HORIZON HEALTH

Answers. Medicine. Close to Home.

St. Claire Regional Medical Center

Schizophrenia

Objectives

1. Reveal Symptom Criteria Changes from DSM IV to DSM-5
2. DSM-5 Diagnostic Criteria
   i. *DSM-5 changes*
3. Discuss Signs and Symptoms
4. Relate Schizophrenia Prevalence (statistical factors)
   i. Gender-Related Clinical Expression
   ii. Epidemiology
   iii. Etiology: Causes and Risk Factors
   iv. Violence
   v. Suicide and Suicide Risk
   vi. Rates
   vii. Mortality in Schizophrenia
5. Describe Functional Consequences
6. Define Features Weighing Toward Good to Poor Prognosis in Schizophrenia
7. Discuss treatment options and goals

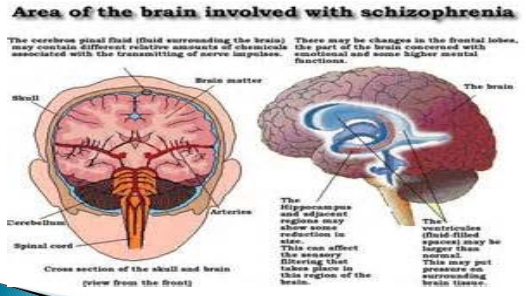
Schizophrenia

Schizophrenia is a chronic illness that is associated with functional impairment, a decreased quality of life, and high caregiver burden

- Marked by periods of remission followed by periods of relapse
- Frequently associated with poor long-term outcomes
- 27% of people with schizophrenia will relapse within 7-12 months of stabilization on a antipsychotic and
- 80% will relapse within 5 years of their first episode

Drugs Des. Devel . Ther. 2016; 10:1731-1742

Areas of Brain Affected by Schizophrenia



Epidemiology

According to the National Institute of Mental Health (2015):

- Affects individuals of any race, ethnic or cultural background
- Symptoms such as hallucinations and delusions usually start between ages 16 and 30
- Most commonly, schizophrenia occurs in late adolescence and early adulthood. It is uncommon to be diagnosed with schizophrenia after age 45. Thereby, risk of schizophrenia typically declines with age
- Schizophrenia rarely occurs in children, but awareness of childhood-onset schizophrenia is increasing

http://www.nimh.nih.gov/health/publications/schizophrenia-booklet-12-2015/index.shtml#pub3

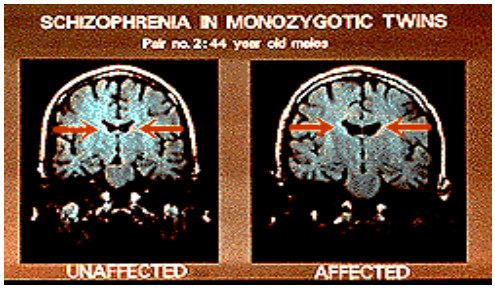
Etiology: Cause and Risk Factors

- Schizophrenia (the word) can be broken down to "Split Mind" this relates to "Split (from Reality) Mind"
- Schizophrenia is discussed as if it is a single disease, but includes a group of disorders (with heterogeneous causes)
- The cause is unknown. Research theories suggest:
  - *excitotoxicity*
  - *dopamine hypothesis*
  - *other neurotransmitters*

A Recent 7 year study of 110,000 patients (35,000) with Schizophrenia revealed 100 genes that may increase risk of developing the disease. Some of the genes involved dopamine regulation and others immune system functioning

*Crash Course, Kathleen Yale, Episode 32

Differences in Brain Structure



Etiology: Causes and Risk Factors

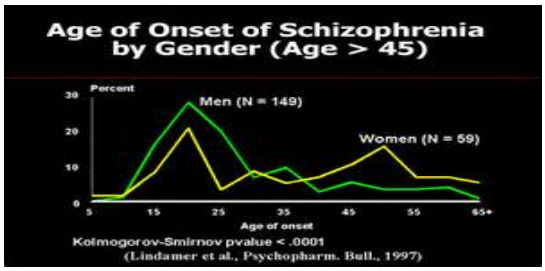
No one single cause or risk factor. Multiple hypotheses have been made regarding the cause. Several factors that may contribute to the illness include:

