness, surgery, and pharmacological influences.

Enuresis: A disorder characterized by involuntary voiding of urine, by day and/or by night, which is abnormal in relation to the individual's mental age and which is not a consequence of a lack of bladder control due to any neurological disorder, to epileptic attacks, or to any structural abnormality of the urinary tract. The enuresis may have been present from birth (i.e. an abnormal extension of the normal infantile incontinence) or it may have arisen following a period of acquired bladder control. The later onset (or secondary) variety usually begins about the age of 5 to 7 years.

Encopresis: Repeated voluntary or involuntary passage of faeces, usually of normal or near-normal consistency, in places not appropriate for that purpose in the individual's own sociocultural setting. The condition may represent an abnormal continuation of normal infantile incontinence, it may involve a loss of continence following the acquisition of bowel control, or it may involve the deliberate deposition of faeces in inappropriate places in spite of normal physiological bowel control.

Stuttering [stammering]: Speech that is characterized by frequent

repetition or prolongation of sounds or syllables or words, or by frequent hesitations or pauses that disrupt the rhythmic flow of speech. Minor dysrhythmias of this type are quite common as a transient phase in early childhood, or as a minor but persistent speech feature in later childhood and adult life. They should be classified as a disorder only if their severity is such as markedly to disturb the fluency of speech. There may be associated movements of the face and/or other parts of the body that coincide in time with the repetitions, prolongations, or pauses in speech flow.

Stereotyped movement disorders Voluntary, repetitive, stereotyped, nonfunctional (and often rhythmic) movements that do not form part of any recognized psychiatric or neurological condition. The movements that are noninjurious include: body-rocking, head-rocking, hair-plucking, hair-twisting, finger-flicking mannerisms, and hand-flapping. Stereotyped self-injurious behaviour includes repetitive head-banging, face-slapping, eye-poking, and biting of hands, lips or other body parts.

Pediatric Anxiety Disorders: It comprises of childhood social anxiety disorder, phobic anxiety disorder, OCD, PTSD, etc.

1. Social anxiety disorder : It is normal for toddlers and preschool children to show a degree of anxiety over real or threatened separation from people to whom they are attached. Separation anxiety disorder should be diagnosed only when fear over separation constitutes the focus of the anxiety and when such anxiety arises during the early years. It is differentiated from normal separation anxiety when it is of such severity that is statistically unusual (including an abnormal persistence beyond the usual age period) and when it is associated with significant problems in social functioning.

2. Phobic anxiety disorder of childhood : Children, like adults, can develop fear that is focused on a wide range of objects or situations. Some of these fears (or phobias), for example agoraphobia, are not a normal part of psychosocial development. However, some fears show a marked developmental phase specificity and arise (in some degree) in a majority of children; this would be true, for example, of fear of animals in the preschool period.

3. Social anxiety disorder of childhood : A wariness of strangers is a normal phenomenon in the second half of the first year of life and a degree of social apprehension or anxiety is normal during early childhood when children encounter new, strange, or socially threatening situations. This category should therefore be used only for disorders that arise before the age of 6 years, that are both unusual in

degree and accompanied by problems in social functioning, and that are not part of some more generalized emotional disturbance.

4. Sibling rivalry disorder: A high proportion, or even a majority, of young children show some degree of emotional disturbance following the birth of a younger (usually immediately younger) sibling. In most cases the disturbance is mild, but the rivalry or jealousy set up during the period after the birth may be remarkably persistent.

5. Elective mutism: The condition is characterized by a marked, emotionally determined selectivity in speaking, such that the child demonstrates his or her language competence in some situations but fails to speak in other (definable) situations. Most frequently, the disorder is first manifest in early childhood; it occurs with approximately the same frequency in the two sexes, and it is usual for the mutism to be associated with marked personality features involving social anxiety, withdrawal, sensitivity, or resistance. Typically, the child speaks at home or with close friends and is mute at school or with strangers, but other patterns (including the converse) can occur.

6. Pediatric OCD: Children and adolescents can have obsessions and/or compulsions fulfilling the adult criteria of OCD. The form and content of obsessions may vary according to the developmental level.

7. Acute stress reaction and post traumatic stress disorder: Children and adolescents have been found to show features of acute stress reaction and post traumatic stress disorder when exposed to extremely stressful and catastrophic life events.

Child abuse:

Physical abuse involves the intentional injury of a child by a caretaker. It may take the form of shaking, beating, or other forms of violence that lead to injury, and frequently occurs in the context of discipline.

Sexual abuse of children refers to sexual behavior between a child and an adult or between two children when one of them is significantly older or uses coercion. The perpetrator and the victim may be of the same or opposite sex. The sexual acts may include exhibitionism; nongenital or genital fondling; fellatio; cunnilingus; or vaginal or anal penetration. Psychological abuse occurs when an adult repeatedly conveys to a child that he or she is worthless, defective, unloved, or unwanted. The child may be isolated and locked in a closet or otherwise restricted. Psychological abuse can also be caused by repeatedly taking a child for unnecessary medical treatment. It may also involve threatened or actual abandonment. Psychological abuse most often concurs with neglect, physical abuse, and/or sexual abuse.

Given there are wide variations in acceptable parenting practices, it is important to consider cultural and religious beliefs when evaluating suspected abuse and neglect.

Reactive attachment disorder: This disorder, occurring in infants and young children, is characterized by persistent abnormalities in the child's pattern of social relationships, which are associated with emotional disturbance and reactive to changes in environmental circumstances. Fearfulness and hypervigilance that do not respond to comforting are characteristic, poor social interaction with peers is typical, aggression towards the self and others is very frequent, misery is usual, and growth failure occurs in some cases. The syndrome probably occurs as a direct result of severe parental neglect, abuse, or serious mishandling.

Munchhausen syndrome by proxy Perpetrators who act to either invent or induce illness in children to meet their own, self-serving psychological needs are diagnosed with factitious disorder by proxy, which is listed in Appendix B of Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR) as a category requiring further study. There is intentional production or feigning of physical or psychological signs or symptoms in another person who is under the individual's care. The motivation for the perpetrator's behavior is to assume the sick role by proxy. External incentives for the behavior (e.g., economic gain) are absent.

Management :

The management of child or adolescent psychiatric disorders begins after a clinical interview which focuses on history and examination. Specialized assessments and scales can be administered to the child and parent. Routine investigations like Hemoglobin, Thyroid Function test, Liver function test can be planned on case to case scenarios. EEG, MRI Imaging and advanced tests may be done if indicated. Liaison with other specialties such as ENT, Ophthalmology, Neurology, Developmental Pediatrician may be needed. There is significant role of allied professional from OT, PT, Psychologists, social worker, etc in the holistic management of the child and the family. Medications may be prescribed based on the indication and a collaborative effort with the parents and the psychiatrist. Various therapies available must be offered as well. The complete rehabilitation of the child or adolescent should be the long term objective and should be tried for in all cases as far as possible.

Psychopharmacology for children and adolescents:

Psychiatric medications can be an effective part of the treatment

for psychiatric disorders of childhood and adolescence. Clinical practice and experience, as well as research studies, help physicians determine which medications are most effective for a particular child. Before recommending any medication, the prescriber should conduct a comprehensive psychiatric diagnostic evaluation of the child or adolescent. Parents should be informed about known risks and/or Food and Drug Administration (FDA) warnings before a child starts any psychiatric medication as well as whether the medication is being prescribed on-label or off-label (whether the medication has been approved for children and adolescents for the condition for which it is being prescribed). Before recommending any medication, the child and adolescent psychiatrist interviews the youngster and makes a thorough diagnostic evaluation. In some cases, the evaluation may include a physical exam, psychological testing, laboratory tests, other medical tests such as an electrocardiogram (EKG) or electroencephalogram (EEG), and consultation with other medical specialists. When prescribed appropriately by an experienced psychiatrist (preferably a child and adolescent psychiatrist) and taken as directed, medication may reduce or eliminate troubling symptoms and improve daily functioning of children and adolescents with psychiatric disorders.

Medication may be prescribed for psychiatric symptoms and disorders. There are different types of medications for different disorders with variable levels of evidence and side effect profiles.

Medications for ADHD: Stimulant and non-stimulant medications may be helpful as part of the treatment for attention deficit hyperactive disorder (ADHD). They come in several different forms, such as pills, patches, and liquid forms. Examples of stimulants include: Dextroamphetamine and Methylphenidate. Non-stimulant medications include Atomoxetine, Guanfacine and Clonidine .

Antidepressant Medications: Antidepressant medications may be helpful in the treatment of depression, school phobias, panic attacks, and other anxiety disorders, bedwetting, eating disorders, obsessive-compulsive disorder, posttraumatic stress disorder, and attention deficit hyperactive disorder. There are several types of antidepressant medications. Examples of serotonin reuptake inhibitors (SRI's) include: Fluoxetine, Sertraline , Paroxetine, Fluvoxamine, Venlafaxine , Desvenlafaxine, Citalopram and Escitalopram. Examples of serotonin norepinephrine reuptake inhibitors (SNRIs) include Venlafaxine, and Duloxetine. Examples of atypical antidepressants include: Bupropion, Nefazodone, Trazodone, and Mirtazapine . Examples of tricyclic antidepressants (TCA's) include: Amitriptyline , Clomipramine,

Imipramine, and Nortriptyline. Examples of monoamine oxidase inhibitors (MAOI's) include: Phenezine and Tranylcypromine

Antipsychotic Medications: These medications can be helpful in controlling psychotic symptoms (delusions, hallucinations) or disorganized thinking. These medications may also help muscle twitches ("tics") or verbal outbursts as seen in Tourette's Syndrome. They are occasionally used to treat severe anxiety and may help in reducing very aggressive behavior. Examples of first generation antipsychotic medications include: Chlorpromazine, Thioridazine, Fluphenazine, Trifluoperazine, Thiothixene, and Haloperidol. Second generation antipsychotic medications (also known as atypical or novel) include: Clozapine , Risperidone , Paliperidon , Quetiapine, Olanzapine, Ziprasidone and Aripiprazole, Iloperidone, Lurasidon, and Asenapine.

Mood Stabilizers and Anticonvulsant Medications: These medications may be helpful in treating bipolar disorder, severe mood symptoms and mood swings (manic and depressive), aggressive behavior and impulse control disorders. Examples include: Lithium, Valproic Acid, Carbamazepine , Lamotrigine and Oxcarbazepine.

Medications for Anxiety Disorder: Selective serotonin reuptake inhibitors (SSRIs) are used to treat anxiety in children and adolescents and are described above in the antidepressant section. There are also other medications used to treat anxiety in adults. These medications are rarely used in children and adolescents, but may be helpful for brief treatment of severe anxiety. These include: benzodiazepines; antihistamines; and atypicals. Examples of benzodiazepines include: Alprazolam, lorazepam, Diazepam, and Clonazepam. Examples of antihistamines include: Diphenhydramine and Hydroxyzine. Examples of atypical anti-anxiety medications include: Buspirone

Miscellaneous Medications: Other medications are also being used to treat a variety of symptoms. For example: clonidine and guanfacine may be used to treat the severe impulsiveness in some children with ADHD.

Psychotherapy : Psychotherapy begins right from the first visit, wherein consultant develops rapport with patient and his family, listens to each of them, educates them.

There are many therapies which are discussed in detail in a separate chapter. Here only selected therapies are described in brief.

Behavioral therapy : Children and Adolescents may respond better to behaviour therapy. Here principals of classical conditioning

and operant conditioning are judiciously used and taught to parents. Time out, positive reinforcement, negative reinforcement, punishment, modelling are some of the behavioural techniques used.

Cognitive behavior therapy: Cognitive-behavioral therapy (CBT) is the most widely researched and evidence-based form of psychotherapy today. Cognitive therapies are based on the notion that it is not events, but people's interpretations of events, that cause psychological disturbance. When working within a purely behavioral framework, overt behavior is typically the primary concern or symptom. Setting concrete goals and measuring specific behaviors is an integral part of this approach and is considered the primary means of evaluating progress and outcomes. CBT has been successfully used for child and adolescent mood disorders, anxiety disorders, eating disorders, etc.

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Minds United For Health Sciences & Humanity

Personality & its Disorders

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Introduction :

'Personality' is derived from Latin word 'persona' - the name given to the masks, the actors wore for different characters. Personality refers to an individual's enduring & pervasive personal motivation, emotion, interpersonal style, attitudes, & traits. We all make personality judgments about the people we know. We even form impressions about the personalities of people we do not know but have only read a little information about. To understand ourselves it is of immense need to develop a sense of what our personality characteristics are. It also has a role in determining the temperament, intellect & physique of the individual & tells the response of the individual to a situation at most instances.

Personality consists of temperament, character, and intelligence. Temperament reflects biological contributions, and character reflects social and cultural contributions, to personality. Intelligence impregnates both constitutional and social traits and modifies overall personality functions. Basic functions of personality are to feel, think, and perceive and to incorporate these into purposeful behaviors.

- ♦ What is personality? Why are we all different?
- ♦ What makes us uniquely as us? Why are we like the way we are?

Definition :

Gordon Allport defined personality as the dynamic organization within the individual of those psychophysical systems that determine his unique adjustments to his environment.

In other words, personality is the deeply ingrained unique, enduring & dynamic pattern of behavior that includes modes of perception, relating to & thinking about oneself & the surrounding environment.

KPersonality disorders are pervasive chronic psychological disorders. Having a personality disorder can negatively affect one's work, one's family, and one's social life.

During times of increased stress or external pressures (work, family, a new relationship, etc.), the symptoms of the personality disorder will gain strength and begin to seriously interfere with their emotional and psychological functioning.

Those with a PD possess several distinct psychological features:

- ▶ disturbances in self-image
- ▶ difficulties in establishing successful interpersonal relationships
- ▶ appropriateness of range of emotion
- ▶ ways of perceiving themselves, others, and the world
- ▶ difficulties in possessing proper impulse control.

PD are fairly common & underlie susceptibility to many medical & psychiatric problems like substance use disorders, mood disorders, impulse-control disorders, eating disorders, and anxiety disorders. Personality factors have been associated with increased risk for IHD, HIV infection, psoriasis, ulcerative colitis, and many other so-called psychosomatic diseases.

According to DSM-IV, the crucial criterion for distinguishing deviant personality traits is the presence (evidence) of long-term maladaptation and inflexibility, manifested as subjective distress, or socio-professional functional impairment, or both. DSM-IV defines PD as: "An enduring pattern of inner experience and behavior that deviates markedly from the expectations of the individual's culture." The pattern is manifested in two (or more) of the following areas:

1. cognition (i.e., ways of perceiving and interpreting self, other people, and events)
2. affectivity (i.e., the range, intensity, lability, and appropriateness of emotional response)
3. interpersonal functioning
4. impulse control

The pattern is stable and of long duration and its onset can be traced back at least to adolescence or early adulthood. It is inflexible and pervasive across a broad range of personal and social situations and leads to clinically significant distress or impairment in social, occupational, or other important areas of functioning.

Observed maladaptive behavior traits must be pervasive, that is, manifest in a wide range of personal and social contexts (e.g., at home, at work, with family and friends), not isolated aspects of the person's life. Data collection from collateral informants is thus considered critical to ensure high-quality personality assessment, diagnostic reliability, and validity.

PD subtypes classified in DSM-IV are schizotypal, schizoid, paranoid, narcissistic, borderline, antisocial, histrionic, obsessive-compulsive, dependent, avoidant, passive-aggressive and depressive PDs. DSM-IV arranges categorical PD into 3 clusters, each sharing some clinical features:

- Cluster A : odd, aloof, and eccentric features (paranoid, schizoid, and schizotypal).
- Cluster B : dramatic, impulsive, erratic features (borderline, antisocial, narcissistic, & histrionic)
- Cluster C : sharing anxious and fearful features (avoidant, dependent, and obsessive-compulsive).

The three dimensions underlying Clusters A, B, & C (i.e., detachment, impulsivity, and fearfulness) correspond closely to normal temperament traits (reward dependence, novelty seeking, and harm avoidance, respectively), suggesting that variation in these temperament traits might be significant in distinguishing among the three clusters of disorders.

Qualitative features considered diagnostic of a personality disorder are summarized below -

Cluster	Subtype	Features
Odd/eccentric	Schizoid	Socially indifferent
	Paranoid	Suspicious
	Schizotypal	Eccentric
Erratic/impulsive	Antisocial	Disagree
	Borderline	Unstable
	Histrionic	Attention seeking
	Narcissistic	Self-centered
Anxious/fearful	Avoidant	Inhibited
	Dependent	Submissive
	Obsessive	Perfectionistic
Not otherwise specified	Passive-aggressive	Negativistic
	Depressive	Pessimistic

Classification of Disorders of Adult personality and Behaviour

1. Personality disorders -
 - ▶ Specific personality disorders -
 - Paranoid PD.
 - Schizoid PD.
 - Dissocial PD.
 - Emotionally unstable PD (Impulsive type & Borderline type)
 - Histrionic PD.
 - Anankastic PD.
 - Anxious (avoidant) PD.
 - Dependent PD.
 - Other specific PDs.
 - PD, unspecified.
 - ▶ Mixed and other PDs -
 - Mixed PDs.
 - Troublesome personality changes.
2. Enduring personality changes, not attributable to brain damage and disease.
 - ▶ Enduring personality change after catastrophic experience.
 - ▶ Enduring personality change after psychiatric illness.
 - ▶ Other enduring personality changes.
 - ▶ Enduring personality change, unspecified.
3. Habit and impulse disorders -
 - ▶ Pathological gambling.
 - ▶ Pathological fire-setting (Pyromania).
 - ▶ Pathological stealing (Kleptomania).
 - ▶ Trichotillomania.
 - ▶ Other habit and impulse disorders like intermittent explosive (behavior) disorder.
 - ▶ Habit and impulse disorder, unspecified.
4. Other disorders of adult personality and behavior -
 - ▶ Elaboration of physical symptoms for psychological reasons (compensation neurosis).
 - ▶ Intentional production or feigning of symptoms or disabilities, either physical or psychological (factitious disorder).
 - ▶ Other specified disorders of adult personality and behavior.
5. Unspecified disorder of adult personality and behavior.

Cluster-A: odd, eccentric, socially detached (paranoid, schizoid, schizotypal)

Paranoid PD:

These individuals have heightened perception of threat and false self-referential beliefs which render them to bear grudges, suspect people, difficulties in confiding and usually react quickly to perceived criticisms/comments with prejudice and without addressing facts in reality. In clinical practice, usually such persons present as difficult to treat and litigant patients who may challenge the patience of medical professional.

