

Understanding Mental Illness & Its Treatment

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**What is mental illness and
what are psychiatrists?**

Mental Illness

- A disease of the brain
- Diseases of the brain are similar to other medical illnesses where an important body organ system is not working properly or at full capacity
 - Congestive heart failure
 - Liver failure
 - Kidney failure

Mental Illness

- The human brain is the most complex organ on the planet
- Understanding the biology of an organ helps us appreciate how diseases arise from its dysfunction
- The study of brain biology is known as neurobiology or neuroscience

Mental Illness

- Imagine everything a brain does, and then imagine what might happen if even a tiny thing went wrong
 - Senses
 - Memory
 - Social cognition/judgment
 - Emotion
 - Planning/organization
 - Reality testing/logic

The Brain

- A transducer and communication device
 - Exterior → interior
 - Interior → interior
 - Interior → exterior

– From **Big** to small

Psychiatric Symptoms

- The vast majority of psychiatric symptoms arise from
 - Misinterpretation of environmental stimuli
 - Misinterpretation of sensory information
 - Misinterpretation of cognitive or social cues
 - Delusions, ideas of reference
 - Internal representation in the absence of environmental stimuli
 - Hallucinations
 - Affective symptoms

Psychiatric Symptoms

- Faulty transducer/transmitter
- Such symptoms result from abnormal or atypical brain activity
 - Impaired micro-communication
 - Impaired macro-communication
 - Impaired large-scale communication
 - **Combinations of all of the above**

Mental Illness

- Mental illness results from brain disease
- Typically, there is a problem with communication/transduction at some level in the brain
- Depending on just where things are going where, any number of symptoms can arise

From the Tradition of Kraepelin

■ DSM

- Diagnostic and Statistical Manual of Mental Disorders
- Now in its 4th Edition (with recent text revision)
- Developed from clinical research and field validation
- To improve communication and understanding

Several Broad Categories

- Affective disorders
- Anxiety disorders
- Psychotic disorders
- Personality disorders
- Dementias
- Substance use disorders

Anxiety Disorders

- Include: specific phobia, social phobia, posttraumatic stress disorder, panic disorder, and generalized anxiety disorder
- Characterized by persistent anxiety plus several other features depending upon diagnosis
- Anxiety: imagine fear response (physical and psychological) but no external threat

Affective Disorders

- Depression: sad mood, hopelessness, anhedonia, guilt, crying spells, sleep & appetite changes, and suicidal ideation
- Mania: distractibility, irritability, grandiosity, flight of ideas, decreased sleep, impulsivity, poor judgment
- Each of these may or may not have psychotic features

Psychosis

- A symptom, not a disease
- Can be associated with many disorders, both psychiatric and medical
- Gross impairment in reality testing
- Decreased ability to evaluate the accuracy of perceptions and thoughts; make incorrect inferences about external reality (even in the face of contrary evidence)

Psychosis: Positive Symptoms

- Hallucinations: false perceptions in the absence of real sensory stimuli
- Illusions: misperceptions of real external stimuli
- Delusion: a fixed false belief that the believer maintains even in the face of considerable evidence or likelihood to the contrary
- Ideas of Reference: the patient believes that events that are of no obvious reference to him refer personally to him

Psychosis: Thought Disorder

- Loose associations: thought production in which there is no recognizable relationship between ideas.
- Thoughts appear unconnected, or, at best, obliquely related to one another.
- Also: tangentiality, circumstantiality, clang associations, echolalia, perseveration.

Negative Symptoms: Andreasen's A's

- **Affective flattening** - unchanging facial expression; ↓ expressive gestures, poor eye contact, affective nonresponsivity, inappropriate affect, lack of vocal inflections
- **Alogia** - poverty of speech/content of speech
- **Avolition-apathy** - ↓ grooming/hygiene, impersistence at work/school, anergia
- **Anhedonia-asociality** - ↓ interests/activities, ↓ interest in sex/intimacy/closeness, few friends
- **Attention deficits** - social/testing inattentiveness

Psychotic Disorders

- Schizophrenia: combinations of the psychotic symptoms discussed above
- Schizophreniform disorder
- Schizoaffective disorder: an illness like schizophrenia occurring with an illness like depression or bipolar disorder
- Delusional disorder: fixed false belief, non-bizarre, without other psychotic symptoms
- Substance-induced psychosis
- Psychotic Disorder NOS

Personality Disorders: Borderline

- Borderline personality disorder: impulsivity, affective instability, “black and white thinking,” splitting, fear of abandonment, unstable relationships, chronic suicidal ideation, poor self-identity, self-injurious behavior (cutting), chronic suicidal ideation
- Often, clinically exhausting

Personality Disorders: Antisocial

- Antisocial personality disorder: disregard for the rights of others, lack of empathy, disregard for rules and regulations, impulsivity, difficulty learning from experience, substance abuse, frequent exposure to the criminal justice system, substance abuse, risk-taking behavior, problem with violence and aggression

Dementia

- Significant memory impairment
 - Short-term earlier than long-term
- Other cognitive impairments
 - Word-finding difficulties
 - Peseveration
 - Constructional difficulties
 - Procedural difficulties
- Alzheimer's, vascular, Pick's

Substance Use Disorders

- Substance dependence
 - Increased tolerance
 - Physiological withdrawal
 - Significant impairment in social function
 - Concomitant problems with impulsivity, aggression, illegal activities, mood and psychotic problems
- Alcohol, cocaine, benzodiazepines, amphetamine, cannabis, etc.