- Genetic factors
- Environmental factors (prior to birth)
- Biological – Imbalance or difference in brain chemistry
- Psychological assaults / trauma

"While we have identified some risk factors for schizophrenia, we are unable to predict who will develop the disease. This makes treatment complex, as identifying those at risk and treating early and aggressively may be key to improving outcomes. If we can diagnose and support younger patients at an earlier stage in the disease, they may do better over time as compared to those who are aggressively treated only later in the disease."

2015 Rebecca Roma, MD, MBA

Age of Onset



Symptom Criteria Changes from DSM IV to DSM-5

Two changes were made to the primary symptom criteria for schizophrenia

1. According to the APA, "the first change is the elimination of the special attribution of bizarre delusions and Schneiderian first-rank auditory hallucinations (e.g., two or more voices conversing). In **DSM-IV**, only **one** such symptom was needed to meet the diagnostic requirement for Criterion A, instead of two of the other listed symptoms. This special attribution was removed due to the nonspecificity of Schneiderian symptoms and the poor reliability in distinguishing bizarre from nonbizarre delusions
   - "Therefore, in **DSM-5**, **two** Criterion A symptoms are required for any diagnosis of schizophrenia."
2. The second change was the requirement for a person to now have at least one of three "positive" symptoms of schizophrenia:
   - Hallucinations
   - Delusions
   - Disorganized speech

The APA believes this helps increase the reliability of a schizophrenia diagnosis

Symptom Criteria Changes from DSM IV to DSM-5

- Schizophrenia subtypes have been dumped in the DSM-5 because of their "limited diagnostic stability, low reliability, and poor validity," according to the APA
  - The DSM-IV had specified the following schizophrenia subtypes: (paranoid, disorganized, catatonic, undifferentiated, and residual type.)
- The APA also justified the removal of schizophrenia subtypes from the DSM-5 because they didn't appear to help with providing better targeted treatment, or predicting treatment response
- The APA proposes that clinicians instead use a "dimensional approach to rating severity for the core symptoms of schizophrenia is included in Section III to capture the important heterogeneity in symptom type and severity expressed across individuals with psychotic disorders."
- Section III is the new section in the DSM-5 that includes assessments, as well as diagnoses needing further research

DSM-5 Diagnostic Criteria

According to the DSM-5 (2013) Diagnostic Criteria **295.90** (F20.9)

A. Individuals with schizophrenia experience 2 or more of the following signs and/or symptoms present for a significant portion of time during a 1-month period:
   1. Delusions
   2. Hallucinations
   3. Disorganized speech (i.e. Frequent derailment or incoherence)
   4. (Grossly) Disorganized or catatonic behavior (abnormal motor behavior)
   5. Negative Symptoms (i.e. diminished emotional expression or evolution)

DSM-5 Diagnostic Criteria

B. Level of Functioning below level prior to onset
C. Continuous social/occupational dysfunction for at least 6 months
D. Schizoaffective disorder and depressive or bipolar disorder with psychotic features have been ruled out
E. The disturbance is not attributable to the physiological effects of a substance
F. If there is a history of autism spectrum disorder, diagnosis made only if prominent delusions or hallucinations

DSM-5: What to Specify

1. Specify if:

The following course of treatment specifiers are only to be used after a 1-year duration of the disorder and if they are not in contradiction to the diagnostic course criteria.

a) First episode, currently in acute episode:
b) First episode, currently in partial remission:
c) First episode, currently in full remission
d) Multiple episodes, currently in acute episode
e) Multiple episodes, currently in partial remission
f) Multiple episodes, currently in full remission
g) Continuous
h) Unspecified

2. Specify if:
   With Catatonia
3. Specify: Current Severity

Cataleptic position maintained for hours

Kaplan, H.I, Sadock, B.J. *Synopsis of Psychiatry*, 8th edition. Williams and Wilkins page 480