"SUSPECT"

- Spouse fidelity suspected
- Unforgiving (bears grudges)
- Suspicious of others
- Perceives attacks (and reacts quickly)
- Enemy or friend" (suspects associated and friends)
- Confiding in others feared
- Threats perceived in trivial/benign events

Schizoid PD:

These individuals appear as usually detached from proceedings in society, show indifference to praise or criticisms, express less interest in socializing, prefer isolated activities and have less sexual desire than normal individuals. Some of these may have risk of developing schizophrenia in adult or later ages. In clinical practice, these present as less interactive, slow to build rapport and at times may be difficult to establish professional/therapeutic relations.

"DISTANT"

- Detached (or flattened affect)
- Indifferent to criticism and praise
- Sexual experiences of little interest
- Tasks (activities) done solitarily
- Absence of close friends
- Neither desires nor enjoys close relations
- Takes pleasure in few activities

Schizotypal PD :

These individuals experience unusual perceptions like telepathy, circumstantial thinking, and clairvoyance, possess self-referential, odd and eccentric ideas, and have restricted emotional expressions. Some of these may have risk of developing schizophrenia in adult or later ages. In clinical practice, these may be difficult to

understand due to their odd and eccentricity, as well as unusual perceptions and communication styles.

"ME PECULIAR"

- Magical thinking or odd beliefs
- Experiences unusual perceptions
- Paranoid ideation
- Eccentric behavior or appearance
- Constricted (or inappropriate) affect
- Unusual (odd) thinking and speech
- Lacks close friends
- Ideas of reference
- Anxiety in social situations
- Rule out psychotic disorders

Cluster-B: dramatic, emotional, erratic (Antisocial, Impulsive, Borderline, Histrionic, Narcissistic)

Antisocial PD:

These individuals usually are adult extension of childhood or adolescent onset conduct disorder characterized by antisocial, rule breaking behavior with no remorse for their activities and recklessly disregard for safety of self or others. In clinical practice, these may pose difficulties due to their manipulative behavior, convincing nature of falsities into make-believe truth, and drug (usually polysubstance) addictions, although at the outset may appear, speak and act to be extremely polite. At times, such individuals may demand for repeated sickness/medical certificate or may seek false compensation claims which may render medical professionals in difficult situations.

"CORRUPT"

- Conformity to law lacking
- Obligations ignored
- Reckless disregard for safety of self or others
- Remorse lacking
- Underhanded (deceitful, lies, cons others)
- Planning insufficient (impulsive)
- Temper (irritable and aggressive)

Impulsive & Borderline PDs:

These individuals are usually unpredictable, have unstable and stormy relationships, frequent suicidal behavior and threatening, mood and impulse dysregulation, and may experience chronic 'empty' feeling and transient stress related micro-psychotic episodes. In clinical

practice, these pose a challenge to medical professionals in therapy due to difficulties in drug compliance, therapeutic relations, and frequent shifts in doctor preference usually following strained relations with professional or uncommonly with related personnel (e.g. nurses, receptionist, lab technician, etc).

"A.M. SUICIDE"

Abandonment

Mood instability (marked reactivity of mood)

Suicidal (or self-mutilating) behavior

Unstable and intense relationships

Impulsivity (in two potentially self-damaging areas)

Control of anger

Identity disturbance

Dissociative (or paranoid) symptoms that are transient and stress related

Emptiness (chronic feelings of low mood)

Narcissistic PD:

These individuals believe themselves to be special and unique, envious of others, need to be admired, arrogant, indulge in interpersonal exploitation, and lack empathy. In clinical practice, these demand time and patience from medical professionals to be given importance, lest feel that doctor as incompetent and unconcerned with their problems, and may show arrogant behavior.

"SPECIAL"

Special (believes he or she is special and unique)

Preoccupied with fantasies (of unlimited success, power, brilliance, beauty, or ideal love)

Envious (of others, or believes others are envious of him or her)

Entitlement

Excess admiration required

Conceited (grandiose sense of self importance)

Interpersonal exploitation

Arrogant

Lacks empathy

Histrionic PD:

These individuals have impressionistic style of speech which lacks detail, comfortable when center of attention, easily get influenced without evidence, express theatrical, shallow and sudden emotions, establish relations easily, and have dress sense and actions of attention seeking nature. In clinical practice, these seek attention from doctors and pose difficulty in understanding emotions due to their theatrical nature.

"PRAISE ME"

- Provocative (or sexually seductive) behavior
- Relationships (considered more intimate than they are)
- Attention (uncomfortable when not the center of attention)
- Influenced easily
- Style of speech (impressionistic, lacks detail)
- Emotions (rapidly shifting and shallow)
- Made up (physical appearance used to draw attention to self)
- Emotions exaggerated (theatrical)

Cluster-C: anxious, fearful, submissive (Anxious/avoidant, Anankastic/obsessive-compulsive, Dependant)

Anxious PD:

"CRINGES"

- Certainty (of being liked is required before willing to get involved with others)
- Rejection (or criticism) preoccupies ones' thought in social situations
- Intimate relationships (restraint in intimate relationships due to fear of being shamed)
- New interpersonal relationships (is inhibited in)
- Gets around occupational activity (involving significant interpersonal contact)
- Embarrassment (potential) prevents new activity or taking personal risks
- Self viewed (as unappealing, inept, or inferior)

Anankastic PD:

These individuals possess excessive preoccupation with rules and details of activities which may compromise accomplishment of tasks in time, have habit of hoarding objects even when not required, have stubborn attitude and inflexible approaches to those non-conforming to guidelines. Such persons appear to be observed as strict and less preferred by people to work with. In clinical practice, these pose difficulties due to their preciseness and preoccupation with details of their illness which may render doctors feel irritated, especially when busy in practice. This can be evaded by suggesting them to read some informative/educative pamphlets, internet sites, patient educative books, etc which are preferred by such people as they love details.

"LAW FIRMS"

- Loses point of activity (due to preoccupation with detail)
- Ability to complete tasks (compromised by perfectionism)
- Worthless objects (unable to discard)
- Friendships (and leisure activities) excluded (due to preoccupation with work)
- Inflexible, scrupulous, over conscientious (on ethics values, or morality; not accounted for by religion or culture)
- Reluctant to delegate (unless others submit to exact guidelines)
- Miserly (toward self and others)
- Stubbornness (and rigidity)

Dependant PD:

These individuals required excessive reassurance, feel difficult to clarify with others or express dissent, lacks initiative due to poor self-confidence, needs to be nurtured/supported for most of the decisions, and apprehensive of being dejected. In clinical practice, such persons need repeated reassurances, have difficulty to clarify issues with doctors, have more medical care/service utilization. They need to be empathized, improve self-confidence, assertive instructions about their queries.

"RELIANCE"

- Reassurance (required for decisions)
- Expressing disagreement difficult (due to fear of loss of support or approval)
- Life responsibilities (needs to have these assumed by others)
- Initiating projects difficult (due to lack of self-confidence)
- Alone (feels helplessness and discomfort when alone)
- Nurturance (goes to excessive lengths to obtain nurturance and support)
- Companionship (another relationship) sought urgently when close relationship ends
- Exaggerated fears of being left to care for self

Treatment :

Most individuals with PD perceive their lifestyles as normal and seldom seek treatment. Typically, they seek help when their maladaptive behaviors culminate in unbearable marital, family, and career circumstances with secondary anxiety, depression, substance abuse, or eating disorders. Temperament traits are primarily treated by pharmacological intervention. However, given the importance of

associative learning in the development of these traits, some psychotherapeutic correction is theoretically possible, especially with behavioral techniques. Alternatively, commonly used psychotropic drugs rarely induce changes in internalized self-concepts (character) which is more amenable to psychotherapeutic intervention. Treatment of PDs is based on client-oriented issues and its severity. It usually consists of:

1. Psychotherapy
2. Pharmacotherapy
3. Combined or Integrated psychobiological therapies.

1. PSYCHOTHERAPY: (Kernberg- "Psychotherapy begins where common sense ends")

The psychobiological evaluation of temperament & character traits & their component facets enables clinicians to tailor psychotherapy & pharmacotherapy to the specific needs of each individual pt.

Dynamic psychotherapy addresses the internal world of the patient's emotions and needs, and treats symptoms as external manifestations of internal conflicting motivations. Behavior therapy focuses on external manifestations (or symptoms) and enables patients to change behavior or better control their behaviors. Cognitive therapy helps patients to correct their distorted cognitive appraisal of the significance of environmental cues and their underlying core beliefs that lead to maladaptive behaviors. Humanistic approaches, by increasing both self-directedness and cooperativeness, help patients achieve personal and social maturity in a form of altruistic individualism.

Combination of dynamic therapy (insight oriented) and cognitive-behavioral therapy (action oriented) efficiently helps patients transform their insights into actual behavioral change. Dialectical behavioral therapy based on a biosocial theory that borderline symptoms primarily reflect dysfunction of the emotion-regulation system has shown superiority in both reducing core symptoms and increasing social adjustment of borderline patients. Therapists choose to ignore ideological barriers dividing different schools and attempt both technical synthesis (eclecticism) and theoretical synthesis (integration) of various orientations (called integrative eclectic psychotherapy). As a rule of thumb, combinations of various orientations and formats and emphasis on teamwork are optimal in the psychotherapy of PD.

Dynamic and cognitive methods are complemented by behavioral and experiential techniques, which are efficient in transforming concepts and insights into everyday life. During therapy, as character matures and new concepts and their associated secondary emotions develop, they neutralize extreme temperament traits and their related basic emotions of fear and anger. Behaviors change accordingly, from being primarily reactive (i.e., steered by basic emotions and automatic responses regulated by temperament) to being primarily proactive (i.e., steered predominantly by secondary emotions and active symbolic constructs regulated by character traits).

Frequent sessions (at least once a week) are needed to develop reasonably complex interactions in the relationship, for diagnostic and (especially) treatment purposes. Patients with PD are required to clarify their goals and objectives in treatment. These may be simple and concrete (e.g., "to reduce alcohol use"), more complex (e.g., "to become independent"), or very ambitious (e.g., "to be able to love"). The therapist evaluates each treatment goal and determines the likelihood of successful outcome.

Treatment is planned to enable patients to achieve the best possible adaptation for their given temperament traits ("optimal character outcome"). If for any reason optimal outcome cannot be achieved, the alternative is the "compromise outcome", which improves the patient's adaptation over baseline but does not achieve ideal or optimal adaptation possible for that pt. For patients who are unlikely to benefit from psychotherapy, symptom control might be achieved through pharmacological intervention. In addition, many areas of everyday life (e.g., friendships, romantic relationships, media, education, and such valued life opportunities as stable marriage, work-related progress, and religious conversion) increase their chances for maturation.

Pharmacotherapy :

Pharmacotherapy is as important as psychotherapy in the overall treatment of PD. Pharmacotherapy is either (1) causal, aimed at correcting neurobiological dispositions underlying deviant traits, or (2) symptomatic, aimed at correcting target behaviors and symptoms of PD.

Causal Pharmacotherapy of PD: The central idea behind causal pharmacotherapy is that enduring personality changes may result from pharmacological manipulation of the underlying neurobiological dispositions to deviant traits (trait vulnerability). When directed toward the deepest level of personality (i.e., the neurochemical systems

mediating dispositions to mood and learning), pharmacotherapy may modify these dispositions. This is expected to facilitate changes in affective and learning processes, leading ultimately to changes in observable behaviors and better overall adaptation.

Psychobiological models provide testable guidelines for pharmacological manipulation of the underlying neurochemical trait-vulnerability. Harm avoidance, novelty seeking, and reward dependence have been postulated to reflect individual differences in serotonergic, dopaminergic, and noradrenergic neurotransmitter systems, respectively.

Symptomatic Pharmacotherapy of Personality Disorders

Efficacy of drug treatment is best evaluated on a symptom level, not the syndrome level. Target symptoms are likely to respond to particular drugs which are shared by various PDs. However, state-trait effect tends to interfere with effective evaluation of pharmacotherapy of PD, which are frequently comorbid with mood and anxiety states. Some PD subtypes are heterogenous composites that can be further subtyped into one or more subcategories, each potentially requiring specific pharmacotherapy.

Pharmacological trials usually focus on short-term symptoms (e.g., suicidality, paranoia), but one needs to advocate treatment of long-term pathology (e.g., impulsiveness, anxiety, affective dysregulation). Four symptom domains underlie chronic pathology of PD: (1) aggression & behavioral dyscontrol, (2) affective symptoms & mood dysregulation, (3) anxiety, and (4) cognitive-perceptual distortions including psychotic symptoms. Identification of four target symptom domains has narrowed the gap between causal and symptomatic pharmacotherapy of PD. High novelty seeking and cluster B disorders correspond to the target symptom domain of impulsiveness and aggression; high harm avoidance and cluster C disorders correspond to the target symptom domain of anxiety and depression symptoms; and low reward dependence and cluster A disorders correspond to the target symptom domain of affective dysregulation, detachment, and cognitive disturbances.

The interaction between biological and psychological factors in deviant behaviors is complex. For e.g, high aggressivity may cause splitting, which in turn prevents neutralization of aggressivity. Hence, the feed-back pattern between the unfavorable biology and unfavorable psychology can only be interrupted when drug treatment of the biological vulnerability is combined with psychotherapy of associated psychological mechanisms.

Drug Choices for various target Symptoms of Personality Disorders :

Target Symptom	Drug of Choice	Contraindication
I. Behaviordyscontrol		
Aggression/impulsivity		
Affective aggression (hot temper with normal EEG)	Lithium* Serotonergic drugs* Anticonvulsants* low-dosage antipsychotics	?Benzodiazepines
Predatory aggression (hostility/cruelty)	Antipsychotics* lithium b-blockers	Benzodiazepines
Organic-like aggression	Imipramine* cholinergic agonists (donepezil)	
Ictal aggression (abnormal EEG)	Carbamazepine* Diphenylhydantoin* Benzodiazepines	Antipsychotics
II. Mood Dysregulation		
<i>Emotional lability</i>	Lithium* antipsychotics	?Tricyclic drugs
<i>Depression</i>		
Atypical depression, dysphoria	MAOIs* Serotonergic drugs* antipsychotics	
Emotional detachment	Serotonin-dopamine antagonists* atypical antipsychotics	?Tricyclic drugs
III. Anxiety		
<i>Chronic cognitive</i>	Serotonergic drugs* MAOIs* benzodiazepines	
Chronic somatic	MAOIs* b- blockers	
Severe anxiety	low-dose antipsychotics MAOIs	
IV. Psychotic symptoms		
<i>Acute psychosis</i>	Antipsychotics*	
Chronic & low-level psychotic-like symptoms	Low-dose antipsychotics*	* Drug of choice.

Psychobiological Integration of Treatment

The psychobiological model distinguishes components of personality that differ in etiology, pattern of development, and responses to psychotherapy and pharmacotherapy. A 15-Step Program for Integrative Psychobiological Treatment of Personality and Psychopathology provides a foundation for integrating diagnosis and treatment planning in a manner that is generalizable but sensitive to differences among individual patients. Based on the established structural and clinical, and postulated neurochemical, characteristics of temperament and character, pharmacotherapy and psychotherapy can be systematically matched to the personality structure and stage of character development of each individual, clearly a unique advantage over other available approaches.

Aggression

Biological correlates of impulsive aggression & poor behavior inhibition include low concentrations of CSF 5-hydroxyindoleacetic acid (5-HIAA), & altered serotonin neurotransmission. Predatory aggression (cruelty) involves hostile revengefulness and taking pleasure in victimizing others, often with intact impulse control; predatory aggression is most frequent in individuals with low cooperativeness, which is most likely in antisocial and borderline personalities.

Lithium reduces affective display and aggression in both normal subjects and impulsive-aggressive individuals. It may reduce cruelty and hostility, but this may be an indirect result of reducing impulsivity. Anticonvulsant mood stabilizers such as carbamazepine and valproate reduce both the intensity and the frequency of unprovoked angry outbursts, improve behavior dyscontrol, and reduce anxiety and suicidality in some patients regardless of the normality of their EEGs. Carbamazepine is nonspecific in targeting both impulsivity and other chronic symptom domains and acute manifestations. Ictal aggression can also be treated with benzodiazepines, but anticonvulsants are recommended, because of frequent tolerance to the anticonvulsive effects of benzodiazepines.

Mood Dysregulation

The psychobiology of affective dysregulation in PD subtypes may involve multiple neurotransmitter systems (e.g. DA, 5-HT) that regulate anger and inhibition. Target symptoms in the domain of mood dysregulation include emotional instability, emotional detachment, depression, and dysphoria. Emotional instability and mood swings respond to lithium, carbamazepine, or valproate. Low-dose neuroleptics

such as haloperidol also have a mood-stabilizing effect. Emotional detachment, cold and aloof emotions, and disinterest in social relations (chronic asociality) is typical of schizoid, schizotypal, and some antisocial and paranoid personalities. Emotional detachment often responds to serotonin-dopamine antagonists (atypical antipsychotics) such as risperidone, olanzapine or quetiapine, which may reduce social withdrawal and other features of eccentric PD and carry less risk of EPS than the dopamine receptor antagonists (typical antipsychotics).

ANXIETY Cluster C - PD (dependent, avoidant, and obsessive-compulsive) are characterized by high harm avoidance and are thus expected to manifest chronic anxiety. The background role of serotonin in harm avoidant behaviors and anxiety is clinically supported by the antianxiety efficacy of the SSRIs, 5-HT_{1A} receptor agonists such as buspirone and mixed serotonin reuptake inhibition and 5-HT_{1C} and 5-HT₂ antagonism such as nefazodone. The postulated role of the GABA system is supported by the efficacy of benzodiazepines. PD usually manifest chronic anxiety, but whether a chronic state symptom (anxiety) becomes a stable personality characteristic, or vice versa is not clear. These patients often exhibit both cognitive anxiety (i.e., anticipatory worrying) & somatic anxiety (i.e., concern about bodily pains and psychophysiological reactions). Cognitive anxiety is most responsive to benzodiazepines, whereas somatic anxiety is more responsive to MAOIs and SSRIs.

Patients with severe behavior inhibition (avoidance, in particular) may improve with phenelzine or fluoxetine (analogous to social phobia). Buspirone has a potentially important role in the treatment of anxiety associated with PD given its low potential for dependence. Some components of somatic anxiety (e.g., sweating, palpitations, diarrhea, and tremor) can be treated with b-blockers. Severe psychotic-like anxiety responds to low-dosage antipsychotics, including the atypical antipsychotics.