Mental Illness

- There are several mental illnesses, which are defined by specific symptom clusters as delineated by DSM-IV-TR
- Diagnoses aid in communication, assessing prognosis, determining duration of illness, and counseling regarding genetic transmission
- Symptoms help guide pharmacological treatment

Pharmacological Treatment of Mental Illness

Function of the Brain

- In general, psychiatric drugs work **directly** at altering micro-communication
- However, over time, such alterations in micro-communication affect macro-communication (neuronal networks)
- Finally, it is hoped that these latter changes will alter large-scale, or interpersonal, communication, as well as enhancing accurate interpretation of environmental stimuli

Pharmacological Treatment

- Usually symptom driven → what symptoms is the patient experiencing and how can we help them?
- A single drug can target more than one symptom

Antidepressants

- Are used to treat symptoms of depression and anxiety
- Sometimes used to treat symptoms of impulsivity (SSRI → selective serotonin reuptake inhibitors)
- Sometimes used to treat attention deficit hyperactivity disorder (ADHD; bupropion or Wellbutrin[®])

Antidepressants

■ SSRIs:

- Fluoxetine = Prozac[®]
- Paroxetine = Paxil[®]
- Sertraline = Zoloft[®]
- Citalopram = Celexa[®]
- Fluvoxamine = Luvox[®]

■ Others: bupropion (Wellbutrin[®]), mirtazapine (Remeron[®]), nefazodone (Serzone[®])

Anxiolytics

- Used to treat anxiety symptoms (most often antidepressants are used)
- Benzodiazepines
 - Acutely treat anxiety
 - Diazepam (Valium[®]), lorazepam (Ativan[®])
 - Problems with abuse, dependence, and withdrawal

Mood Stabilizers

- Help treat aspects of bipolar disorder (mania and depression)
- Sometimes used for impulsivity and aggression
- Sometimes used in refractory schizophrenia

Mood Stabilizers

- Lithium, divalproex sodium (Depakote[®]), carbamazepine (Tegretol[®]), lamotrigine (Lamictal[®]), topiramate (Topamax[®])
- Also atypical antipsychotics, particularly olanzapine (Zyprexa[®])

Antipsychotics

- Used to treat various symptoms of psychosis
- Most effective for positive symptoms
- Newer drugs are probably more effective than older drugs for negative and cognitive symptoms
- Sometimes used to treat aggression and impulsivity; used to augment antidepressants

Antipsychotics

- Older drugs: haloperidol (Haldol[®]), chlorpromazine (Thorazine[®])
- Newer drugs: clozapine (Clozaril[®]), risperidone (Risperdal[®]), olanzapine (Zyprexa[®]), quetiapine (Seroquel[®]), ziprasidone (Geodon[®]), aripiprazole (Abilify[®])

Long-lasting agents

- Intramuscular injections with sustained release of medication
- Haloperidol decanoate, fluphenazine decanoate (Prolixin[®])
- Newer drugs are attempting to create similar formulations

Treatment of Mental Illness

- Virtually all diseases are chronic and require long-term treatment
- Cessation of medication often results in recurrence of illness
- Even patients complying with treatment can have recurrence of illness
- Lack of insight is often part of illness, particularly with schizophrenia

Treatment of Mental Illness

- For the majority of patients, treatment results in significant symptom relief
- Treatment of mental illness has similar success rate to treatment of medical illness
- A variety of modalities are employed in addition to medications, though medications are crucial

Dangerousness

Dangerousness

- Direct: suicide / homicide / aggression
- Indirect: poor self care (sleep, eating, hygiene) and failure to care for medical illnesses
- Indirect: cognitive (lack of organizational skills, unable to perform activities of daily living)
- All the above result from the signs and symptoms of mental illness

Summary

- Mental illnesses are common brain diseases
- Diagnosis is based on clusters of presenting symptoms
- Treatment is target toward relieving symptoms
- Persistent symptoms can lead to dangerousness, necessitating hospitalization

Common (and Uncommon) Abbreviations

- AEB = as evidenced by
- APD = antisocial personality disorder
- BPAD = bipolar affective disorder
- BPD = borderline personality disorder
- CPS = chronic paranoid schizophrenia

Common (and Uncommon) Abbreviations

- ED = emergency department
- GAD = generalized anxiety disorder
- HI = homicidal ideation
- MDD = major depressive disorder
- MI = mental illness

Common (and Uncommon) Abbreviations

- MR/DD = mental retardation /developmental disability
- NOS = not otherwise specified
- OCD = obsessive-compulsive disorder
- OD = overdose
- OSH = outside hospital
- prn = "as needed"
- PTA = prior to admission

Common (and Uncommon) Abbreviations

- PTSD = posttraumatic stress disorder
- SI = suicidal ideation
- SIB = self-injurious behavior
- SPMI = severely persistently mentally ill