Arm held in an uncomfortable position without support for hours, stony facial expression/frozen

Kaplan, H.I, Sadock, B.J. *Synopsis of Psychiatry*, 8th edition. Williams and Wilkins page 480

Clinical Features of Schizophrenia

Schizophrenia is a cyclical disease characterized by multiple psychotic relapses

Clinical features include:

Positive symptoms – delusions and hallucinations

Negative symptoms – flat blunted affect, anhedonia, asociality, avolition

Functional impairment – work, interpersonal relations, self care

Cognitive impairment – episodic memory, executive function, working memory

Associated features – lack of insight

Prevalence

According to the National Institute of Mental Health (2015):

- Schizophrenia is a **chronic and severe disorder** that affects how a person thinks, feels, and acts
- Although schizophrenia is not as common as other mental disorders, it can be very disabling
- Approximately **7 or 8 individuals out of 1,000** will have schizophrenia in their lifetime
- People with schizophrenia may cope with symptoms throughout their lives, but treatment helps many to recover and pursue their life goals.
- Researchers are developing more effective treatments and using new research tools to understand the causes of schizophrenia

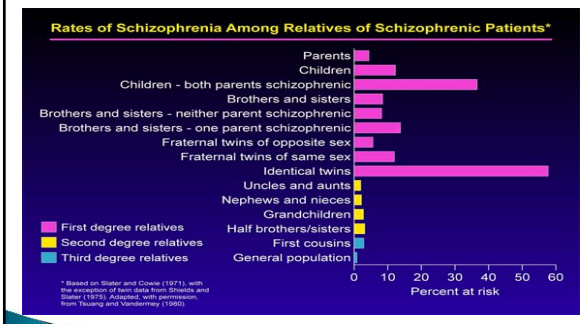
***http://www.nimh.nih.gov/health/publications/schizophrenia-booklet-12-2015/index.shtml

Prevalence

The NIMH (2015) reports:

- Higher mortality rate from accidents and natural causes than the general population
- Historically higher prevalence in:
  - Northeastern States
  - Western states
- Associated substance use and abuse
  - 30–50% meet diagnostic criteria for alcohol abuse dependence
  - 15–20% cannabis abuse
  - and 5–10% cocaine abuse

Rates of Schizophrenia



Gender-related Clinical Expression

According to the National Institute of Mental Health (2015):

- Schizophrenia affects slightly more males than females
- Males tend to experience symptoms a little earlier than females.

According to the DSM-5 :

- The sex ratio differs across samples and populations:
  - An emphasis on Negative Symptoms and longer duration of disorder (associated with poorer outcome) show higher incidence rates for males
  - Whereas, definitions allowing for the inclusion of more mood symptoms and brief presentations (associated with better outcome) show equivalent risks for both sexes.
- Some studies indicate men are more likely to have negative symptoms (such as disorganization) and woman have better social functioning
- In general, outcome for females are better than male schizophrenic patients
- Frequent exceptions to these general caveats

Violence

- Most people with schizophrenia are not violent
  - In fact, most violent crimes are not committed by people with schizophrenia
  - People with schizophrenia are much more likely to harm themselves than others
  - Substance abuse may increase the chance a person will become violent
  - The risk of violence is greatest when psychosis is untreated and decreases substantially when treatment is in place

http://www.nimh.nih.gov/health/publications/schizophrenia-booklet-12-2015/index.shtml

Suicide and Suicide Risk

According to the DSM-5 :

- 5% – 6% of individuals with schizophrenia die by suicide
- 20% attempt suicide once or more
- Suicide risk remains high over the individual's lifespan for both males and females
- Suicide risk may be especially high for younger males with comorbid substance abuse
- Other risk factors include having depressive symptoms or feelings of hopelessness and being unemployed, and the risk is higher, also, in the period after a psychotic episode or hospital discharge

According to the NIMH (2015):

- Suicidal thoughts and behaviors are very common among people with schizophrenia
- People who take their antipsychotic medications as prescribed are less likely to attempt suicide than those who do not