Cognitive-Prognitive - Perceptual Disturbances

Cognitive disturbances refer to magical thinking, odd beliefs, illusions, and long-term, low-grade psychotic symptoms observable primarily in schizotypal PD. Every PD subtype manifests cognitive disturbances and biased perception of reality because of the underlying specific learning and emotional biases. These disturbances are alternatively called a nonpsychotic thought disorder or partial loss of reality testing. Brief psychotic disorder may complicate most PD. These are treated symptomatically, according to accepted pharmacological

practices. Psychotic patients with PD are likely to respond to, and comply with, low doses of neuroleptics. Acute psychotic symptoms requiring medication may subside when environmental stressors are brought under control; then one should lower the dosage or discontinue the medication.

Some patients with certain PD (particularly borderline and schizotypal) manifest chronic, low-grade cognitive symptoms such as nonpsychotic thought disorder (ideas of reference, magical thinking, odd fantasies, and suspiciousness), unusual perceptual experiences (illusions), depersonalization, derealization, and eccentric behaviors. These chronic, low-level, psychotic-like symptoms respond to low-dose neuroleptics, typical and atypical. Sometimes, chronic cognitive disturbances, such as mild ideas of reference or suspiciousness, may subside when the background emotional tension is reduced by anxiolytics. Neuroleptics also act nonspecifically as they improve several target symptom domains in borderline and schizotypal personalities. Symptoms especially when severe respond most impressively to low-dose neuroleptics are anger, hostility, suspiciousness, illusions, ideas of reference, anxiety, and obsessive-compulsive symptoms.

Personality may be compared with most physical parameters (e.g. blood pressure, etc.) where within a socially acceptable range, one adapts better, and outside this range, not only the individual with personality disorder but also the related persons tend to experience the difficulties, resulting in chronic interpersonal difficulties, risk of psychiatric comorbidity, substance use and its disorders, suicidal or antisocial behaviors, drug non-compliance issues, and increased risk of psychosomatic consequences. These consequences can be better addressed through professional caregivers like psychiatrists and psychologists, as PDs respond better to combined psychotherapy and pharmacotherapy.

Emergency Psychiatry

Focus : Approach to Agitated patient

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Emergency psychiatry is a psychiatric sub-specialty which deals with conditions or states in patients where immediate therapeutic intervention is needed due to any action or behavior, perception, thoughts or feelings which are disturbed and potentially can be an immediate risk for the self and others.

Suicidal behavior, violence and aggression, agitation and panic states, disturbance of consciousness, arising out due to various psychopathology as well as medical conditions are treated in psychiatric emergency unit.

Agitation is one of the commonest reasons for referrals as well as treatment at emergency psychiatric set up. Agitation can be defined as "Severe anxiety associated with motor restlessness". But clinically all agitated patients may not look just restless or anxious but some of the following behaviors can also be included under agitation which is clinically significant.

- ▶ Restlessness and pacing
- ▶ Low tolerance for frustration and impatience
- ▶ Impulsive behaviors
- ▶ Anger and anger outbursts which may be unprovoked and unpredictable
- ▶ Uncooperative and hostile behaviors and resisting evaluation
- ▶ Self-abusive behaviors which may be verbal or physical

Causes of agitation are numerous and varied. Hence a systematic approach is needed to diagnose the underlying condition. Before attempting to treat agitated patients, two important steps have to be carried out

- ▶ Ensure the environment is safe for examiner, staff as well for patient.
- ▶ To rule out medical causes of agitation

Causes of agitation**Medical causes****Central-Nervous system**

Insults to CNS due to Neuro-infections including HIV and opportunistic infections, systemic infections, metabolic derangements, electrolyte imbalances, nutritional (vitamin) deficiencies, endocrinopathies, toxic substances and over-dosages by various medicines, neoplasms, space-occupying lesions, seizures - especially complex partial seizures, head injury, cerebrovascular especially sub-arachnoid hemorrhage(SAH)demyelinating insults, neurodegenerative conditions can all cause the above condition.

Agitation may happen in the background of delirious states and psychotic states due to above conditions but can present without delirium also.

Migraine is another important cause. Other headaches like cluster headache and headache due to SAH are rarer but important causes

Cardio-vascular system

Angina pectoris, impending myocardial infarction and arrhythmias

Respiratory System

Acute exacerbation of COPD, Asthma, Pulmonary embolism, pneumonitis

Gastro-intestinal and genito-urinary - acute gastritis, Renal and ureteric colic

Endocrine disorders like hyperthyroidism, hypothyroidism, hypoparathyroidism, Cushing's syndrome, pheochromocytoma

When to suspect medical causes in an agitated patient presenting to psychiatric emergency?

- ▶ Extremes of age (<12 years and above >40 years presenting first time or any patient over 60 years)
- ▶ No previous psychiatric history
- ▶ Abrupt (within hours) or acute onset (within a week)
- ▶ Fluctuating course
- ▶ Clouding of consciousness and disorientation, inattention
- ▶ Visual hallucinations (Any non-auditory disturbances of perception)
- ▶ Known or ongoing medical, neurological problems, injuries.
- ▶ Memory and speech impairment
- ▶ On medication regimen
- ▶ Presence of fever
- ▶ Headache, vomiting and blurred vision

- ▶ Abnormal vitals
- ▶ Abnormal movements and apparent weakness of face or limbs
- ▶ Gait abnormality
- ▶ Incontinence

After ruling out medical causes and ensuring safety, psychiatric causes can then be considered and managed accordingly.

Psychiatric causes of Agitation

Substance use and withdrawal

- ▶ Alcohol withdrawal and delirium are common causes
- ▶ Opioid and cocaine withdrawal and intoxication, Cannabis intoxication
- ▶ Caffeine intoxication
- ▶ Sedative-hypnotic (e.g., Benzodiazepine) withdrawal

Psychiatric Causes

- ▶ Anxiety disorders like Panic disorders, agoraphobia, PTSD are common causes of agitation
- ▶ It may also occur in the course of Bipolar disorder, Depressive disorder and schizophrenia
- ▶ Personality disorders - Agitation is common in emotionally unstable or borderline personality disorder, Dissocial and paranoid personality disorders

Clinical assessment

The causes should be considered and ruled out in a hierarchical importance which is given in a flow chart below (Fig. 1). Medical and toxic- over dosage causes are given highest priority as they are associated with high morbidity and mortality if untreated.

Investigations that can be done at emergency settings

Biochemical/Metabolic profile consists of (Serum and if required CSF sample for selected tests*)

- ▶ Serum electrolytes*
- ▶ Arterial Blood Gas analysis
- ▶ Renal function tests
- ▶ Liver functional Tests
- ▶ Thyroid profile
- ▶ Serum cortisol levels
- ▶ Serum prolactin levels
- ▶ Glycemic profile*
- ▶ Urine for ketone bodies, albumin, bile salts and pigments
- ▶ Serum Vitamin assays
- ▶ Urine drug screen, Blood alcohol levels
- ▶ Serum levels of medicines (e.g., Lithium, Valproate, Phenytoin,

Carbamazepine etc.)

- ▶ Abnormal/excess physiological metabolite assays (VMA, HIAA etc.)

Hematological Profile

- ▶ Complete blood counts (CSF and other fluid counts can also be done)
- ▶ Peripheral smear for blood picture as well as microorganisms (e.g. *P. falciparum*)
- ▶ ESR

Serological/Microbiological Profile

- ▶ Cultures (Blood, CSF etc.)
- ▶ Gram/AFB/specialized staining techniques like India ink preparation for *Cryptococcus*
- ▶ HIV, HBSAg, VDRL tests
- ▶ Tumor markers if malignancy is suspected
- ▶ IgM and IgG antibodies assay for several viral/microbial disorders that cause meningo-encephalitis

Radiological Tests

- ▶ Brain Imaging - MRI is superior in almost all cases except in bony injuries of skull
- ▶ Cardio-Vascular Doppler studies and Ultrasound studies
- ▶ Angiograms (MR, CT)
- ▶ Specialized tests like MR Spectroscopy for detection for abnormal metabolites

Electrophysiological tests like EEG may prove valuable especially in seizures and other organic brain syndromes

Management of agitated patient after initial steps

Interviewing an agitated patient (Psychotherapeutic)

- ▶ The place of interview should be a quiet, adequately lit room with comfortable seating for both patient and examiner
- ▶ Access to door should be easy for both examiner and patient and seating at corners should be avoided
- ▶ Unnecessary needles, tubing should be removed if medical evaluation is already done and invasive procedures are to be avoided as much as possible
- ▶ Patient should be addressed with name with suitable prefixes or suffixes
- ▶ Interview should begin with non-specific details and less intrusive questions about patient to make him/her comfortable and feel that examiner is genuinely in process to help him/her
- ▶ Patient may be arranged/offered water, drink or food to make them more comfortable.

- ▶ After patient is comfortable, open ended but straight forward questions about presenting illness should be asked and at the end of each complaint, paraphrasing may be used to make patient feel that examiner has understood the problems
- ▶ Attempt to correct or advices should not be used early
- ▶ In hostile patients, examiner being frank and open in what he feels would make patient comfortable and they should never be confronted or argued with.
- ▶ If needed, additional staff member or clinician may be called into the room.
- ▶ In difficult patients, interview may be ended if a meaningful communication could not be done.
- ▶ Use of informants can be done if reliable information could not be obtained from patient's interview. Consent to such interview of informant should be ideally obtained by patient and at times when they are unable to give consent (threat to self or others or unable to communicate) confidentiality can be broken for emergency treatment purposes and documented clearly.

Pharmacological management of Agitation

Pharmacotherapy is second line of managing agitated patient when use of appropriate interviewing and psychotherapeutic measures alone are not adequate. The goal of pharmacological management is to reduce the agitation and cooperate in further process of evaluation so that the underlying cause may be identified. As much as possible sedation should be avoided. Patient should be offered the choice of route of administration of medication. Liquid or orally disintegrating medications are preferred over parenteral administration. Voluntary self-administration is preferred over forceful administration.

Medications used:

Benzodiazepines (BZD) alone or in combination with antipsychotics are most commonly used.

Lorazepam is commonly used BZD. 2-4 mg of oral/i.m/slow i.v can be used along with 2.5-5 mg of **Haloperidol**. This may be repeated until patient is calm or sedated if needed in intervals of half an hour-1 hour.

Diazepam i.m/slow i.v, oral 5-10 mg can also be used. Oral Clonazepam up to 1mg, Alprazolam up to 0.5 mg, oxazepam up to 10 mg are also used.

Now second generation antipsychotics are widely available such as oral/i.m Olanzapine 5-10 mg can be given. Other antipsychotics that can be given are Risperidone, Quetiapine, Aripiprazole, Flupentixol, Zuclopentixol, Trifluoperazine and

Chlorpromazine.

Whenever possible, an ECG should be obtained to determine QTc interval and cardiac rhythm abnormalities, as the above medications may precipitate Torsades de pointes and ventricular fibrillation if given rapidly and in vulnerable individuals.

Extra-pyramidal side effects like acute dystonias that may be produced by administration of antipsychotics may be managed by i.m. promethazine 50 mg or benztropine 2 mg.

For suspected substance withdrawal and intoxication, suitable tests may be performed after initial stabilization and appropriate detoxification protocols should be instituted.

Use of physical restraints

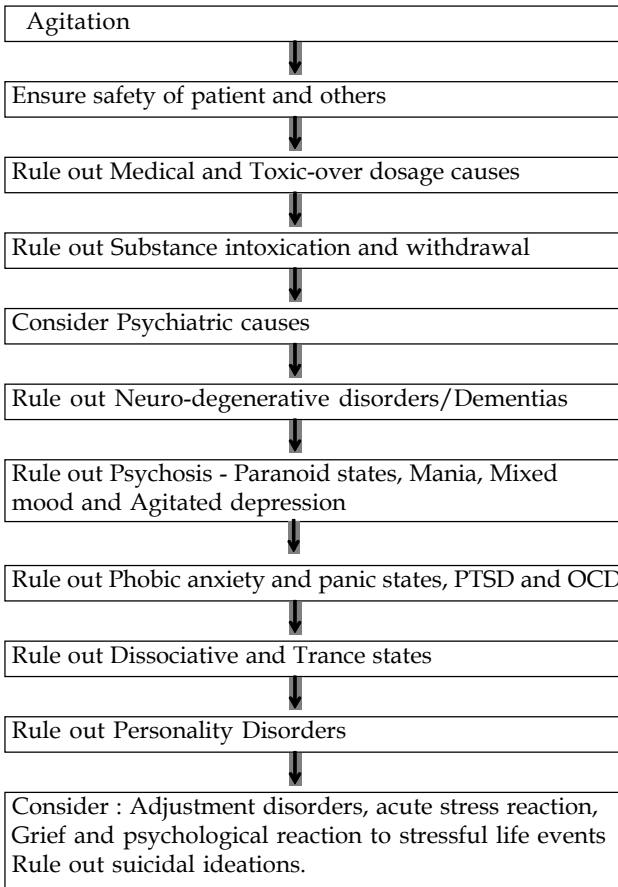
Physical restraints should not be used routinely and may worsen the agitation if applied for too long and forcefully. Following are the generally followed guidelines for restraints.

- ▶ Preferably least number of people should be involved in restraining the patient. Leather restraints are the safest and surest type of restraint.
- ▶ Explain to the patient why he or she is going into restraints.
- ▶ A staff member should always be visible and reassuring the patient who is being restrained.
- ▶ Reassurance helps alleviate the patient's fear of helplessness, impotence, and loss of control.
- ▶ Patients should be restrained with legs spread-eagled and one arm restrained to one side and the other arm restrained over the patient's head.
- ▶ Restraints should be placed so that intravenous fluids can be given, if necessary.
- ▶ The patient's head is raised slightly to decrease the patient's feelings of vulnerability and to reduce the possibility of aspiration.
- ▶ The restraints should be checked periodically for safety and comfort.
- ▶ After the patient is in restraints, the clinician begins treatment, using verbal intervention.
- ▶ Even in restraints, most patients still take antipsychotic medication in concentrated form.
- ▶ After the patient is under control, one restraint at a time should be removed at 5-minute intervals until the patient has only two restraints on. Both of the remaining restraints should be removed at the same time, because it is inadvisable to keep a patient in only one restraint.
- ▶ While a patient is in restraints, continuous monitoring of the patient should occur to prevent injury (15 minute checks of

extremities to insure adequate circulation, adequate hydration, and limb exercise when appropriate).

- ▶ All clinical efforts should focus on removing the patient from restraints as quickly as is clinically possible
- ▶ Always thoroughly document the reason for the restraints, the course of treatment, and the patient's response to treatment while in restraints.

Agitation should be managed on an emergency basis because if delayed, it can escalate into violence or self-harm. Moreover, there are equally common or perhaps more common causes are medical and substance related. Hence thorough diagnostic evaluation and arriving at the underlying cause for agitation should be always performed unless which the treatment is always incomplete.



Dementia

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"the failing mind which forgets the names of slaves, and cannot recognize the face of the old friend who dined with him last night, nor those of the children whom he has begotten and brought up." - Juvenal a Roman poet in 1st century.

The word dementia derives from the Latin word *dementatus*, meaning out of one's mind.

Though recognized centuries ago dementia is now a public health priority. According to a WHO 2012 report there are 7.7 million new cases of dementia each year, implying that there is a new case of dementia somewhere in the world every four seconds.

Prevalence of dementia reported from Indian studies amongst the elderly, range from 0.6 per cent to 10.6 per cent in rural areas and 0.9 per cent to 7.5 per cent in urban areas.

Demand for access to high-quality dementia care is expected to rise exponentially over the coming decade. Hence it is inevitable that all health care professionals irrespective of their fields of expertise should have a fairly good knowledge about dementia.

Definition by World Health Organization

Dementia is a syndrome due to disease of the brain - usually of a chronic or progressive nature - in which there is disturbance of multiple higher cortical functions, including memory, thinking, orientation, comprehension, calculation, learning capacity, language, and judgment.

In dementia consciousness is not clouded. The impairments of cognitive function are commonly accompanied, and occasionally preceded, by deterioration in emotional control, social behavior, or motivation.

Table 1		Definitions related to dementia
1	Cognitive impairment not dementia (CIND)	A syndrome that consists of a measurable or evident decline in memory or other cognitive abilities, with little effect on day-to-day functioning
2	Mild cognitive impairment (MCI)	A clinical sub syndrome of CIND, most likely the prodrome to dementia

To understand dementia it is essential to understand the terms cognition, cognitive functions and the process of normal ageing.

Cognitive functions

Cognitive function refers to a person's ability to process thoughts. In other words cognition is the mental processes by which we understand the world, process information, make judgements and decisions, and communicate knowledge to others. It primarily refers to processes like memory, the ability to learn new information, speech, and reading comprehension. We need cognitive functions to carry out day to day tasks from the simplest to the most complex. Specific regions of brain are devoted to distinct cognitive processes.

Ageing and cognitive functions

Normal aging has been conceptualized as the typical changes in behavior that occur with age. Aging entails many physical, biological, chemical, and psychological changes. Therefore, it is logical to assume the brain is no exception to this phenomenon and ageing will cause changes in various brain functions.

Normal or expected cognitive decline in ageing should be differentiated from pathological decline seen in dementia. The following table describes few distinguishing factors between normal ageing and dementia.

Table 2. Distinguishing Normal Aging from Dementia

Table 2	Typical Aging	Dementia
1	Independence in daily activities preserved	Dependent on others for key independent-living activities
2	Complains of memory loss but able to provide considerable detail regarding incidents of forgetfulness	May complain of memory problems only if specifically asked; unable to recall instances where memory loss was noticed

3	Patient is more concerned about alleged forgetfulness than are close family members	Family members much more concerned of memory loss than patient
4	Recent memory for important events, affairs; conversations not impaired	Notable decline in memory for recent events and ability to converse
5	Occasional word-finding difficulties	Frequent word-finding difficulties, pauses and substitutions
6	May have to pause momentarily to remember the way	Gets lost even in familiar surroundings
7	Able to learn new material / procedure	No new learning
8	Maintains prior level of interpersonal social skills	Exhibits loss of interest in social activities & socially inappropriate behaviors

Table adapted from AHCPR Clinical Practice Guidelines. US Department of Health and Human Services, 1996

Mild cognitive impairment

Mild cognitive impairment is a syndrome defined as cognitive decline greater than expected for an individual's age and education level but that does not interfere notably with activities of daily life. Prevalence of MCI in adults more than 65 years ranges from 3% to 19%.

Conversion rate of MCI to Dementia is 12% per year hence early detection is important. The American Association of Neurologist's Practice guidelines recommend that individuals with MCI should be monitored because of their increased risk of progressing to dementia.

Factors that predict progression from MCI to dementia

1. Family history of dementia
2. Memory deficit >1.5 standard deviation from the norm
3. Presence of ApoE 4 amyloid
4. Positive imaging with Pittsburg compound- B (PIB).

