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Wellbeing begins in Our MINDS

Monthly Newsletter on Psychiatry for Doctors and Medical Students

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From the Desk of Editor

Schizophrenia – A time line

If there is one disorder that flashes in mind soon after the term psychiatry or mental health is heard, it would be schizophrenia, for it has been occupying central space in psychiatry practice and research. The concept has evolved along with the development of psychiatry as a medical specialty, more so during last 2 centuries. Since ages, mental illnesses were just termed as madness or insanity and were thought to be caused by supernatural or demonic forces. Noticeable attempts to classify and describe begun late in 18th century when affective disorders with bipolar and depressive disorders, thought disorders such as schizophrenia like illnesses and behavioral disorders were described. Emil Kraepelin described schizophrenia as dementia praecox and in 1911, Eugene Bleuler coined the term Schizophrenia which literally means split mind that actually intended to signify dissociated functions of mind like thinking, perceptions, personality. The advent of discovery of Chlorpromazine in 1954 brought in the neurochemical theories and an impetus to earlier thought brain based or biological etiologies. Then came a flurry of evidences in genetic, immunological and neurodevelopmental hypotheses. Prodromal stages are being identified and prospects of primary prevention are at the horizons. Despite all these, growing evidences has been diversifying and broadening the construct of schizophrenia as not just a single disorder but a group of disorders which has resulted in classifying this under the rubric of schizophrenia spectrum disorders in recent DSM – 5. The comprehensive management, however remains challenging especially in severe cases and stigma continues to prevail. With this background, every May 24th is observed as World Schizophrenia day to enhance awareness and explore the options to tackle the problems faced in managing these disorders.

- Dr. Gopal Das

Guest Column: Down The Memory Lane...

Menders of Mind

It happened during my PG CET preparations and I had been in a confusion deciding as to what subject take up for my specialization. I was keen to take up OBG to make a name and fame. It was a sunny day when my friend invited me to accompany her to Mysore for a medical camp at Vivekananda hospital, H D KOTE.

I was more than willing to accompany her and after the medical camp, we visited a place for the homeless mentally ill. This place changed my destiny. The place had 30 inmates who were wandering mentally ill, treated and relocated to their families. Then a female mentally ill was brought, she was in rags, ill-kempt and about 30 years of age. Her face was with black patches of dirt. Her hair was brittle, dirty and knotted. Her saree was dirty, torn and stinking. The patient was talking to self and also shouting at and scolding the people around. The staff after bringing her gave her bath and trimmed her hair and gave her food and clothing. The psychiatrist there made a diagnosis of schizophrenia and gave her an injection and medicines.

After seeing this it felt great to treat a person as human being and make a person as a normal being. I realized then and there how noble this profession of psychiatrists is. So with this change in my destiny I, till today feel very fortunate to be a psychiatrist, who happen to be the menders of the mind!

Dr. Kasthuri. P, Associate Professor, Dept. of Psychiatry, Bangalore Medical College & Research Institute, Bengaluru. drkasthurip@gmail.com

Electroconvulsive Therapy in Treatment Resistant Schizophrenia

Treatment Resistant Schizophrenia (TRS) can be understood in simple terms when patient continues to have significant symptoms that impede him in returning to functioning decently despite an adequate trial with at least 2 types of medication. There are elaborate definitions and criteria which describe resistance in detail like Kane's criteria. Prevalence varies anywhere between 5 – 60% but on an average, as high as 1 out of 5 patients diagnosed with schizophrenia may have resistance to medication when less restrictive criteria are applied. Clozapine is the drug of choice for 30 – 50% patients of schizophrenia who are treatment resistant. However, about 30% are resistant even to clozapine also and many others have side effects leading to discontinuation. An urgent unmet need is to look for other treatment modalities for these patients who are among the most severely disabled. A huge barrier to improvement is that the clinicians sometimes feel nihilistic while treating patients with resistance. However, even small symptomatic improvements among these patients can lead to positive impact on patient's behavior and the burden of caregiving faced by the family members. Electroconvulsive Therapy (ECT) is the most promising in this regard. Unfortunately, use of ECT has declined in recent past because of stigma and negative attitudes.