Functional Consequences

- Social dysfunction
- Poor social skills
- Lack of marital relationships (Most don't get married-higher % in males)
- Limited social supports other than family
- Occupational dysfunction
- Education attainment
- Maintaining employment
- If employed, they are employed at a lower level than parents

Good to Poor Prognosis in Schizophrenia

Good Prognosis	Poor Prognosis
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 disorder)	Withdrawn, autistic behavior
Married	Single, divorced or widowed
Family history of mood disorders	Family history of schizophrenia
Good support systems	Poor support systems
Positive symptoms	Negative symptoms History of assaultiveness Many relapses History of perinatal trauma Neurological signs and symptoms

APA Treatment Goals

APA Guidelines for Schizophrenia: Treatment Goals

Acute Phase*
- Prevent harm to self or others
- Control disturbed behavior
- Reduce severity of psychosis
- Address precipitating factors
- Effect rapid return to best level of functioning
- Develop alliance with patient and family
- Formulate treatment plan
- Facilitate aftercare

Stabilization Phase†
- Reduce stress on patient
- Minimize likelihood of relapse
- Enhance adaptation to life in community
- Facilitate continued symptom reduction and consolidation of remission
- Promote recovery

Stable Phase
- Sustain symptom remission or control
- Ensure patient is maintaining or improving level of functioning and quality of life
- Treat exacerbation of symptoms or relapses
- Monitor for adverse treatment effects

*Defined by an acute psychotic episode.
†The "stabilization" phase follows the acute phase and constitutes a time-limited transition to continuing treatment in the stable phase. Combined, the acute and stabilization phases generally span approximately 6 months.

American Psychiatric Association. Practice guideline for the treatment of patients with schizophrenia, second edition. *Am J Psychiatry*. 2004;161(suppl 2):1-56.

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Why is Early Intervention in Schizophrenia Needed?

- Schizophrenia is a major source of disability in the United States
- According to market research, annual total cost in the US was estimated at $155.7 billion (2013 US dollars)
- Less than 20% of people with schizophrenia make a full recovery after the first episode
- Early phase of psychosis may represent a *critical period* for determining long term outcomes

Goals for Treatment

- Promote medication compliance and decrease the incidence of severe symptoms
- Foster development of coping skills and help facilitate interpersonal strategies and reduce defensive patterns
- Develop a good symptom management and safety plan
- Increase understanding of the illnesses and decrease stigma
- Increase sense of personal responsibility and empowerment
- Accept personal responsibility for accepting assistance and taking action to keep symptoms and/or mood stabilized

Goals for Treatment

- Learn how to become an effective self-advocate
- Increase knowledge of available resources and supports
- Prepare for the increased levels of discomfort and help the patient work through their feelings (i.e. anger, anxiety and/or depression)
- Learn how to share experiences with others
- Encourage active work toward wellness
- Increased knowledge of physical/medical risks and prevention strategies

Treatment Options

- First-line treatment is antipsychotic medication
- Antipsychotics do not improve the -ve symptoms and cognitive symptoms
- According to according to the NIMH (2015) the most common medications used in treating schizophrenia:

First-generation antipsychotics – Haloperidol (Haldol), Perphenazine (Trilafon), and Chlorpromazine (Thorazine), Orap)

Second-generation (Atypical) antipsychotics – Risperidone (Risperdal), Aripiprazole (Abilify) and Clozapine (Clozaril), Olanzapine (Zyprexa), Quetiapine (Seroquel) Paliperidone (Invega), Iloperidone (Fanapt), Lurasidone (Latuda), Ziprasidone (Geodon), Asenapine (Saphris), Cariprazine (Vraylar)

Treatment Options

Along with the previous discussed medications the following adjuvant medications are often used:

- Mood Stabilizer – Lithium carbonate
- Anticonvulsants – Carbamazepine (Tegretol) and Valproate (Depakote)
- Anti-depressants – Selective serotonin reuptake inhibitors (SSRIs) (i.e. Prozac, Zoloft or Celexa) or Tricyclic anti-depressants (i.e. Pamelor)
- Benzodiazepines – Prazolam (Xanax), Diazepam (Valium), and Lorazepam (Ativan)