Table 3 Etiologies Of Dementia	
Neurodegenerative	Alzheimer's disease Dementia with Lewy bodies Frontotemporal dementia Parkinson's disease Huntington's disease
Vascular	Infarction Binswanger's disease
Neurological disease	Multiple sclerosis Normal-pressure hydrocephalus Brain tumor (primary or metastatic)
Endocrine	Hypothyroidism Hypercalcemia Hypoglycemia
Nutritional	Deficiency of Vitamin B12, Thiamine & Niacin
Infectious	Human immunodeficiency disease Prion disease (Creutzfeldt-Jakob disease, bovine spongiform encephalitis, Gerstmann-Straüssler syndrome) Neurosyphilis Cryptococcus
Metabolic	Hepatic insufficiency Renal insufficiency Wilson's disease Neuroacanthosis
Traumatic	Subdural hematoma Dementia pugilistica
Exposure	Alcohol Heavy metals Irradiation Anticholinergic medications Carbon monoxide

Etiology

Neurodegenerative disorders account for the vast majority of dementia cases. Alzheimer's disease, alone or in combination with other etiologies, accounts for about 70 to 80 percent of dementias. Vascular disease, affecting cortical or subcortical regions, accounts

for about 5 to 20 percent of dementias. Frontotemporal dementias account for approximately 5 percent of dementias.

Classification

Dementias can be classified in different ways

- " Cortical versus sub-cortical depending on the cerebral location of the primary deficits
- " Reversible versus irreversible depending on optimal treatment expectations
- " Early (before age 65) versus late onset
- " Degenerative versus non degenerative dementias

Clinical approach

Box1 Six steps to approach Dementia

1. Diagnosis	History and examination. Does the patient have dementia- confirm. Rule out pseudodementia
2. Typing	Step 1 + Investigations' Type of dementia - cortical/ subcortical, degenerative/ find possible etiology.
3. Prognosis	Is it reversible?
4. Staging	Mild/ Severe
5. Target	Which is the most troublesome symptom mcurrently? Agitation/ insomnia
6. Plan	Management - immediate, long term, care for the care givers.

History-taking

Onset and Progression- Type of onset and progression will give a clue to the etiology. For example insidious onset will point towards a degenerative process. Gradual progression is seen in Alzheimers and step ladder pattern of progression in vascular dementia.

Related to cognitive deterioration

Memory- difficulties remembering recent events, misplacing or losing things.

Aphasia or language impairment- difficulty remembering names may be evident as word-finding difficulties, word substitutions, or mispronouncing words, reduction in speech output.

Agnosia,-failure to recognize or identify objects despite intact sensory function.

Apraxia- performing previously acquired skills despite normal motor function eg. Cannot button his shirt, inability to light a match stick.

Executive functioning - disturbances in planning, organizing, sequencing, and abstracting. Eg. Cannot go to the bank or take care of his finances or manage his house.

Visuospatial functioning -can manifest as difficulty navigating around the house or getting lost in familiar places away from home.

Other important details

Activities of daily living- needing assistance for eating, bathing, toileting, grooming, or dressing.

Behavioural problems- decreased sleep, food refusal, agitation causing harm to oneself and others, or disinhibition.

Social support- well being of the care giver, support available to the caregiver, financial resources.

Examination and cognitive assessment

Detailed general physical and neurological examination will confirm dementia and will also help subtyping and classifying dementia. The table below depicts few differences between cortical and subcortical dementia.

MMSE or Mini Mental Status Examination is a reliable bedside screening test and will give a quick baseline rating of cognitive status. Clinical Dementia Rating Scale (CDR) measures several domains of function including memory, orientation, judgment and problem solving, community affairs, home and hobbies, and personal care.

Table 4

Clinical feature	Cortical dementia	Subcortical dementia
1. Memory deficits	Registration, storage	Recall
2. Cued recall	Absent	Present
3. Language	Aphasias common	Dysarthria
4. Visuospatial deficits	Late stages	Commoner
5. Extrapyrmidal signs	Present late in the course	Present early
6. Mood changes	Rarer	Depression, apathy
7. Psychomotor changes	Normal	Retardation

Box-2Causes for Reversible dementia, Normal pressure hydrocephalus, Subdural hematoma , Hypothyroidism, B12 deficiency, Neurosyphilis

Investigations

Lab investigations-Complete blood count, serum electrolytes, renal and hepatic function, glucose, albumin and protein, vitamin B12 and folate, VDRL, Antibody to HIV, thyroid- stimulating hormone, and urinalysis will help rule out correctable or contributory causes of dementia.

CT / MRI brain - Rule out infarcts, mass lesions, tumors, and hydrocephalus.

EEG - Not necessary in the routine evaluation of dementia.

Differential diagnosis

Dementia should be differentiated from other syndromes and disorders which present with memory disturbances and other cognitive deficits. Table 5 describes a few organic conditions which mimic dementia.

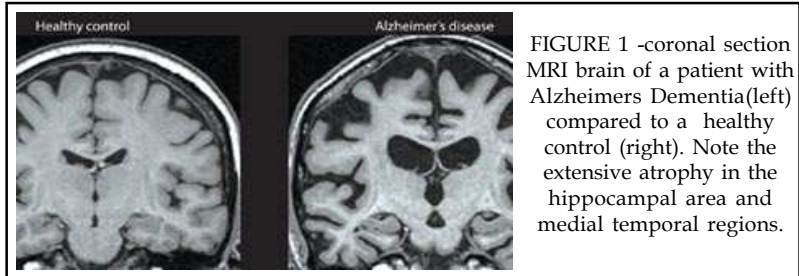


Table 5 Organic conditions which mimic dementia		Differentiating feature
1	Delirium (subacute)	Fluctuating course, affects consciousness
2	Amnesic syndrome	Only memory loss, other cognitive functions-normal
3	Aphasias	Memory, executive functions-normal
4	Focal cortical syndromes	Associated motor deficits

Pseudodementias are a group of conditions where the clinical presentation is suggestive of dementia, but proves to be due to a psychiatric illness. Psychiatric disorders which can be mistaken for dementia are depression, dissociative disorders and malingering.

Box 3 showing differences between dementia & pseudodementia

Box 3	DEMENTIA	PSEUDO DEMENTIA
	Progression- over years	Over weeks to months
	Tries to conceal deficits	Insists He/she has deficits
	Family notices the deficits	Patient complains about deficits
	Confabulation	"I don't know answers"
	Memory + another cognitive function impaired	Only Memory
	Remote memory- spared	Affected

Course and Prognosis

The course and prognosis of dementia is variable depending on the etiology. The duration is generally years, although it may vary from 6 months in the case of Creutzfeldt-Jakob disease to 15 years with Alzheimer's disease. Gradual functional decline renders patients increasingly more dependent over the course of the illness.

Dementia increases the risk for complications from intercurrent medical illness including delirium. Any medical illness can precipitate rapid decline in cognition and functioning and markedly increase the level of care required. Dementia is also associated with an increased risk of falls and adverse reactions to medications.

Specific Dementias

The major degenerative dementias include Alzheimers dementia, Lewy Body Dementia, Fronto Temporal dementia or Pick's disease and Parkinson's dementia.

Other clinically important dementias are Vascular dementia and Dementia associated with HIV.

Alzheimer's disease (AD)

- ▶ Most common cause of dementia is Alzheimers Dementia.
- ▶ Described by German Psychiatrist & Neuropathologist Alois Alzheimer.
- ▶ Onset generally occurs in late life, most commonly in the 60s, 70s and beyond, but the early onset AD occurs in the 40s and 50s.
- ▶ Age is the leading risk factor for AD Prevalence doubles about every 5 years from 5 to 8 percent at age 65 to 70 to 15 to 20 percent at age 75 to 80.
- ▶ Insidious onset and gradual progression.
- ▶ Disorder begins most commonly with deficits in recent memory, which are followed by aphasia, apraxia, and agnosia after several years.

Etiopathology - Alzheimers is the most well studied dementia.

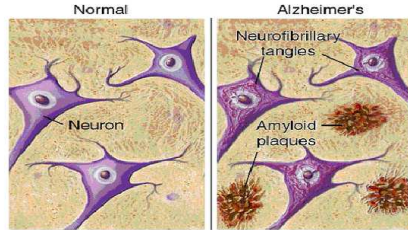
Genetics

1. Early-Onset AD-onset (below 55 years of age)

Dominantly inherited familial AD is caused by mutations in at least one of the following three genes:

- | | |
|-----------------------------------|---------------|
| 1. APP- Amyloid Precursor Protein | Chromosome 21 |
| 2. PS1 -Presenilin 1 | Chromosome 14 |
| 3. PS2- Presenilin 2 | Chromosome 1 |

FIGURE 2 showing amyloid plaques and neuro fibrillary tangles



2. Late-Onset AD

- ▶ Genetics plays a lesser role in late onset AD
- ▶ Epsilon 4 allele of the Apolipoprotein E (ApoE 4) gene on chromosome 19 is found to increase the risk in a dose dependent manner.
- ▶ ApoE 4 participates in cholesterol transport and amyloid clearance.
- ▶ ApoE 4 remains the single most important marker associated with risk of AD.

Neuropathology:

- ▶ Neuropathological hallmarks of AD are ? amyloid plaques & Neuro fibrillary tangles (NFT).
- ▶ NFTs are Intracytoplasmic inclusions in hippocampus, amygdala and pyramidal layer of neocortex.
- ▶ Neuritic amyloid plaques are Spherical, silver staining, extra cellular inclusions in cerebral cortex & hippocampus. Central core contain A β amyloid surrounded by degenerating dendrites & axons
- ▶ Amyloid cascade hypothesis states that amyloid deposition due to faulty APP- Amyloid precursor protein results in these plaques which destroys cholinergic neurons in the basal forebrain

Vascular dementia VD

- ▶ Second commonest cause of dementia in the west, but it is the most common form in some parts of Asia
- ▶ Risk factors - Diabetes Mellitus, Hypertension, smoking, Dyslipidemia.

Clinical features:

- ▶ Step-wise progression.
- ▶ Focal neurological signs, urinary symptoms, gait disturbances and dysarthria can be seen.
- ▶ Past history of transient ischaemic attacks and strokes supports the diagnosis.

- ▶ Cognitive symptoms- both cortical and subcortical type of deficits seen
- ▶ Emotional incontinence is very common.
- ▶ Depression is common

Types -(1) Multi infarct dementia, (2) VD due to a strategic single infarct, (3) VD due to lacunar lesions, (4) VD due to hemorrhagic lesions (5) Binswanger disease.

Binswanger disease (known as subcortical leukoencephalopathy) is due to diffuse white-matter disease. In Binswanger disease, vascular changes observed are fibrohyalinosis of small arteries and fibrinoid necrosis of the larger brain vessels.

CADASIL Cerebral autosomal dominant arteriopathy with subcortical infarcts and leukoencephalopathy is a rare autosomal-dominant condition localized to chromosome 19q12 that affects small vessels supplying the deep white matter. Pathologically, multiple small infarcts are observed in the white matter, thalamus, basal ganglia, and pons.

Fronto temporal dementia (FTD)

- ▶ Second commonest degenerative dementia.
- ▶ Pick's disease is one of FTDs which is characterized by "knife edge atrophy" of frontal & temporal lobes & histologically characterized by pick's intraneuronal inclusions
- ▶ Also known as Primary progressive aphasia, Semantic dementia, or Front temporal dementia with motor neuron disease.
- ▶ Usual onset is at age 45-65 years
- ▶ Tauopathies -Significant number of patients with FTD have strong family history & mutation in the tau gene on chromosome 17. Tau protein is a microtubule binding protein needed for stabilization & polymerization of microtubules. Mutations in FTD P17 may result in inability to bind to microtubules & cell loss

Clinical Features-

- ▶ Personality and behavioural changes are prominent.
- ▶ Memory and other cognitive functions are preserved till late stages of the disease.
- ▶ Progressive change in personality - characterized by socially inappropriate behaviour, impulsive acts and disinhibition.
- ▶ Dysexecutive function manifested as difficulties in planning and programming. These are linked to frontal lobe involvement.
- ▶ Progressive change in language- characterized by problems in expression of language or severe naming difficulty and problems

with word meaning. Progressive nonfluent aphasia is linked to left fronto temporal pathology.

Diffuse Lewy Body disease

Third commonest cause of dementia.

Pathology - Distinctive finding is Lewy bodies in cortex and substantia nigra. Lewy bodies are eosinophilic intra nuclear inclusions with a pale halo around a filamentous core. Anti ubiquitin antibodies provide a reliable estimate of frequency of lewy bodies.

Clinical features-

- ▶ Prominent visual hallucinations and delusions,
- ▶ Fluctuation of cognition,
- ▶ Frequent falls / syncope
- ▶ Sensitivity to neuroleptics.
- ▶ Parkinsonian features are frequently seen.
- ▶ Episodes of clouding of consciousness are very common even in early stages.

HIV associated dementia

- ▶ Usually occurs later in the course of illness.
- ▶ Subcortical type of dementia is seen.
- ▶ Slowness of cognition is a common and early symptom.
- ▶ Personality changes are also commonly seen.
- ▶ Ataxia, pyramidal and extrapyramidal signs and incontinence can all be seen
- ▶ Good response to Highly Active Anti Retroviral Therapy (HAART)

Following table depicts characteristic clinical features of different types of dementia

Table 6	ALZHEIMERS	VASCULAR	DLBD	FTD	Cortical Basal Ganglia Degeneration
ONSET	Insidious	Abrupt		Insidious	
PROGRESSION	Gradual	Stepwise		Gradual	
SALIENT FEATURES	Early difficulty in recent memory Word finding visuospatial decline	Psychomotor slowing Focal Neurological deficits	Cognitive fluctuation Well formed visual hallucinations Neuroleptic sensitivity Motor features of Parkinsonism	Early Personality changes Aphasia No amnesia Early loss of insight	Asymm. Parkinsons Alien limb phenomenon Ideomotor apraxia Insight well preserved

Management of Dementia

Step 1- Identify if it is due to a reversible cause and treat the cause. For example if dementia was due to B12 deficiency supplement patient with B12 and Shunt surgeries in case of Normal pressure hydrocephalus.

Step 2- Medication if cognitive decline can be arrested.

1. Platelet inhibitors like aspirin, clopidogrel, lipid lowering agents, adequate control of blood pressure would help in vascular dementia
2. Alcohol cessation and exercise would be other examples to arrest cognitive decline.

Step 3

Anticholine esterase inhibitors AChEI

Best developed therapy and are used for mild to moderate disease. They act by increasing levels of ACh at the synapse and possibly affecting amyloid production.

Donepezil Second generation AChEI

Donepezil has been found to improve cognition and global function assessment. Improvement in behavioural symptoms and quality of life are not evaluated extensively. Reduced rates of conversion from MCI to AD in short term has been found. Also effective in Parkinson's disease with cognitive impairment

Well-tolerated orally, Dose: 5mg oral a day for 4 wks then increase dose to 10mg a day. Adverse reactions : Headache, nausea, diarrhea. Precaution: Seizures, supraventricular arrhythmias

Rivastigmine

Consistent effect is seen in improving cognition and global functioning. But effect is lesser than other AChEI. Efficacies in other domains are not well evaluated.

Well tolerated orally. Dose: 1.5mg oral BD with titration every 2 weeks up to 6mg BD. Adverse reaction: dizziness, headache, Nausea, vomiting, diarrhoea, anorexia. Precautions: arrhythmias, peptic ulcer, seizures, COPD

Box 4 STEPS in dementia management

1. Find if it is a reversible cause and treat the cause
2. Find if cognitive decline can be arrested- eg., vascular dementia-
3. If it is a degenerative dementia- role of pharmacological agents
4. Pharmacotherapy for behavioral problems
5. Behavioral and social intervention
6. Care giver support

Galantamine

Efficacy is similar to Rivastigmine. Dose: Initial: 4 mg twice a day for 4 weeks. If patient tolerates 8 mg per day, increase to 8 mg twice daily for more than 4 weeks.

Adverse reactions: Nausea, vomiting, diarrhea, anorexia.
Precautions: Hepatic dysfunction, bradycardia

NMDA Antagonist- Memantine

Improvement in cognition & global functioning has been noticed but few studies have found it to be less effective than AChEI. Use in combination with AChEI has not shown significant benefit.

Well tolerated orally, 5 mg bd upto 20mg/day. Precaution: hypersensitivity reaction.

Management of behavioural symptoms**Mood Disturbances**

Depression is very common. Initial step would be to review medical condition/drugs causing depression. Antidepressants are effective. Usually patients with dementia need longer duration of treatment.

Psychotic Symptoms

Atypical antipsychotics -Usually single oral dose at night is preferred. If agitated parenteral typicals can be given. Intravenous/intramuscular antipsychotics are known to increase risk of falls. Increased neuroleptic sensitivity in patients with Lewy body disease should be kept in mind.

There is an indiscriminate use of atypical antipsychotics like Risperidone and Quetiapine in practice. This should be avoided as they have been found to be associated with sudden deaths in elderly.

Sleep Disturbances

Restless leg syndrome, Nocturia and Sleep apnoea should be ruled out in all patients. Benzodiazepines and other sedatives can precipitate delirium even in low doses. Simple advice regarding sleep

hygiene, minimizing day time sleeping and avoiding fluids & diuretics after 6pm is of great use.

Aggression & Agitation

Agitation is often associated with disorientation, delirium or can be due to hallucinations / delusions. They can lead to falls or injuries. A thorough physical assessment should be done to rule out medical causes of worsening (eg-urinary tract infection) and other source of discomfort including pain, hunger and constipation.

Agitation can be managed by avoiding overstimulation (too many visitors, crowded, noisy place) and maintaining a calm & predictable environment. Oral / Parenteral antipsychotics can be used. Quetiapine 25-50mg and haloperidol 2.5-5mg are the usually prescribed doses.

Behavioral Interventions

Reality orientation -is aimed at orientating the person to his or her surroundings. This is done by communicating to the patient the time, day, date etc.

Behavioral techniques - By altering the triggers and/or the consequences the problem behavior can be minimized.

<p style="text-align: center;">Box 5 -General Care in dementia</p> <p>Room- well lit & ventilated, limited furniture, clock, calendar Food- Simple , well balanced Encourage reading daily news, update day to day events Patients should carry identity/address card</p>
--

Activity scheduling and structuring the daily routine- provides positive stimulation and reduces some of the possible causes of difficult behavior.

Environmental modifications- to suit patient's physical needs like positioning his bed, walking stick, etc.

Day care-Ideally, day care provides a protected environment and appropriate stimulation to patients during the day and gives caregivers a needed break.

Cognitive retraining can be done in early stages of dementia. Cognitive retraining is a therapeutic strategy to improve or restore a person's skills in the areas of attention, memory, organizing, reasoning, problem-solving and decision making.