Electroconvulsive therapy remains one of the most effective and safest modalities for patients with treatment resistant schizophrenia including clozapine resistant schizophrenia. It is recommended for this indication by almost all the treatment guidelines world over. A meta-analysis published in 2016 found that the combination of ECT with antipsychotics other than clozapine was superior in efficacy to antipsychotic mono-therapy. Only side effects reported were headache and memory impairment which were mild, transient and well tolerable. A systematic review published in 2016 concluded that ECT may be an effective and safe augmentation strategy in clozapine resistant schizophrenia. Studies using continuation and maintenance ECT have also shown that ECT is effective. However, these studies are too few and limited to draw any conclusions. Encouragingly, ECT improves negative symptoms of schizophrenia which have traditionally been considered resistant to treatments. While the optimal number of ECT sessions for schizophrenia remains unclear, 12 to 20 sessions have been shown to be adequate. The author studied efficacy of ECT in 30 treatment resistant patients including 12 with clozapine resistance. ECT improved psychopathology and quality of life in short term. Though the improvement in positive symptoms was more pronounced, negative symptoms also improved. However, the improvement was not sustained after discontinuing ECT. 10 years naturalistic course of patients who were clozapine resistant shows that their prognosis remains poor, thus highlighting the need to assess efficacy of continuation ECT or other therapies for these patients. Large, well designed, multicenter trials are required to unequivocally establish the effectiveness of continuation and maintenance ECT in treatment resistant schizophrenia so that this most effective and safe treatment modality is not lost to history.

At the bottom line, ECT remains an underutilized mode of therapy because of various factors. If the barriers are effectively overcome, it can be a very useful mode of therapy in TRS.

Dr. Rohit Garg, Assistant Professor of Psychiatry, Govt. Medical College and Rajindra Hospital, Patiala, Punjab

Gut microbiome and mental health

Much before the advent of modern medicine and systematic studies in mental health and neurosciences, diet has been hypothesized to be an important factor in maintaining mental health. Special mention to be made here is Ancient Indian Medicine – Ayurveda laid special emphasis on diet. There had been various theories in west during late 18th & 19th and even early 20th centuries about colonic auto intoxication leading to infections causing neuroses which were later termed absurd and quackery because they advocated radical methods like colonic purging and bowel resection etc. It is only recently that there is a spurt in research interest exploring links with microbiome of gut that may influence central nervous system right from the growth and maintenance. We know that our body contains 10 times more microbial cells than our own body cells. Microbiome in the gut is estimated to be 100 trillion with more than 1000 species. Many recent studies in the reputed journals have shown the inseparable relation between gut microbiome and brain development and function. For example, germ free mice have autistic like behavior, which were treated with addition of regular microbiome. There are studies linking dysbiosis in the gut flora to Alzheimer’s. In another study, *Bifidobacterium longum* administration caused reduction in the cumulative output of the stress hormone cortisol. Microbiome acts through various mechanisms.

- Activating Vagus nerve
- Activating the immune system – T regulatory cells
- Stimulating gut endocrine cells to release various factors or neurotransmitters such as
 1. BDNF (Brain derived neurotrophic factor)
 2. GABA – acts as distressing agent
 3. Glutamate – helps in memory and cognitive function
 4. Serotonin
- Metabolites released by microbes

There are two main enterotypes (ecosystems) known in the entire human population.

1. Bacteroides and Ruminococcus type (enterotype 1)
2. Prevotella type (enterotype 2)

Enterotype 2 is known to be healthy one and enterotype 1 is unhealthy. There are many reasons. Enterotype 2 produces many short chain fatty acids like acetate, propionate and butyrate, which suppress neuroinflammation. Enterotype 1 produces arachidonic acid (omega 6 fatty acid) metabolites, secondary bile acids and hydrogen sulfide, which promote inflammation. In another study, predominance of enterotype 2 was seen in native Africans and enterotype 1 was seen in African Americans with Western diet. Hence, the right diet supports the healthy enterotype (predominant Prevotella). Mainly plant based diet is known to produce this enterotype (Prevotella type). In a study published in Journal of Affective disorders (2014), omega 6 fatty acids are associated with greater risk of suicide and major depression in early pregnancy.

At this stage, the early evidences are firmly suggesting the inseparable link between gut and CNS and gut microbiome can be a potential area for intervention especially in preventive and positive mental health. It was advocated centuries before and now it has to be re-explored in the light of modern research.