Considerations for Oral Antipsychotics

- Effective
- Many generics available
- Extensive clinical experience
- Flexibility
- Short duration of action

- Daily administration
- Potential for misuse
- Influenced by first-pass metabolism

PROS | CONS

Considerations for LAI Antipsychotic Utilization

- Promote treatment adherence
- Transparency of adherence
- Ease of administration
- Reduced peak-trough plasma levels
- Improved patient outcomes
- Improved patient & physician satisfaction
- Lower relapse rate
- Decreased rehospitalizations

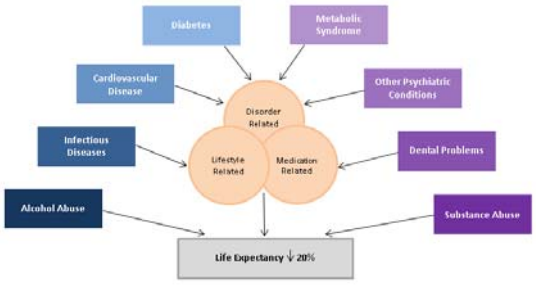
- Patient concern re: potential injection pain
- Slow dose titration & longer time to reach steady state
- May prolong side effects
- Difficult to adjust small doses
- May give patient feeling of "being controlled"
- Limited number of available formulations

PROS | CONS

Treatment Options

- Individual therapy
- Rehabilitation/ Vocational counseling
- Self-help groups
- Patient and family support groups (NAMI)
- Drug and alcohol treatment (if needed)
- Case Management
- Focus on medication adherence – even small gaps in antipsychotic mediation increases risk of re-hospitalization

Increase Morbidity and Mortality Rates



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Buckley P. Fetal. Schizophrenia Bulletin, 35: 383-402

HEDIS 2014 Measures Related to Assessment of Patients with Schizophrenia

Follow-up post hospitalization

- Diabetes screening for people with schizophrenia who are using antipsychotic medications
- Diabetes monitoring for people with schizophrenia and diabetes
- Adherence to antipsychotic medications
- Annual monitoring for patients on persistent medications
- Medication reconciliation post discharge

Relapse

- Relapses often require re-hospitalizations and may lead to reduced treatment response and further deterioration of functioning
- Relapses are not only detrimental to the patient's long term functioning, but also are exhausting to the caregiver
- The prevention of relapse is a fundamental objective in the treatment of schizophrenia

Relapse Prevention

- Preventing relapse in patients with schizophrenia is challenging primarily due to medication adherence
- Studies have shown that patients who fail to adhere to their medication regimes have approximately five times greater risk of relapse compared to those who continue treatment as prescribed
- Long acting injections (LAI) of antipsychotic medications is the 'simplest' approach
- In addition, LAIs require physician contact providing opportunities for evaluation of efficacy and life issues

Use of Technology in Schizophrenia

- *Despite growing interest in the use of digital technology by people living with schizophrenia, little is actually known about how these individual relate to, own and use technology in their daily life and with their symptoms*
  - What types of technology are people living with schizophrenia using?
  - How are they are using it?
  - How does technology help someone cope?

Technology and Schizophrenia

- Nearly nine in ten of those living with schizophrenia say they are currently being treated for the disorder
- People living with schizophrenia have access to personal technology at similar rates as the general population
- Younger people living with schizophrenia uses personal technology more than older people with schizophrenia
- A majority of people living with schizophrenia report feeling positive about their use of technology
- Women and younger people report using technology more excessively than men and older individuals
- Those living with schizophrenia aged 18-46 are more likely than their older counterparts (47-64) to use technology to help them cope with schizophrenia.

Conclusions

- Patients with schizophrenia being discharged from the hospital possess unique challenges that must be addressed together
- Antipsychotic therapy is the cornerstone of modern schizophrenia treatment and is a key component managing the symptoms of the illness
- Adherence makes a difference -Robust discharge planning including the OP provider is essential to adherence
- Today patients can and do live successfully with schizophrenia

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