Few methods of cognitive retraining

1. Memory retraining - teaching the patient strategies that can be used to recall certain types of information. Example- using rhymes / cues.

2. Organizational skills retraining- helps to keep track of finding items, doing tasks in a set order etc.
3. Compensatory memory aids- include day diaries, lists, and calendars.

Caregiver support

Dementia has an immense impact on the lives of the family, and particularly the person who takes the primary role in providing care. Recent Indian studies report that caregivers are mostly women without adequate formal support systems.

Care giver burden is defined as Alterations in caregivers' emotional and physical health experienced by the caregivers. The provision of care to a person with dementia can result in significant strain for those who provide most of that care. Care givers experience physical, emotional and economic strain.

Steps to reduce caregiver burden

1. Information regarding prognosis, long term care and support available, dementia care groups or organizations like
2. Help them to come to terms with the disease, plan for the future and make the best use of their current circumstances and continuing to do what they can still do despite the decline.
3. Respite care- Basically means temporary care of the patient by another person. This acts as a break for the caregivers. Respite care can take place in the home of the person with dementia, in a day care centre or in the community.

Summary

1. Dementia is a syndrome of global cognitive decline.
2. It should be differentiated from cognitive decline seen in normal ageing.
3. One should always look for reversible causes for dementia.
4. Drugs for the treatment of behavioral problems to be used with caution in elderly.
5. Caregiver's health and wellbeing should always be kept in mind.

Delirium

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Delirium is a neuropsychiatric syndrome of acute onset and fluctuating course, clinically characterised by altered level of consciousness, attention, and disturbance in orientation,

memory, thought, and behaviour. The term delirium literally means, "out of the track", and was firstly used by Celsus, in the first century A.D. to describe either states of agitation or excessive somnolence. Delirium is an under-studied complex syndrome occurring in 11-42% of general medical in-patients and up to 50% of hospitalised elderly patients .

Delirium develops over a short period of time (hours to days) and fluctuates throughout the course of the day. Other terminology used to describe delirium includes 'acute confusional state', 'acute brain syndrome', 'acute organic reaction', 'acute brain failure' and 'post-op psychosis'.

Classification

The DSM-IV-TR classifies delirium according to aetiology, as follows:

- ▶ Delirium due to a general medical condition
- ▶ Substance Intoxication Delirium (drugs of abuse)
- ▶ Substance Withdrawal Delirium
- ▶ Substance Induced Delirium (medications or toxins)
- ▶ Delirium due to Multiple Etiologies
- ▶ Delirium not otherwise specified.

Clinically delirium can be divided into the following three categories:

- i. Hyperactive Delirium (30%). Patients are agitated and hyperalert with repetitive behaviours, wandering, hallucinations and aggression. There is also an association with increased use of benzodiazepines, over sedation, use of restraints and falls.

- ii. Hypoactive Delirium (25%). Patients are quiet and withdrawn, and hence its occurrence is missed in a busy medical ward, leading to more severe complications, and hence a lengthened hospital stay.
- iii. Mixed Delirium. Fluctuating pattern seen in 45% of cases.

Clinical signs and symptoms

Core Clinical Features

- ▶ Altered consciousness
- ▶ Altered attention- diminished ability to focus, sustain, or shift attention;
- ▶ Impairment in other realms of cognitive function- disorientation to time and space, decreased memory;
- ▶ Rapid onset (usually hours to days); brief duration (usually days to weeks);
- ▶ Unpredictable fluctuations in severity and other clinical manifestations during the course of the day, sometimes worse at night (sundowning), which may range from periods of lucidity to severe cognitive impairment and disorganization

Other clinical features

- ▶ Disorganization of thought processes (ranging from mild tangentiality to frank incoherence).
- ▶ Perceptual disturbances such as illusions and hallucinations.
- ▶ Psychomotor hyperactivity and hypoactivity.
- ▶ Disruption of the sleep wake cycle.
- ▶ Mood alterations (from subtle irritability to obvious dysphoria, anxiety, or even euphoria).
- ▶ Altered neurological function (e.g., autonomic hyperactivity or instability, myoclonic jerking, and dysarthria).
- ▶ Electroencephalogram (EEG) usually shows diffuse slowing of background activity.

Physical and Laboratory Examinations

Delirium is usually diagnosed at the bedside and is characterized by sudden onset of symptoms. A bedside neurological examination and mental status examination can be used to document the cognitive impairment and provide a baseline from which to measure the patient's clinical course. The physical examination often reveals clues to the cause of the delirium. The presence of a known physical illness or a history of head trauma or alcohol or other substance dependence increases the likelihood of the diagnosis.

The tools commonly used for assessment of delirium are

- ▶ Mini mental status examination(MMSE)
- ▶ Confusion Assessment Method (CAM)
- ▶ Delirium rating scale(DRS)

Standard lab investigations

Blood chemistries (electrolytes, renal and hepatic functions, and glucose levels)

Complete blood count with white cell differential

Thyroid function tests

Serologic tests for syphilis

Human immunodeficiency virus (HIV) antibody test

Urinalysis

Electrocardiogram

Electroencephalogram

Chest radiograph

Blood and urine drug screens

Blood, urine, and cerebrospinal fluid (CSF) cultures

B12, folic acid concentrations

Computed tomography or magnetic resonance imaging brain scan

Lumbar puncture and CSF examination

Common Risk Factors for Delirium

Non Correctable

- ▶ Age
- ▶ Male
- ▶ Mild Cognitive Impairment,
- ▶ Dementia,
- ▶ Parkinsons Disease .
- ▶ Multiple co-morbidities including:
 - o Renal and hepatic disease
 - o History of CVA
 - o History of falls and poor mobility
 - o History of prior delirium.

Correctable

- ▶ Hearing impairment or visual impairment
- ▶ Malnutrition, dehydration, low albumin.
- ▶ Social Isolation,
- ▶ ▶ sleep deprivation,
- ▶ New environment,

- ▶ Confined to a hospital ward
- ▶ Restraints and indwelling catheters
- ▶ New addition of three or more medications

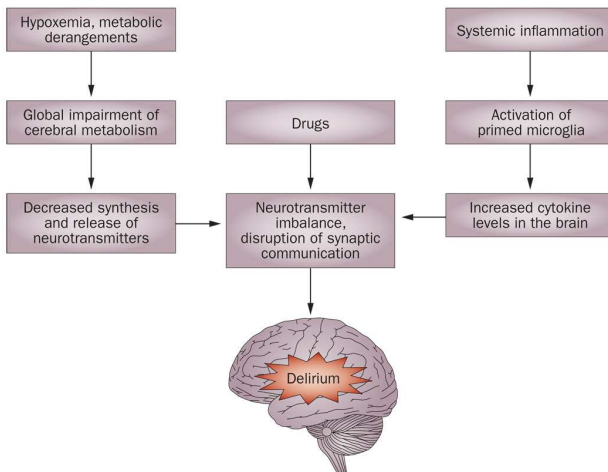
Precipitating Factors

- ▶ Prescribed medication and polypharmacy
- ▶ Alcohol withdrawal and benzodiazepines
- ▶ Sepsis, shock, hypothermia
- ▶ Electrolyte disturbance (sodium, calcium, magnesium, phosphate)
- ▶ Endocrine disturbance (Blood sugar, thyroid)
- ▶ Nutritional deficiencies (thiamine, B12, folate)
- ▶ Cardiac, liver or renal failure
- ▶ Pulmonary disorders (particularly in the setting of hypoxemia)
- ▶ CVA or seizures
- ▶ Post surgery, especially cardiac, orthopaedic or with ICU stay
- ▶ Falls and fractures
- ▶ Anaemia or gastrointestinal bleed
- ▶ Pain
- ▶ Cancer and terminal illness

Pathophysiology of delirium

The major neurotransmitter hypothesized to be involved in delirium is acetylcholine, and the major neuroanatomical area is the reticular formation. The reticular formation of the brainstem is the principal area regulating attention and arousal; the major pathway implicated in delirium is the dorsal tegmental pathway, which projects from the mesencephalic reticular formation to the tectum and thalamus

Fig 1: Aetiology and pathophysiology of Delirium



Prevention

Primary prevention using multicomponent interventions for modifiable risk factors can reduce the frequency and severity of delirium in elderly medical and post-operative populations, with absolute risk reduction estimated at 13-19%. Common elements include:

- ▶ Eliminating unnecessary medication
- ▶ Careful attention to hydration and nutrition
- ▶ Pain relief, correction of sensory deficits
- ▶ Sleep enhancement
- ▶ Early mobilization and cognitive stimulation
- ▶ Pharmacological prophylaxis in high-risk populations using haloperidol and donepezil can reduce delirium severity and duration but a better understanding of the magnitude of effect is needed before more routine use can be justified.

Differential Diagnosis

- ▶ Dementia
- ▶ Schizophrenia
- ▶ Depression
- ▶ Brief psychotic disorder,
- ▶ Schizophreniform disorder,
- ▶ Dissociative disorders
- ▶ Factitious disorders

Differentiating between Delirium, Dementia and Depression

	Delirium	Dementia	Depression
Onset	Acute	Insidious	Variable
Course	Fluctuating	Progressive	Diurnal variation
Consciousness	Altered, clouded	Clear until late stages	Clear
Attention	Inattention	Normal	Poor
Memory	Poor short term memory	Poor short term memory	Normal
Thinking	Disorganised, incoherent	Difficulty with abstract thought	intact, low self worth, Hopelessness
Perception	Misinterpretation- illusions . Can have Hallucinations	Usually normal	Usually normal
MMSE	Distracted, difficulty completing	Struggles .Tries to find correct reply	Lacks motivation "I don't know"

MMSE: MiniMentalState examination

Course and Prognosis

- ▶ Although the onset of delirium is usually sudden, prodromal symptoms (e.g., restlessness and fearfulness) can occur in the days preceding the onset of florid symptoms.

- ▶ The symptoms of delirium usually persist as long as the causally relevant factors are present, although delirium generally lasts less than a week.
- ▶ After identification and removal of the causative factors, the symptoms of delirium usually recede over a 3- to 7-day period, although some symptoms may take up to 2 weeks to resolve completely.
- ▶ The older the patient and the longer the patient has been delirious, the longer the delirium takes to resolve.
- ▶ The occurrence of delirium is associated with a high mortality rate in the ensuing year, primarily because of the serious nature of the associated medical conditions that lead to delirium.

Management of Delirium

In treating delirium, the primary goal is to treat the underlying cause. Once delirium is recognized in a patient (with or without dementia), a prompt and thorough clinical and laboratorial evaluation should be made to identify precipitating causes, which must be corrected as soon as possible. Drug review is one of them, in order to minimize the potential risk factors contributing to an episode of delirium. It is essential to review the medications, address possible drug interactions, and stop any non-essential drugs, as well as those with significant anticholinergic effects.

Nonpharmacological Interventions.

Nonpharmacological interventions should also be offered to every patient with delirium and include promoting

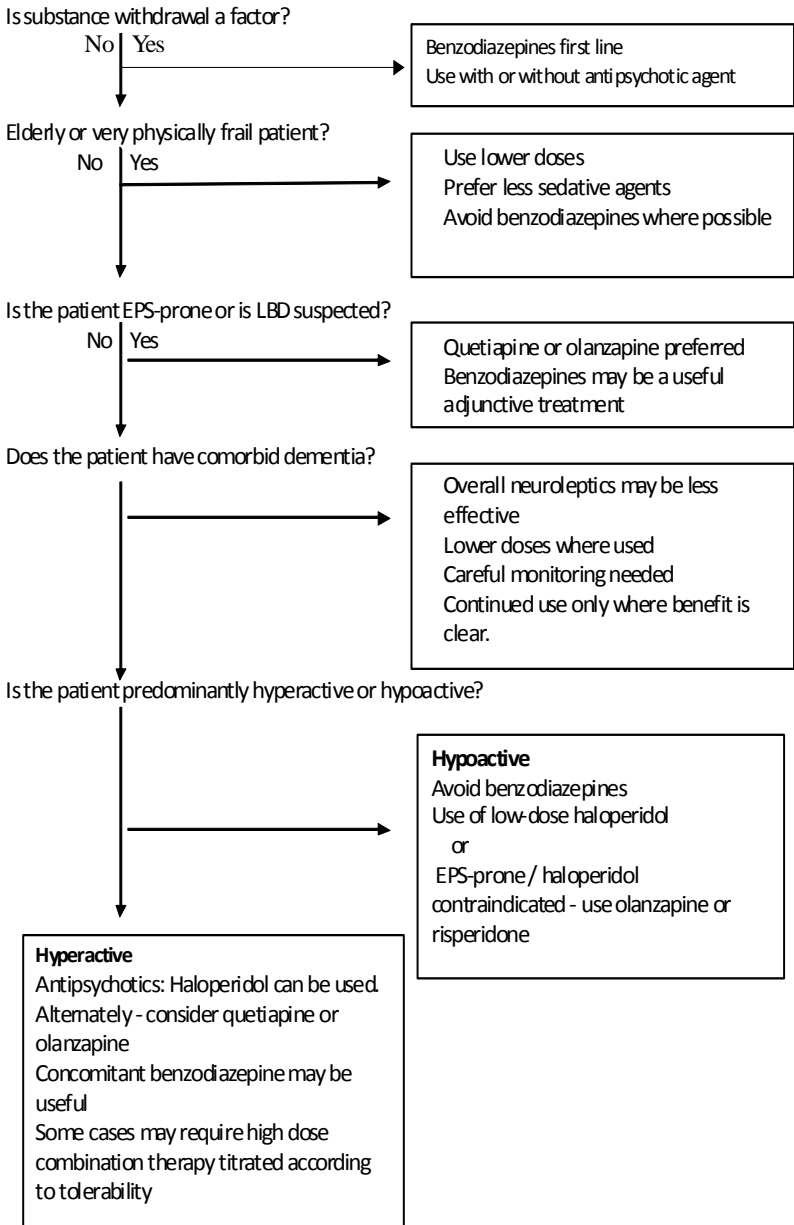
- ▶ Day activity,
- ▶ Reality orientation,
- ▶ Maintaining a quiet well-lit environment,
- ▶ Staff continuity,
- ▶ Avoiding room and bed changes,
- ▶ Providing hearing and visual aids,
- ▶ Encouraging the use of personal items,
- ▶ Limiting visits - especially for hyperactive delirium patients,
- ▶ Remove noxious stimuli (e.g., catheters, pumps, etc.),
- ▶ Limiting medical monitoring and testing (e.g., measuring blood pressure, temperature, blood works)

Pharmacological Management of Delirium

Administration of pharmacological agents should be reserved for patients with severe agitation or behavioural disturbance who are at risk of interrupting essential medical care and risk of causing harm to them self or others. This strategy outweighs risk associated with

administration of the medication when symptoms cannot be controlled otherwise.

Delirium treatment algorithm



Monitoring

- ▶ Review daily
- ▶ Monitor cognition, sedation and presence of EPS (with particular attention to the similarity between parkinsonism v. hypoactive delirium and akathisiav. hyperactive delirium)
- ▶ ECG if there is history of cardiac complications; if QTc interval >450 ms then consider monitoring cardiac conduction and electrolyte levels
- ▶ Adjust dose timing to promote sleep-wake cycle
- ▶ Adjust dose according tolerance and symptom control

Practical Key Points

- ▶ Every elderly patient admitted with confusion should be presumed to have delirium until proven otherwise.
- ▶ Improve early detection using the CAM and serial cognitive testing.
- ▶ Implement clinical guidelines, practice changes and education programs for all medical, nursing and allied health staff.
- ▶ Education and support of families and carers is essential.

Psychopharmacology and Electroconvulsive Therapy (ECT)

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Psychopharmacology (from Greek *psûkhê*, "breath, life, soul"; *pharmakon*, "drug") is the branch of pharmacology that deals with the study of the actions, effects, and development of psychoactive drugs.

At times, new scientific data lead to a revolution in how we think about ourselves. Copernicus's data showed that the Earth and its inhabitants were not situated at the geographic epicenter of the Universe. Darwin's observations indicated that humans did not exist in a natural realm apart from other primates. Freud's cases suggested that the rational conscious mind was not necessarily the primary determinant of human behavior. This article begins with the idea that revolutionary data about the brain and the mind, and especially about medications that act on the brain-mind, will fundamentally change our thoughts about humans.

Psychotropic's, have been used since antiquity for both recreational and therapeutic reasons. Noah celebrated with wine, and Plato philosophized about its appropriate use. Paracelsus knew the value of laudanum, and Pinel not only unshackled the insane but also prescribed opium. Up to the end of the 19th century, bloodletting was a well accepted treatment for almost everything. Until the middle of the 20th century, pyrotherapy, i.e. causing a bacterial abscess or malaria to induce a fever, was considered a routine treatment for psychosis. But with the introduction of Chlorpromazine in the early 1950s, a whole new Pandora's Box came into existence and currently psychopharmacology has become a major part of medical practice.

Classification:

There has never been and still is not a consensus about how to classify psychotropic drugs. The terminology describing it is continually evolving. As a rule, agents are organized according to structure (e.g., tricyclic), mechanism (e.g., MAOI), history (e.g., first generation, traditional), or uniqueness (e.g., atypical). Whatever the

approach, a foremost consideration in drug identification is its major clinical application.

In this article the following class of medications will be described;

1. Antipsychotics (Neuroleptics, Ataractic, Major tranquilizers)
2. Antidepressants
3. Antianxiety (Anxiolytic, Minor tranquilizers)
4. Mood stabilizers
5. Psychostimulants

Principles of Prescribing Psychotropic Medications:

A. Before Initiating Medications:

1. Establish a proper working diagnosis (differential diagnosis), through appropriate case history, physical examination and laboratory parameters.
2. Before prescribing be aware of substance use, co-morbid medical problems and potential drug interactions.
3. Identify target symptoms (eg. Sleep disturbances, panic attack, hallucinations etc)
4. Enquire about previous treatment response, medication histories of biological relatives and history of side effects.
5. Cost of the medication (pharmacoeconomics) is determinantal in drug selection.
6. For off-label use of medications use the available evidence base for making a clinical decision.
7. Quantify the symptoms/syndrome with the help of inventories or clinical rating scales for objective assessment.
8. Finally the familiarity of the treating Psychiatrist with the molecule is essential.

B. Administration of Medications:

1. Once a drug is chosen, administer a full trial with adequate doses and duration of treatment.
2. Be aware of side effects, and warn patients in advance if appropriate (eg. about sedation, GI upset, sexual side effects etc) and take concerns about side effects seriously.
3. When possible, keep regimens as simple as is possible both to improve adherence and to avoid additive toxicity.
4. Engage patients in a dialog about the time course of expected improvement.