Dr. Sumantha A, Assistant Professor, Dept. of Microbiology, Basaveshwara Medical College & Research Centre, Chitradurga drasumant@gmail.com

REFRAME -Let Awareness Reframe Assumptions: Myths & Facts about ‘Schizophrenia’

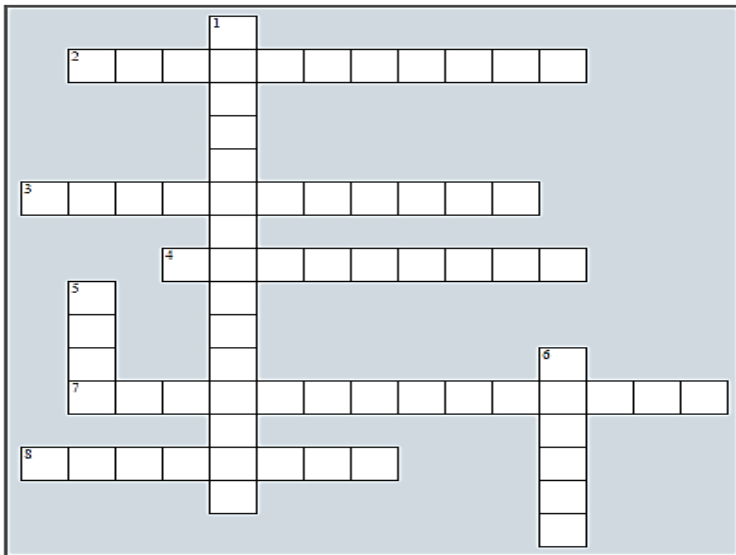
- ☒ *If a patient has delusions, schizophrenia can be diagnosed.*
- ✓ Delusions are not an essential criteria in any manuals for diagnosis of schizophrenia but commonly present in schizophrenia.
- ☒ *Schizophrenia has two types of symptoms namely positive and negative symptoms.*
- ✓ This view has been broadened and now it includes affective, cognitive and disorganized symptom domains in addition to above each of which respond variedly to medication and other interventions.
- ☒ *Schizophrenia patients are normal before the onset of disease.*
- ✓ There are evidences of subtle abnormalities in various domains of language, social interaction patterns, executive functioning and other cognitive functions and minor physical anomalies commonly present before the onset of disease which has to be carefully observed with index of suspicion especially when family history for any psychiatric disorder is present
- ☒ *Pharmacotherapy is the only mode of effective treatment for schizophrenia.*
- ✓ Though pharmacotherapy is the main stay of treatment, other biological therapies like ECT, rTMS, TDCS, Deep brain stimulation have been effectively used and many psychosocial interventions and rehabilitation when combined, offers holistic management.
- ☒ *Patients with schizophrenia cannot be held guilty in criminal trials.*
- ✓ Even though patient is diagnosed with schizophrenia, he or she can still be tried and held guilty if they were able to judge the consequences at the time of committing the act.

MINDS QUIZ

1. Which scientist hypothesized catatonia as an evolutionary "fear response"?
a) Sigmund Freud b) Kahlbaum c) Andrew Moskowitz d) Northoff
2. The deficiency of which neurotransmitter action can explain most of the motor symptoms of catatonia?
a) Glutamate b) GABA c) Acetylcholine d) Noradrenaline
3. The first sign of lethal catatonia which helps to distinguish from Neuroleptic malignant syndrome in most cases?
a) Extreme excitement b) Hyperpyrexia c) Dehydration d) Extrapyramidal rigidity
4. Which psychiatric disorder is most commonly associated with Catatonia?
a) Schizophrenia b) Mood and affective disorders
c) Personality disorders d) Obsessive compulsive disorder
5. The most efficacious drug which can be used in catatonia?
a) Amantadine b) Haloperidol c) Carbamazepine d) Lorazepam

Note: You can now request for any explanations to MINDS QUIZ answers by just an email to editormind@gmail.com

Can You Cross the Crosswords!!!



Across

2. Other name for negativism
3. Most common complication of catatonia
4. Hyperpyrexia occurs in this type of catatonia
7. Class of drugs associated with development of catatonia
8. Extreme form of automatic obedience

Down

1. Drug class of choice to treat catatonia
5. Decreased activity of this neurotransmitter is believed to be an important cause of catatonia
6. Classical symptom of catatonia

UG Section Contributed by Dr Aiswarya S. Mohan and Dr. Adith Krishna, Interns AIIMS Bhubaneswar, AIIMS Bhubaneswar



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1. Benzodiazepines
 5. GABA
 6. Stupor

DOWN
 8. Mitgehen
 7. Antipsychotics

ACROSS
 2. Gegenhalten
 3. Dehydration
 4. Malignant

CROSSWORDS

1. c
 2. b
 3. a
 4. b
 5. d

MINDS QUIZ

ANSWERS

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