5. Patients who are psychotic, demented, retarded or suicidal need careful supervision from family or other caregivers to adhere to their regimens.
6. Readjust the dosage of medications to determine the lowest effective dose for the particular stage of the patient's illness.
7. In elderly and special population (children, pregnancy) start low, go slow is the mantra.
8. Follow-up care includes evaluating efficacy of treatment; monitoring and managing side effects, treatment- relevant intercurrent life events, and co-morbid medical and psychiatric conditions; obtaining and evaluating appropriate laboratory data, and when necessary, planning changes in the treatment regimen.

C. Discontinuation of Medications:

1. Adjunctive and combination therapies may be appropriate for certain conditions, however when medications no longer prove useful to the treatment regimen (adverse effects, drug-drug interactions, no response) it is critical to discontinue them. It may be difficult to determine that a medication has failed unless the Psychiatrist has kept track of objective target symptoms from the beginning of the trial.
2. After apparent therapeutic success when discontinuing psychotropic medications, it is best to taper dosage slowly, which can help prevent rebound or withdrawal.

D. Ethical aspects of Drug prescription:

1. The basis of ethical prescribing is the practitioner's comprehensive knowledge of risk and benefits of drug therapies. This will be derived from evidence based approaches where possible.
2. The doctor-patient relationship is the appropriate frame work through which this knowledge is communicated to the patient.
3. The therapeutic partnership between patient and doctor must lead to true informed consent, which includes the right of competent patients to refuse treatment.

1. Antipsychotics (Neuroleptics, Ataractic, Major tranquilizers)

The antipsychotic drugs are the cornerstone of treatment for Schizophrenia and other psychotic disorders. Currently they also play an important role in the treatment of bipolar disorders.

Antipsychotics are divided into

- A. Typical Antipsychotics
- B. Atypical Antipsychotics

A. Typical Antipsychotics:

These agents are called as dopamine receptor antagonists (DRAs) because of their high-affinity for antagonism of dopamine D2 receptors. They are also known as first-generation antipsychotics or conventional antipsychotics.

A.1. List of Drugs:

Table 1: First-generation antipsychotics-Chemical Class

Chemical Class	Generic Name
Butyrophenone	Haloperidol
Dibenzoxazepine	Loxapine
Diphenylbutylpiperidine	Pimozide
Aliphatic phenothiazine	Chlorpromazine Methotrimeprazine
Piperazine phenothiazine	Fluphenazine Perphenazine Thiopropazine Trifluoperazine
Piperidine phenothiazine	Thioridazine
Thioxanthene	Flupenthixol Zuclopenthixol

A.2. Indications:

Table 2: First-generation antipsychotics-Indications

Indications for Dopamine Receptor Antagonists
Acute psychotic episodes in schizophrenia and schizoaffective disorder
Maintenance treatment in schizophrenia and schizoaffective disorders
Mania
Depression with psychotic symptoms
Delusional disorder
Borderline personality disorder
Substance-induced psychotic disorder
Delirium and dementia
Mental disorders due to a medical condition
Childhood schizophrenia
Pervasive developmental disorder
Tourette's syndrome
Huntington's disease

3. Pharmacology (Mechanism of action):

Dopamine receptors are of several biochemical and morphological subtypes. Positron Emission Tomography (PET) studies suggest that an antipsychotic effect is obtained when D2 receptor occupancy lies between 60-70 percent.

B. Atypical Antipsychotics:

After more than 40 years of dopamine receptor antagonists with often unavoidable extrapyramidal side effects, a new generation of antipsychotic drugs has become available. These are the serotonin-dopamine antagonists (SDAs), named after their alleged mechanism of action. SDAs are a group of antipsychotics that are comparable to dopamine receptor antagonists in terms of efficacy but differ in terms of structure, receptor affinities, and side effect profiles. These agents now have a much wider use in Psychiatry than do the traditional antipsychotics.

B.1. List of Drugs:

Table 3: - List of Atypical antipsychotics

Atypical Antipsychotics
Amisulpiride
Aripiprazole
Asenapine
Clozapine
Iloperidone
Lurasidone
Olanzapine
Paliperidone
Quetiapine
Risperidone
Sertindole
Ziprasidone

B.2. Indications:

Atypical antipsychotics have now become the first choice of agents for treating Schizophrenia and other psychotic disorders, because of lesser side effects and better tolerability. Fifty percent of antipsychotics come from non schizophrenia indications, such as bipolar disorder (mania, maintenance treatment), psychosis and other behavioral disturbances of dementia, depression (psychotic, bipolar, or treatment resistant), or psychosis in Parkinson's disease. Because of the better side effect profile, they are now used beyond the narrow indication of schizophrenia, in bipolar disorder, depression, autism,

behavioral problems, and psychosis in patients with dementia. The decreased risk of extrapyramidal side effects and tardive dyskinesia has created usage beyond the labeled indications for example, for posttraumatic stress disorder (PTSD), aggressive behavior, and adjunctive therapy in treatment resistant depression.

B.3. Pharmacology (Mechanism of action):

SDAs are so called because they have a higher ratio of serotonin type 2 (5-HT₂) to D₂ receptor blockade than the typical drugs. The SDAs also appear to be more specific for the mesolimbic than striatal dopamine system, and in some cases, are associated with rapid dissociation from the D₂ receptor.

Typical Vs Atypical:

All of the SDAs share the following characteristics:

1. Low D₂ receptor blocking effect when compared to DRAs.
2. A reduced risk of extrapyramidal side effects including reduced risk of tardive dyskinesia compared to older typical agents.
3. Improved efficacy against both positive and negative symptoms of Schizophrenia. (NB:controversial)

Side Effects of Antipsychotics :

Table 4: Side effects of Antipsychotics

System/Syndrome	Side effects
Anticholinergic	<ul style="list-style-type: none"> • dry mucous membranes • blurred vision; acute glaucoma • constipation • urinary retention • sweating • delayed/retrograde ejaculation
Cardiovascular (anti-alpha 1 adrenergic)	<ul style="list-style-type: none"> • orthostatic hypotension • dizziness • fainting • tachycardia
CNS	<ul style="list-style-type: none"> • sedation • confusion • reduced seizure threshold • movement disorders (see next table)
Endocrine (due to dopamine blockage high increases Prolactin)	<ul style="list-style-type: none"> • weight gain • Increased risk of Diabetes Mellitus and Dyslipidemias.

(Metabolic syndrome)

Men:

- decreased libido
- gynecomastia

Women:

- breast engorgement
- lactation
- amenorrhea
- menstrual irregularities
- changes in libido

Ocular	<ul style="list-style-type: none"> ● lenticular pigmentation ● pigmentary retinopathy (thioridazine >800 mg/day)
Hypersensitivity reactions	<ul style="list-style-type: none"> ● liver problems ● blood dyscrasias (e.g. agranulocytosis with clozapine) ● skin rashes-Indurations ● neuroleptic malignant syndrome
Altered temperature regulation	<ul style="list-style-type: none"> ● hypo or hyperthermia

EXTRAPYRAMIDAL SIDE EFFECTS:

	Dystonia	Akathisia	Pseudoparkinsonism	Dyskinesia
	Both	Both	Acute	Tardive
Acute or Tardive	Both	Both	Acute	Tardive
Risk Group	Acute: young Asian males	Acute: elderly Females	Elderly Females	Elderly Females
Presentation	Sustained abnormal posture: torsions, twisting, contraction of muscle groups, muscle spasms (e.g. oculogyric crisis, laryngospasm, torticollis)	Subjective and Objective motor restlessness	Tremor Rigidity/cogwheeling Akinesia Postural instability (decreased/absent armswing, stooped posture, shuffling gait, decreased stride, difficulty pivoting)	Purposeless constant movements usually Involving facial and mouth musculature, or less commonly, the limbs.
Onset	Acute: within 5d Tardive: > 90 d	Acute: within 10d Tardive: > 90d	Acute: within 30d	Tardive: > 90d
Treatment	Acute: lorazepam or benzotropine	Acute: lorazepam, propranolol or diphenhydramine: reduce or change neuroleptic to lower potency	Acute: benzotropine, benzodiazepine: reduce or change neuroleptic to lower potency	Tardive no good treatment: may try clozapine; discontinue drug or reduce dose

Table 5: Extrapyramidal side effects of Antipsychotics

2. Antidepressants:

Depression is widely recognized as a major public health problem around the world. Use of antidepressants to alleviate this common ailment has gradually increased in the past decade and knowledge of currently available antidepressants is of paramount importance for the treating physician.

2.A: Classification:

Pharmacological Class	Drugs
Cyclic Antidepressants <ul style="list-style-type: none"> • Selective Serotonin Reuptake Inhibitors (SSRI) • Selective Serotonin-Norepinephrine Reuptake Inhibitor (SNRI) • Norepinephrine Dopamine Reuptake Inhibitor (NDRI) • Serotonin-2 Antagonists/ Serotonin Reuptake Inhibitors • Noradrenergic/Specific Serotonergic Agent (NaSSA) • Nonselective Cyclic Agents (Mixed Reuptake Inhibitor/ Receptor blockers) 	<ul style="list-style-type: none"> • Citalopram, Escitalopram, Fluoxetine, Paroxetine, Fluvoxamine, Sertraline • Venlafaxine, Desvenlafaxine, Duloxetine • Bupropion • Trazadone • Mirtazapine • Desipramine, Amitriptyline, Nortriptyline, Imipramine, Clomipramine
Monoamine Oxidase Inhibitors <ul style="list-style-type: none"> • Reversible MAO-A Inhibitor (RIMA) • Irreversible MAO A-B Inhibitors (MAOIs) • Monoamine Oxidase B Inhibitor 	<ul style="list-style-type: none"> • Moclobemide • Phenelzine • Selegiline

Table 6: Classification of Antidepressants

2. B: NICE guidelines for Treatment of Depression:

(National Institute for Health and Clinical Excellence): Summary

- ▶ Antidepressants are not recommended as first-line treatment in recent-onset, mild depression. active monitoring, individual guided self-help, Cognitive Behavior Therapy(CBT) or exercise are preferred.
- ▶ Antidepressants are recommended for the treatment of moderate to severe depression and for dysthymia.
- ▶ When an antidepressant is prescribed, a generic SSRI is recommended.
- ▶ All patients should be informed about the withdrawal (discontinuation) effects of antidepressants.
- ▶ For severe depression, a combination of an antidepressant and CBT is recommended.
- ▶ For treatment-resistant depression recommended strategies include augmentation with lithium, an antipsychotic or a second antidepressant.

- ▶ Patients with two prior episodes and functional impairment should be treated for at least 2 years.
- ▶ The use of ECT is supported in severe and treatment-resistant depression.

2.C: Selective Serotonin Reuptake Inhibitors (SSRI):

SSRI	Licensed Indication	Licensed Dose	Main adverse Effects
Escitalopram	<ul style="list-style-type: none"> • Depression • Panic disorder ± Agoraphobia • Social anxiety • Generalized Anxiety Disorder • OCD 	10-20 mg/day	Nausea, vomiting, dyspepsia, abdominal pain, diarrhoea, rash, sweating, agitation, anxiety, headache, insomnia, tremor, sexual dysfunction, hyponatraemia, cutaneous bleeding disorders and discontinuation symptoms may occur.
Fluoxetine	<ul style="list-style-type: none"> • Depression • OCD • Bulimia nervosa 	20-60mg/day	As above but insomnia and agitation possibly more common.
Fluvoxamine	<ul style="list-style-type: none"> • Depression • OCD 	100-300 mg/day	As for Escitalopram but nausea more common.
Paroxetine	<ul style="list-style-type: none"> • Depression • Panic disorder ± Agoraphobia • Social anxiety • Generalized Anxiety Disorder • OCD • PTSD 	20-50 mg/day	As for Escitalopram but antimuscarinic effects and sedation more common.
Sertraline	<ul style="list-style-type: none"> • Same as above 	50-200 mg/day	As for Escitalopram.

Table 7: SSRIs

2.D. Selective Serotonin-Norepinephrine Reuptake Inhibitor (SNRI)

SNRI	Licensed Indication	Licensed Dose	Main adverse Effects
Duloxetine	<ul style="list-style-type: none"> • Depression • Generalized Anxiety Disorder • Myalgia and musculoskeletal pain disorders 	60-120 mg/day	<p>Nausea, insomnia, headache, dizziness, dry mouth, somnolence, constipation, anorexia.</p> <p>Very small increase in heart rate and BP.</p>
Venlafaxine	<ul style="list-style-type: none"> • Depression • Panic disorder ± Agoraphobia • Social anxiety • Generalized Anxiety Disorder 	75-375 mg/day	<p>Nausea, insomnia, headache, dizziness, dry mouth, somnolence, constipation, anorexia and sexual dysfunction.</p> <p>Elevation of BP at higher doses.</p> <p>Discontinuation symptoms common-Reduced with XL preparations.</p>

Table 8: SNRIs

2.E. Tricyclic Antidepressants:

SNRI	Licensed Indication	Licensed Dose	Main adverse Effects
Amitriptyline	<ul style="list-style-type: none"> • Depression • Nocturnal enuresis in children 	50-200 mg/day	Sedation, postural hypotension, arrhythmia, dry mouth, blurred vision, constipation, urinary retention.
Clomipramine	<ul style="list-style-type: none"> • Depression • OCD • Adjunctive treatment of cataplexy associated with narcolepsy 	30-250 mg/day	As for Amitriptyline, but more toxic in overdose
Dothiepin (Dosulepin)	<ul style="list-style-type: none"> • Depression 	75-225 mg/day	As for Amitriptyline.
Imipramine	<ul style="list-style-type: none"> • Depression • Nocturnal enuresis in children 	50-200 mg/day	As for Amitriptyline, but less sedative.

Table 9: TCAs

2.F. Other Antidepressants:

Class/Drug	Licensed Indication	Licensed Dose	Main adverse Effects
Noradrenergic/Specific Serotonergic Agent (NaSSA) Mirtazapine	<ul style="list-style-type: none"> • Depression 	15-45 mg/day	Increased appetite, weight gain, drowsiness, oedema, dizziness, headache, occasional blood dyscrasia.
Norepinephrine Dopamine Reuptake Inhibitor (NDRI) Bupropion	<ul style="list-style-type: none"> • Depression • Smoking cessation 	150-450 mg/day	Insomnia, nightmares, agitation, exacerbation of psychotic symptoms, occasional risk of seizures

Table 10: Other antidepressants.

3. Antianxiety (Anxiolytic, Minor tranquilizers):

Anxiety is a normal emotion that is experienced by everyone at some time. Symptoms can be psychological, physical, or a mixture of both. Intervention is required when symptoms become disabling. There are several disorders within the overall spectrum of anxiety disorders, each with its own characteristic symptoms.

3.A. Classification:	
Chemical Class	Agent
ANTIDEPRESSANTS (see previous section)	
SSRI (First line)	Eg. Escitalopram, Sertraline, Paroxetine, Fluoxetine
SNRI (First line)	Eg. Venlafaxine, Duloxetine
TCA (Second line)	Eg. Amitriptyline, Clomipramine
NaSSA (Second line)	Eg. Mirtazapine
SARI (Second line)	Eg. Trazodone
BENZODIAZEPINES (First line and Adjuvant)	
Long acting	Diazepam
	Chlordiazepoxide
	Clonazepam
	Flurazepam
	Nitrazepam
Intermediate acting	Lorazepam
	Oxazepam
	Temazepam
Short acting	Aiprazolam
	Midazolam
	Triazolam
AZASPIRONE	
First line for Generalized Anxiety Disorder (GAD) only	Buspirone
ANTIHISTAMINE	
Used primarily for pruritus. Can be useful in GAD	Hydroxyzine

Table 11: Anxiolytics Classification

3.B. Indications:

1. Anxiety Spectrum Disorders: GAD, Panic disorder + Agoraphobia, Social anxiety disorder, Post traumatic stress disorder, Obsessive Compulsive disorder.
2. Insomnia.
3. Perioperative sedation.
4. Seizure disorders.
5. Skeletal muscle spasticity.
6. Alcohol withdrawal.
7. Akathisia.
8. Agitation.
9. Catatonia (Lorazepam).
10. Myoclonus, restless leg syndrome, Tourettes's syndrome (Clonazepam).

3.C. Adverse effects of Benzodiazepines:

Headaches, confusion, ataxia, dysarthria, blurred vision, gastrointestinal disturbances, jaundice and paradoxical excitement are all possible side effects. A high incidence of reversible psychiatric side effects, specifically loss of memory and depression, led to the

withdrawal of triazolam. The use of benzodiazepines has been associated with at least a 50% increase in the risk of hipfracture in the elderly. Benzodiazepines can cause anterograde amnesia and can adversely affect driving performance. Benzodiazepines can also cause disinhibition; this seems to be more common with shortacting drugs. Respiratory depression is rare with oral therapy but is possible when the IV route is used. A specific benzodiazepine antagonist, flumazenil, is available. IV injections can be painful and lead to thrombophlebitis, because of the low water solubility of benzodiazepines, and therefore it is necessary to use solvents in the preparation of injectable forms.

3.D. Benzodiazepine Withdrawal symptoms:

Benzodiazepines are widely acknowledged as addictive and withdrawal symptoms can occur after 4.6 weeks of continuous use. At least a third of long-term users experience problems on dosage reduction or withdrawal. Short-acting drugs are associated with more problems on withdrawal than longeracting drugs such as diazepam.

Physical	Psychological
• Stiffness	• Anxiety/insomnia
• Weakness	• Nightmares
• GI disturbance	• Depersonalisation
• Paraesthesia	• Decreased memory and concentration
• Flu-like symptoms	• Delusions and hallucinations

Table 11: BZD withdrawal symptoms

4. Mood stabilizers:

The mood stabilizers are diverse group of drugs used for the treatment of recurrent affective illness.

These drugs are effective in acute mania and generally less effective in acute depression and they act to increase the time to depression or mania recurrence.

4.A. Following Agents Will be Discussed:

1. Lithium carbonate
2. Valproate
3. Carbamazepine
4. Other Mood stabilizers: Lamotrigine, Topiramate.
5. Atypical Antipsychotics as Mood stabilizers.

4.A.1: Lithium carbonate:

LITHIUM	
Indications	Mania, hypomania, prophylaxis of bipolar disorder and recurrent depression affective. Reduces aggression and suicidality.
Pre-lithium work up	e-GFR and TFTs. ECG recommended in patients who have risk factors for, or existing cardiovascular disease. Baseline measure of weight desirable.
Prescribing	Start at 400 mg at night (200 mg in the elderly). Plasma level after 7 days, then 7 days after every dose change until the desired level is reached (0.4 mmol/L may be effective in unipolar depression, 0.6–1.0 mmol/L in bipolar illness, slightly higher levels in difficult to treat mania) Blood should be taken 12 hours after the last dose
Side effects	Mild GI upset, fine tremor, polyuria, polydipsia, ankle oedema, weight gain, risk of hypothyroidism, interstitial nephritis (rare), teratogenicity.
Monitoring	Plasma lithium every 3 months. e-GFR and TFTs every 6 months. More frequent tests may be required in those who are prescribed interacting drugs. Weight (or BMI) should also be monitored
Stopping	Reduce slowly over at least 1 month Avoid incremental reductions in plasma levels of >0.2 mmol/L

4.A.2: Valproate:

VALPROATE	
Indications	Mania, hypomania, bipolar depression (with an antidepressant) and prophylaxis of bipolar affective disorder. May reduce aggression in a range of psychiatric disorders (data weak)
Pre-Valproate work up	FBC and LFTs. Baseline measure of weight desirable
Prescribing	Titrate dose upwards against response and side effects. Loading doses can be used and are generally well tolerated. Note that CR sodium valproate can be given once daily. All other formulations must be administered at least twice daily Plasma levels can be used to assure adequate dosing and treatment compliance. Blood should be taken immediately before the next dose
Side effects	Gastric irritation, hyperammonaemia, nausea, dose-related tremor, hair loss, peripheral oedema, thrombocytopenia (rare), teratogenicity.
Monitoring	As a minimum, FBC and LFTs after 6 months Weight (or BMI) should also be monitored
Stopping	Reduce slowly over at least 1 month

4.A.3: Carbamazepine :

CARBAMAZEPINE	
Indications	Mania (not first line), bipolar depression (evidence weak), unipolar depression (evidence weak), and prophylaxis of bipolar disorder (third line after antipsychotics and valproate). Alcohol withdrawal (may be poorly tolerated)
Pre-Carbamazepine work up	U&Es, FBS and LFTs. Baseline measure of weight desirable
Prescribing	Titrate dose upwards against response and side effects; start with 100–200 mg bd and aim for 400 mg bd (some patients will require higher doses) Note that the modified-release formulation can be given once to twice daily, is associated with less severe fluctuations in serum levels and is generally better tolerated Plasma levels can be used to assure adequate dosing and treatment compliance. Blood should be taken immediately before the next dose. Carbamazepine induces its own metabolism; serum levels (if used) should be re-checked a month after an increase in dose
Side effects	Dizziness, diplopia, drowsiness, ataxia, nausea, headache, oedema, hyponatremia, generalized erythematous rash, aplastic anaemia (rare), teratogenicity.
Monitoring	As a minimum, U&Es, FBC and LFTs after 6 months Weight (or BMI) should also be monitored
Stopping	Reduce slowly over at least 1 month

4.A.4: Other Mood stabilizers: Lamotrigine, Topiramate, Gabapentin:

The drugs mentioned above are also used as mood stabilizing agents. Lamotrigine is approved for use in bipolar depression.

4.A.5: Antipsychotics in bipolar affective disorders:

Individual antipsychotics variously possess sedative, anxiolytic, antimanic and antidepressant properties. Some antipsychotics (quetiapine and olanzapine) show all of these activities. Antipsychotics are used in bipolar disorder to treat all aspects of the condition. Among atypical antipsychotics, olanzapine, risperidone, quetiapine and aripiprazole have been most robustly used.

5. Psychostimulants:

A wide variety of compounds can produce CNS stimulation. The clinical utility of stimulants had been limited by the perception of their risk to cause tolerance and psychological dependence and by their abuse potential. In 1970, the U.S. FDA reclassified these drugs as Schedule II, the most restrictive classification for drugs that are medically useful.

5.A: Indications:

Indications
ADHD
Narcolepsy
Off-label use
Treatment of apathy and withdrawal
Potentialiation of narcotic analgesics
Antidepressant augmentation
Treatment of SSRI induced fatigue, apathy and sexual dysfunction

Table 12: Indications for Psychostimulants

Generic name
Dextroamphetamine
Lisdexamfetamine
Methamphetamine
Methylphenidate
Dexmethylphenidate

5.C: Adverse Effects:

These include restlessness, insomnia, poor appetite, dizziness, tremor, palpitations and cardiac arrhythmias.

With the ever increasing recognition of the importance of clinical and experimental psychopharmacology we hope that it will one day lead to even more effective treatments for mentally ill patients than we have at present.

Electroconvulsive Therapy (ECT)

Convulsive therapies for major psychiatric illnesses predate the modern era, with the use of camphor reported as early as the 16th century and several accounts of camphor convulsive therapies from the late 1700s to the mid 1800s. With the success of malarial fever therapy for general paresis, interest in biological therapies for psychiatric illnesses increased in the early 20th century. Lucio Bini and Ugo Cerletti were interested in the use of electricity to induce seizures and, after a series of experiments and observation of the use of electricity commercially, were able to safely apply current across the heads of animals for this purpose. In 1938, the first electroconvulsive therapy (ECT) course was administered to a delusional and incoherent patient, who improved dramatically.

I. Indications for ECT:**A. Primary Indications:**

As stated in the American Psychiatric Association (APA) guidelines, there is "compelling data . . . or strong consensus" supporting the use of ECT in the following conditions:

1. Major Depressive Episode (arising from unipolar depression, as part of bipolar depression, or concomitant manic symptoms during "mixed states")

ECT should be strongly considered, especially when associated with one of the following features

- ▶ Acute suicidality with high risk of acting out suicidal thoughts.
- ▶ Psychotic features.
- ▶ Rapidly deteriorating physical status due to complications from the depression, such as poor oral intake.
- ▶ History of poor response to medications.
- ▶ History of good response to ECT.
- ▶ Patient preference.
- ▶ Risks of standard antidepressant treatment outweigh the risks of ECT, particularly in medically frail or elderly patients.
- ▶ Catatonia.

2. Mania

ECT should be particularly considered if

- ▶ Any of the above features is present.
- ▶ In the presence of extreme and sustained agitation.
- ▶ In the presence of "manic delirium."

3. Schizophrenia

According to the APA guidelines, the following associated features predict a favorable response to ECT

- ▶ Positive symptoms with abrupt or recent onset.
- ▶ Catatonia.
- ▶ History of good response to ECT.

B. Secondary Indications:

1. Catatonia
2. Parkinson's disease
3. Neuroleptic Malignant syndrome
4. Delirium
5. Intractable seizure disorder

II. Contraindications for ECT:

There are no absolute contraindications for ECT.

ECT may be deemed necessary even when such "relative

contraindications" identified by the APA guidelines, are present

- ▶ Unstable or severe cardiovascular conditions, such as recent myocardial infarction, unstable angina, poorly-compensated heart failure, and severe valvular cardiac disease including critical aortic stenosis.
- ▶ Aneurysm or vascular malformation that might be susceptible to rupture with increased blood pressure.
- ▶ Increased intracranial pressure, as may occur with some brain tumors or other space-occupying cerebral lesions.
- ▶ Recent cerebral infarction.
- ▶ Pulmonary conditions such as severe chronic obstructive pulmonary disease, asthma, or pneumonia.
- ▶ Patient status rated as ASA (American Society of Anesthesiologists) level 4 or 5.

Conditions having substantially higher risk with ECT include:

- ▶ Pheochromocytoma.
- ▶ Retinal detachment.
- ▶ Acute narrow angle glaucoma.

III. Mechanism of action:

The mechanism of action of ECT is not fully known. ECT affects multiple central nervous system components, including hormones, neuropeptides, neurotrophic factors, and neurotransmitters.

The induction of a bilateral generalized seizure is required for both the beneficial and adverse effects of ECT. An increase in gamma-aminobutyric acid (GABA) transmission and receptor antagonism has been observed, which raises the seizure threshold during ECT.

ECT may also lead to an increase of endogenous opioids, which may also have anticonvulsant properties.

Positron emission tomography (PET) has been used to study the neurophysiological effects of ECT. In a literature review of studies assessing possible changes in cerebral glucose metabolism by PET before and after ECT, reduction in glucose metabolism after ECT in bilateral anterior and posterior frontal areas represented the most consistent findings.

Nearly every neurotransmitter system is affected by ECT, including beta-adrenergic, serotonin, muscarinic, cholinergic, and dopaminergic systems. Brain-derived neurotrophic factor (BDNF), second-messenger systems, and catechol-O-methyltransferase (COMT) polymorphisms may play a role in ECT.

IV. The Procedure:

Currently in Psychiatric practice modified ECT is used (modified i.e. with the help of anesthetic agents). After obtaining a written informed consent from the patient for each session and after a complete pre-anesthetic workup the patient is posted for the procedure following an overnight fast. Patient will receive electrical stimulation with the help of a brief pulse device, resulting in seizure activity and thus the therapeutic response. It is usual practice to do 2 or 3 ECT treatments per week, administered on non-consecutive days. In a major depression, a course of ECT usually consists of 6-12 treatments.

V. Side effects:

1. Cognitive disturbance: Impairment of memory and attention
2. Asystole
3. Prolonged seizures
4. Status epilepticus
5. Headache
6. Myalgia
7. Fracture long bones
8. Mortality: Cardiovascular complications (eg, arrhythmias) and pulmonary complications are the leading causes of mortality due to ECT. The mortality rate for ECT is estimated to be 1 per 10,000 patients or 1 per 80,000 treatments. This is about the same as that associated with minor surgery.

VI. Conclusion: ECT still remains one of the oldest and safest biological treatment available. Relinquishing the myths and changing the faulty attitudes towards ECT can only remove our ignorance.

Psychotherapy - Principles and Practice

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Wolberg defines Psychotherapy as "a treatment, by psychological means, of problems of an emotional nature in which a trained person deliberately establishes a professional relationship with the patient with the objective of removing, modifying or retarding existing symptoms; mediating disturbed patterns of behaviour and promoting positive personality growth and development".

In simple words psychotherapy is a form of treatment based on the use of systematic communication by the doctor or therapist to produce change in feelings, thinking and behaviour of the patient or client. It is based on psychological principles. Often it is also called as "Talk Therapy".

In general, the goals of psychotherapy are as follows:

- (1) To remove distressing symptoms (eg. Hopelessness, helplessness, worthlessness, death wishes)
- (2) To alter disturbed patterns of behaviour (eg. Addiction, self injurious behaviour, temper tantrums, bed wetting)
- (3) To improve interpersonal relationships (eg. Marital discord, sexual disorders, parents and child relationship, sibling rivalry, interpersonal relationship at workplace)
- (4) To learn better coping strategies for stresses of life (eg. Exams, bereavement, severe physical illness, job stress)
- (5) To build personal growth and maturation (eg. Positive mental health, personality development, personality disorders)

Counselling is one another term which is most of the time used interchangeably or synonymously with the term psychotherapy.

Some of the differences are mentioned in Table No. 1.

Table No. 1: Differences between psychotherapy and counselling

Sl.#	Psychotherapy	Counselling
1	Psychotherapy arose from the seminal works of Sigmund Freud	Originally linked with vocational guidance, personnel management, and the workplace
2	Analytic process	Advisory and directive
3	Appropriate term for talk therapy	Layman term or used in non psychiatric settings
4	Useful in the management of psychological problems	It is used for non-psychological conditions mainly to give away information related to particular illness / condition
5	Interventions are intended to create change in thinking / mood / behaviour	Not aimed to create changes
6	Needs formal training to practice psychotherapy	Formal training may not be required
7	Based on psychological theories (cognitive, behavioural, etc.)	Not based on any psychological theories
8	Usually practiced by psychiatrists, psychologists, psychiatric social workers, etc.	Anyone can practice counselling

There are over 400 named therapies in existence. Most are derivations of a few basic types. Psychotherapies within each of these categories broadly share a similar explanatory model and set of techniques. However, therapies are frequently modified (and may be renamed) when applied to new conditions or populations. There are guidelines for practice of particular psychotherapy but difficult to adopt it strictly to each and every client or patient. It needs to be individualized to the patient, who has a psychiatric disorder, problem, or adverse life circumstance.

Broadly, there are 4 different theoretical approaches adopted in psychotherapy. They are,

1. Psychodynamic theory
2. Cognitive-behavioural theory
3. Humanistic - existential theory
4. Interpersonal or systemic theory

Psychotherapy can be carried out in 4 modes, namely with:

1. Individuals
2. Couples
3. Families
4. Groups

Psychodynamic Therapy

It draws the theoretical concepts from Freudian psychoanalysis, Alderian therapy, Jung's analytical psychology and Kleinian psychodynamic therapy.

Psychodynamic therapy pay particular attention to past experiences, especially adverse relationship experiences during early life, which are likely to influence adult behaviour or psychological problems through unconscious process. During the therapy these unconscious processes may be identified through conversation and allowing the patient to think freely about his childhood experiences. Patient therapist relationship is important and some abnormality during the therapy also helps to identify psychological problems; specific terms used are transference and countertransference.

Transference: It is a redirection of a patient's feelings for a significant person, to the therapist. These can be love, rage, hatred, mistrust, parentification, placing the therapist in a god-like or guru status. These may be an obstacle to the treatment and needs to be handled cautiously.

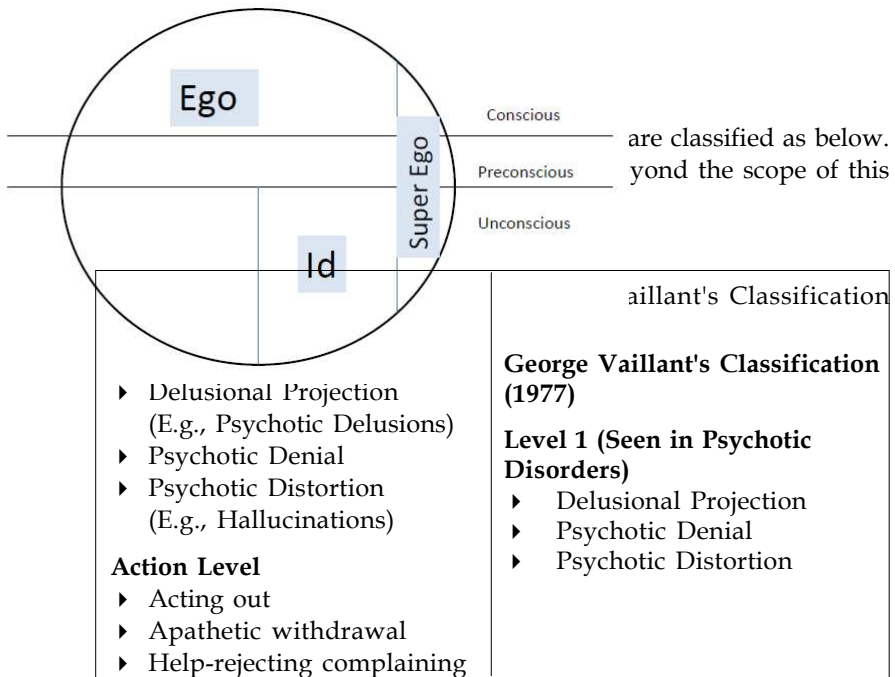
Countertransference: It is opposite of the transference, wherein there is a redirection of the therapist's feelings for a significant person in his life, towards a patient. These also need to be self-observed, and the therapist should make an attempt to consciously decrease them. During the process of psychodynamic therapy, the therapist identifies altered coping skills which are called as "Ego Defense Mechanisms". These are some unconscious psychological coping skills that protects an individual from anxiety, dangers or stressors. These are normally present in healthy individuals and are exaggerated during psychological illnesses; identifying and managing them may relieve anxiety / depressive symptoms.

To understand the defence mechanisms one should be aware of the topographic and structural models of mind (Figure No. 1) as proposed by Sigmund Freud.

Topographic model: It proposes that the mind is divided into the unconscious, preconscious and conscious states.

Structural model: It proposes that the mind is divided into Id, Ego and Super Ego. Id is something which we are born with, indicating basic instincts. It is pleasure oriented. Super Ego governs the set of rules and regulations which we learn as a social beings, like what is good or bad, right or wrong, etc. Ego is nothing but the self; it attempts a balance between Id and Super Ego.

Figure No.1: Topographic and structural models of mind



<ul style="list-style-type: none"> ▶ Passive aggression <p>Major image-distorting level</p> <ul style="list-style-type: none"> ▶ Autistic fantasy ▶ Projective identification ▶ Splitting of self-image or image of others <p>Disavowal Level</p> <ul style="list-style-type: none"> ▶ Denial ▶ Projection ▶ Rationalization <p>Minor image-distorting level</p> <ul style="list-style-type: none"> ▶ Devaluation ▶ Idealization ▶ Omnipotence <p>Mental inhibitions (compromise formation) level</p> <ul style="list-style-type: none"> ▶ Displacement ▶ Dissociation ▶ Intellectualization ▶ Isolation of affect ▶ Reaction formation ▶ Repression ▶ Undoing <p>High adaptive level</p> <ul style="list-style-type: none"> ▶ Anticipation ▶ Affiliation ▶ Altruism ▶ Humor ▶ Self-assertion ▶ Self-observation ▶ Sublimation ▶ Suppression 	<p>Level 2 (Immature defences, seen in Depression and Personality Disorders)</p> <ul style="list-style-type: none"> ▶ Fantasy ▶ Projection ▶ Hypochondriasis ▶ Passive aggression ▶ Acting out <p>Level 3 (Neurotic Defenses, Abnormality leads to interpersonal problems, unable to enjoy life, anxiety disorders)</p> <ul style="list-style-type: none"> ▶ Displacement ▶ Dissociation ▶ Intellectualization ▶ Reaction Formation ▶ Repression <p>Level 4 (Seen in emotionally health people)</p> <ul style="list-style-type: none"> ▶ Anticipation
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Sigmund Freud described the Theory of Psychosexual Development. According to him if the child experienced sexual frustration in relation to any psychosexual developmental stage, he or she would experience anxiety that would persist into adulthood and may lead to psychological problems. The meaning of sexual here means physical pleasure. The brief descriptions of stages (Table No. 3) are below,

Table No. 3: Psychosexual Stages of Development

Sl.No.	Stage	Age	Psychiatric Disorders
1	Oral Phase	0 - 1 ½ years	Dependent Personality, Schizophrenia, Mood Disorder, Alcohol / Drug Dependence
2	Anal Phase	1 - 3 years	Obsessive Compulsive Disorder
3	Urethral Phase	Transition between 2nd and 4th Phase	Competitiveness and ambitious traits
4	Phallic (Oedipal Phase)	3 - 5 years	Psycho-sexual disorders, Neurotic disorders
5	Latency Phase	5-6 years to 11-13 years	Obsessive personality
6	Genital Phase	11-13 years to young adulthood	Personality Disorders

Another component of psychoanalysis is interpretation of dreams. There is lot of research in this field in recent years. Earliest hypothesis was postulated by Sigmund Freud. He mentioned that dreams are "The Royal Road to the Unconscious". He felt that image / symbol presented in dreams may have multiple meaning, and these are discussed during psychoanalysis. Some of these may throw light on unconscious thoughts and feelings and may help to understand patients' abnormal behaviour.

Freudian theories have many criticisms and are difficult to understand in this current biological era. Some of the followers of Freud carried on his work and made some changes or added to his existing theories. These researchers were called as Neo - Freudians. They are Alfred Adler, Abram Kardiner, Carl Jung, Clara Thompson, Erich Fromm, Erik Erikson, Frieda Fromm-Reichmann, Harald Schultz-Hencke, Harry Stack Sullivan and Karen Horney.

Disadvantages of Psychoanalysis:

1. It is time consuming, and therapy may continue for many years
2. No immediate relief from psychological problems
3. Poor scientific evidence
4. May be helpful only in few psychological disorders
5. Difficult to get training in psychoanalysis as very few people practice it

Cognitive - Behaviour Therapy (CBT)

This therapy is most commonly used for anxiety and depressive disorders. Research has shown that CBT is helpful in several disorders. Most of the psychological conditions have both thought and behavioural disturbances, and CBT aims to achieve cognitive and behavioural change. It is organized into three major divisions: (1) cognitive restructuring, (2) coping skills therapies, and (3) problem-solving therapies.

Cognitive restructuring: Here the emotional distress is thought to be due to maladaptive thoughts, referred to as cognitive distortions. During the therapy these are identified and effort is made to replace these with adaptive thought patterns.

Coping skills therapies: The aim of this form of therapy is to enhance coping skills in the individual, thereby enabling him to face a variety of stressful life situations.

Problem-solving therapies: They are a combination of cognitive restructuring techniques and coping skills training procedures.

Types of CBT**Rational emotive behavior therapy (REBT):**

This form of therapy was described by Albert Ellis. The core principle of this therapy is that human thinking and emotion are significantly interrelated. He proposed the ABC model, wherein he said that symptoms are the consequences (C) of a person's irrational belief systems (B) regarding particular activating experiences or events (A). The main goal of therapy is to identify irrational beliefs and try to modify them. Ellis mentions 12 irrational beliefs which could lead to some psychological behaviors. This therapy also includes other techniques self-monitoring of thoughts, bibliotherapy, role playing, modeling, rational emotive imagery, shame-attacking exercises, relaxation methods, operant conditioning, and skills training.

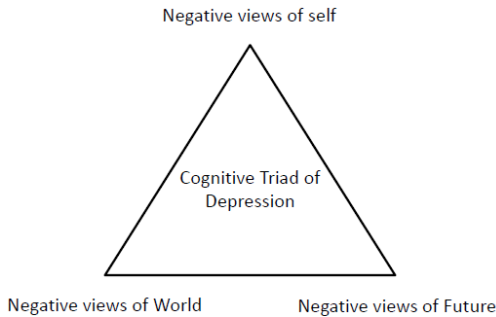
Cognitive Therapy:

Aaron Beck developed cognitive therapy with a focus on therapy for depression. He found that patients exhibited systematic distortions in their thinking patterns. In cognitive therapy, the therapist helps the patient to identify and correct distorted, maladaptive thoughts. Important steps include recognizing and correcting negative automatic thoughts / cognitive distortions (Table No. 4), teaching reattribution techniques, increasing objectivity in perspectives, identifying and testing maladaptive assumptions, and decentering. Cognitive therapy is useful in mood disorders, anxiety disorders, psychotic disorders, personality disorders, substance abuse and eating disorders.

Table No. 4: List of Cognitive Distortions

All-or-nothing thinking	Magnification (Catastrophizing) or Minimization
Oversgeneralization	Emotional Reasoning
Mental filter	Should Statements
Disqualifying the positive	Labeling and Mislabeled
Jumping to Conclusion	Personalization

From the cognitive model, depression is said to arise due to dysfunctionally negative views of oneself, one's life experience (and the world in general), and one's future. This is called cognitive triad of depression (Figure No. 2).

Figure No. 2: Cognitive Triad of Depression

Behavioral techniques like daily activity schedule, homework, mastery and pleasure rating, graded tasks, role play, assertiveness practice, etc. are used during the process of cognitive therapy. The standard duration of cognitive therapy is 15 to 20 visits over a 12 week period.

Behaviour Therapy:

The term behaviour in behaviour therapy refers to a person's actions and responses. BT involves changing the behaviour of the patients to reduce dysfunction and to increase the quality of life. John B. Watson is the father of behaviourism. It is based on the theories of learning, these are discussed below,

- ▶ Classical Conditioning: Developed by Ivan Pavlov.
- ▶ Operant Conditioning: Developed by B. F. Skinner.
- ▶ Respondent and Operant Behaviors: Behaviour elicited by conditional and unconditional stimuli is referred to as respondent

behavior. Behavior that changes in response to previous consequences are called operant behaviors. Human operant behaviors are under voluntary control and thus can be changed with instructions (E.g., Biofeedback).

- ▶ Antecedent Operations: It involves modelling behaviour by changing something that precedes the behaviour.
- ▶ Consequent Operations: It involves presenting or removing a stimulus contingent on behaviour.
- ▶ Reinforcer: If behaviour increases after some stimulus than that stimulus is referred to as a reinforcer.
 - Positive reinforcement: A positive reinforce is added (e.g., food, water, drug)
 - Negative reinforcement: A stimulus that had been previously presented as a positive reinforcer is removed.
- ▶ Punishment: It is same as reinforcement, except that the direction of the behavioural change is reversed.
 - Positive Punishment: Adding a stimulus that decreases the rate of the behaviour.
 - Negative Punishment: Removing access to a positive reinforcer. (e.g., time out)
- ▶ Modeling and observational learning: Learning new behaviours by means of observations is called observational learning. The individual being observed is called the model. The model does not have to be a live person; it can be even written or verbal instructions. Vicarious learning is one of the types of this form.
- ▶ Behavioural Analysis: It is one of the initial steps in behaviour therapy. It will help in understanding the functions and genesis of the maladaptive behaviour. It is classically called as "ABC" model. This means A (Antecedent) - B (Maladaptive Behaviour) - C (Consequence) of a problem behavior. B can be altered or eradicated by attempting to change A or/and C.

Brief overview of Behaviour Therapies:

Systematic Desensitization: It is mainly used for Phobia and other anxiety provoking disorders. Here first step is to prepare anxiety-evoking situations in an ascending order (hierarchy). Teach relaxation techniques. Least anxiety provoking situation is presented and coupled with relaxation. Once the patient learns to handle the anxiety then therapist goes next anxiety provoking situation in the hierarchy.

Exposure Therapy: Similar to systematic desensitization except that no attempt is made to relieve the anxiety during the period of exposure. Instead, with time, the anxiety will subside or disappear through a psychological process of habituation. It is used in OCD and Phobia.

Response Prevention: It is most of the times coupled with exposure therapy and is called as Exposure and Response Prevention (ERP). It is mainly used for patients with OCD and Eating Disorders. Here the obsessions are induced in the clinical setting and patients are prevented from performing compulsions (e.g., patient with obsession of contamination of hands is exposed to some dirt which evokes obsessions in him; later he is prevented from washing his hands). Repeated exposures will reduce anxiety associated with obsessions and eventually obsessions will reduce.

Flooding: It is a technique that is useful in patients with phobia. It involves the sudden exposure of the patient to the feared object in a controlled environment, causing intense anxiety. E.g: a patient with phobia for insects is exposed suddenly to some non poisonous insects, inducing intense anxiety, which gradually fades with continuous exposure. Flooding is combined with other behavioural therapies and not is used as a sole therapy.

Modelling: Here, the individual learns from observing others. It is useful in phobia, social skills training and OCD. E.g., patient with phobia towards dogs is made to observe people who play with dogs. It is used in combination with other therapies.

Thought Stopping: It is used in patients with OCD. Here the patient is asked to say the word "STOP", when he gets repetitive thoughts. Later on the patient can say the word "STOP" in his mind, a process that is socially more acceptable!

Aversion Therapy: Here the undesirable behaviour is coupled with unpleasant stimulus. E.g., placing unpleasant-tasting substances on the finger nails to discourage nail-chewing. Alcohol - Disulfiram reaction is also type of aversion therapy.

Habit Reversal: It is helpful in patients with tics / Tourette's disorder, trichotillomania, stammering and stuttering. It involves the use of a competing action / response, which is incompatible with the habit. E.g., if the patient has eye blinking tics than patient is asked to forcibly hold the eyes open for one minute and repeat such exercise multiple times. Patient should be taught to observe premonitory urge and carry out competing action once he notices that.

Social Skills Training: Social skills consist of verbal and non-verbal behaviours, which a person needs in order to form and/or maintain social relationships with other people. The social activity is split into various components and taught to them. Training may involve initiating, maintaining and terminating social contact, personal grooming, modelling, rehearsal and role-plays, and finally video feedback. Other factors like eye contact, voice volume, body language, posture and social distance are observed, and appropriate guidance is given to them. This therapy is useful in rehabilitation of patients with mental retardation, chronic schizophrenia, developmental disorders like autism and personality disorders.

Shaping: This technique is used mainly in patients with mental retardation to teach activities of daily leaving (e.g., wearing of the dress, toilet training). Here each task is broken into multiple small tasks, the last task is taught first and the training goes backwards. Positive reinforcement is used each time to increase the desired behaviour.

Token Economy: It is mainly used in patients with mental retardation, autism, chronic schizophrenia and some childhood behavioural disorders. Here a token is presented to the patient contingent upon the occurrence of the desired behaviour. At the end of the stipulated time patient can exchange the accumulated tokens for any things or activities which the patient likes (e.g., 5 tokens may get him one ice-cream). The things or the activities which the patient is likely to get have to be fixed before starting the therapy.

Relaxation Therapy

The word "stressor" is used for the stimulus that provokes a stress response. It is defined as an organism's total response to environmental demands or pressures. It is a complex, dynamic process of interaction between a person and his or her life. It is the way we react physically, mentally and emotionally to the various conditions, changes and demands of life. Some stress is motivational, but too much stress is harmful and may lead to physical, mental or emotional problems. Studies have shown that the impact of stress on a person is quite high. WHO has predicted that by 2020 stress will be the major contributing factor in five of the top ten medical illnesses. Stress is a state of mind and if not managed adequately may lead to psychological or physical illnesses. Relaxation therapies are most commonly used in circumstances where stress is believed to play a particularly large role.

There are various types of relaxation techniques (Table No. 5) and each has its own procedure. The details of each relaxation therapy are beyond the scope of this chapter. Usually these are carried out in a quiet, warm setting free from disturbance. Some routinely used relaxation techniques are described below;

Physical methods	Psychological methods
1. Progressive Muscular Relaxation	1. Self Awareness
2. Modified relaxation technique	2. Imagery
3. Passive Muscular exercise	3. Autogenic training
4. Applied Relaxation	4. Meditation
5. Behavioural Relaxation Technique	5. Transcendental Meditation
6. The Mitchell method	6. Buddhist Meditation
7. The Alexander Technique	7. Yoga and Pranayam
8. Differential relaxation	8. Hypnosis
9. Physical exercise and stretching	9. Relaxation response by Benson
10. Breathing methods	10. Biofeedback

Jobson's Progressive Muscular Relaxation (JPMR): It is the most common relaxation method followed in psychiatric practice. Jobson proposed that relaxed musculature could lead to the quieting of thoughts and reduction of sympathetic activity. Here the individual is asked to contract and relax one skeletal muscle group at a time and sequentially involve other muscle groups. Here the individual is made to concentrate on tension in the muscles during contracted and relaxed state. This usually takes around 15-20 minutes for each session. It is carried out 1-2 times a day.

Physical Exercise and Stretching: Physical exercise may be in the form walking, running or swimming, and it should be rhythmic, using most of the large muscles of the body. It needs to be carried out at least 20-60 mins in a day and 3-5 days in a week to be effective.

Breathing: The theory behind breathing to be effective in reduction of anxiety is mild hypercapnia (2-5 mm Hg); that is, rise in arterial PCO₂ concentration is associated with lethargy and symptoms resulting from that of parasympathetic dominance which leads to relaxation. Different methods of breathing are present, like abdominal breathing, breathing meditation, etc. General principles include the following: Breathing should occur at the natural pace of the individual; he should concentrate on the air entry and air out flow; there should be a smooth transfer between inhalation- exhalation and vice versa,

and breathing through the nose is preferable.

Meditation: Meditation involves achieving a state of "thoughtless awareness" in which excessive stress producing activity of the mind is neutralised without reducing the alertness. As a method, it consists of focussing attention on a chosen stimulus. Benefits of meditation are apparent only over a period of time.

Yoga and Pranayam: It is advised to consult a yoga specialist specialist for specific techniques which are likely to be of benefit in reducing psychological problems.

Biofeedback: Biofeedback instruments measure physiological activity such as brainwaves, heart function, breathing, muscle activity, and skin temperature. These are attached to body parts and measure body functions during stress and relaxed states. The individual is shown the variations in the physiological states and their improvement with relaxation.

Relaxation techniques are the skills so they need to be practiced and mastered. Relaxation therapies may not completely cure the psychological / physical condition, and most of the time it is used as an adjunct to medications and other treatments. Relaxation can also enhance the quality of life in the patient leading to emotional stability.

Interpersonal Psychotherapy

Here the belief is that the interpersonal relationships of a patient, now and in the past, to a greater or lesser extent, have a role in the etiology of psychological disorders. Interpersonal therapy (IPT) addresses interpersonal difficulties that lead to psychological problems. Interpersonal psychotherapy focuses on the individual's interpersonal life in four problem areas described below and are handled to reduce the psychological symptoms.

Grief: Symptoms associated with the death of a loved one, either recent or past. It may not be just related to physical death, it may result from loss of a significant relationship or the loss of an important aspect of one's identity.

Role Transitions : It includes any difficulties resulting from a change in life status. E.g., Career change (promotion, retirement), family change (marriage, divorce, birth of a child), beginning or end of an important relationship and diagnosis of medical illness.

Interpersonal Role Disputes: These are the conflicts with the significant other member (e.g., partner, family member, co-worker, or close friend)

Interpersonal Deficits: It refers to patients who are socially isolated or who are in chronically unfulfilling relationships.

Existential or Gestalt Therapy

This therapy focuses on people's existence, relations with each other, joys and suffering, etc. It provides a way of being authentic and meaningfully responsible for oneself. By becoming aware, one becomes able to choose and/or organize one's own existence in a meaningful manner. Underlying theory is that people are endlessly remaking or discovering themselves. There is no essence of human nature to be discovered "once and for all." There are always new horizons, new problems and new opportunities.

Other Psychotherapies:

Supportive Psychotherapy

Supportive psychotherapy or counselling is widely used in medical practice, eg, to help individuals cope with illness, deal with a crisis or transient problem, and maintain optimism or hope. Techniques vary but most models emphasize communication of interest and empathy; supportive therapy may also include guidance on available services, advice, respect, praise, suggestion, and/or encouragement.

Brief Psychotherapy

It is not a special type of therapy in itself. Variety of approaches are used so to handle the underlying psychological problem in a short time period. It is often highly strategic, exploratory, and solution-based rather than problem-oriented.

Eclectic or Integrative Psychotherapy

It is most commonly practiced. This draws concepts and techniques from a variety of different types of therapy, including dynamic, cognitive, and behavioural approaches. In simple words it is the cocktail of all therapies.

Hypnosis

It is a state of mind with constriction of peripheral awareness and increased focal concentration. It is artificially induced (by self or others) during which individual has increased suggestibility. Not everyone can be hypnotised. There is partial or complete amnesia for the events occurring during hypnosis. There is an ability to produce or remove symptoms, perceptions and or movements. Some of suppressed thoughts and feelings may be brought out during hypnosis. It is used

both for diagnosis and therapeutic purpose. By itself, it is not a complete therapy, and it is used in adjunct to other psychotherapies.

Process of Psychotherapy

1. Detailed workup of the patient - diagnosis, identify stressors if any, detailed family history and symptom dimensions
2. Identify any contraindications for psychotherapy - acute / actively psychotic patient, mental retardation, agitation and non-cooperativeness due to psychiatric illness, confusional state, and severe physical disability.
3. Consent - Discuss the willingness of the patient for psychotherapy and inform about the process and course of therapy
4. Choose the appropriate therapy depending on symptomatology and diagnosis. Many time patients report that therapy is not useful, the main reason behind this is choosing a wrong therapy.
5. Psychoeducation - It involves giving full information about the psychological illness (like etiology, clinical features, treatment options, course and prognosis) to the patient.
6. Actual therapy or body of therapy - It depends on the type of therapy. The sessions in therapy lasts for 45 - 60 mins and frequency depends on severity of illness. Sessions are not carried out daily; ideally they are performed once a week or once in 15 days. Therapy usually last for 6-8 months, rarely for more than a year.
7. Booster sessions - This is performed after the completion of actual therapy. Patient may visit once in 3-6 months. The therapist discusses with the patient about any residual symptoms and any new symptoms that may have appeared with which the patient has difficulty coping.
8. End of therapy - It should not be stopped abruptly.
9. Record keeping -Records of all the sessions of the therapy should be maintained.
10. All the matters discussed during the therapy should be kept strictly confidential.

For More Information Please Refer to

1. Kaplan & Sadock's Comprehensive Text Book of Psychiatry
2. New Oxford Text Book of Psychiatry
3. Introduction to Psychology-Morgan King Weiss
4. The Maudsley-Prescribing Guidelines in Psychiatry
5. Essentials of Psychiatry R Raguram V Eapen P Kulhara
6. Short Textbook of psychiatry : Niraj Ahuja
7. Lewis's Child and Adolescent Psychiatry
8. Stahl's Essential Psychopharmacology
9. Emergencies in psychiatry in low and middle income countries. R Thara Lakshmi Vijaykumar
10. Essentials of Geriatric Psychiatry -Blazer Steffens Busse

Informative Websites:

www.indianjpsychiatry.org

www.wpanet.org

www.bjp.rcpsych.org

www.ajp.psychiatryonline.org

www.nimhans.kar.nic.in

www.mindsnewsletter.com

www.psychiatry4u.com

Glimpses of Psychiatry for doctors and medical students - a handy book on Psychiatry with two sections. The first is a compilation of articles from MINDS newsletter, while the second contains chapters on selected topics. The book allows reader to choose from 48 articles apart from MCQs, Crosswords, Myths & Facts and also 20 chapters on selected topics. More than 50 consultants from over 20 specialities have contributed in this book.

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- Prof Mohan Isaac MD, FRCPsychiatry

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