The Disease State of Schizophrenia
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Disclosures
1. I am a democrat.
2. We are number 3!!

Concerning #1. We gave Donald Trump to the republicans.
Concerning #2. I don’t like being #3.

DUK
1. 5 / 40
2. 5 / 65
Part One: Boring but Necessary

A. DSM 5

Schizophrenia
295.90 (F20.9)

A. Two (or more) of the following, each present for a significant portion of time during a 1-month period (or less if successfully treated). At least one of these must be (1), (2), or (3):

1. Delusions.
2. Hallucinations.
3. Disorganized speech (e.g., frequent derailment or incoherence).
4. Grossly disorganized or catatonic behavior.
5. Negative symptoms (i.e., diminished emotional expression or avolition).

Part One (cont.)

A. DSM 5

Schizophrenia
295.90 (F20.9)

B. For a significant portion of the time since the onset of the disturbance, level of functioning in one or more major areas, such as work, interpersonal relations, or self-care, is markedly below the level achieved prior to the onset (or when the onset is in childhood or adolescence, there is failure to achieve expected level of interpersonal, academic, or occupational functioning).

Part One (cont.)

A. DSM 5

Schizophrenia
295.90 (F20.9)

C. Continuous signs of the disturbance persist for at least 6 months. This 6-month period must include at least 1 month of symptoms (or less if successfully treated) that meet Criterion A (i.e., active-phase symptoms) and may include periods of prodromal or residual symptoms. During these prodromal or residual periods, the signs of the disturbance may be manifested by only negative symptoms or by two or more symptoms listed in Criterion A present in an attenuated form (e.g., odd beliefs, unusual perceptual experiences).
Part One (cont.)

A. DSM 5

Schizophrenia 295.90 (F20.9)

D. Schizoaffective disorder and depressive or bipolar disorder with psychotic features have been ruled out because either 1) no major depressive or manic episodes have occurred concurrently with the active-phase symptoms, they have been present for a minority of the total duration of the active and residual periods of the illness.

Part One (cont.)

A. DSM 5

Schizophrenia 295.90 (F20.9)

E. The disturbance is not attributable to the physiological effects of a substance (e.g., a drug of abuse, a medication) or another medical condition.

F. If there is a history of autism spectrum disorder or a communication disorder of childhood onset, the additional diagnosis of schizophrenia is made only if prominent delusions or hallucinations, in addition to the other required symptoms of schizophrenia, are also present for at least 1 month (or less if successfully treated).

Part One (cont.)

A. DSM 5

Schizophrenia 295.90 (F20.9)

Specify if:

The following course 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.

First episode, currently in acute episode: First manifestation of the disorder meeting the defining diagnostic symptom and time criteria. An acute episode is a time period in which the symptom criteria are fulfilled.
Part One (cont.)
A. DSM 5

Schizophrenia 295.90 (F20.9)

First episode, currently in partial remission:
Partial remission is a period of time during which an improvement after a previous episode is maintained and in which the defining criteria of the disorder are only partially fulfilled.

First episode, currently in full remission: Full remission is a period of time after a previous episode during which no disorder-specific symptoms are present.

Part One (cont.)
A. DSM 5

Schizophrenia 295.90 (F20.9)

Multiple episodes, currently in acute episode:
Multiple episodes may be determined after a minimum of two episodes (i.e., after a first episode, a remission and a minimum of one relapse).

Multiple episodes, currently in partial remission
Multiple episodes, currently in full remission

Part One (cont.)
A. DSM 5

Schizophrenia 295.90 (F20.9)

Continuous: Symptoms fulfilling the diagnostic symptom criteria of the disorder are remaining for the majority of the illness course, with subthreshold symptom periods being very brief relative to the overall course.

Unspecified
Part One (cont.)

A. **DSM 5**

**Schizophrenia**

295.90 (F20.9)

*Specify if:*

*With catatonia* (refer to the criteria for catatonia associated with another mental disorder).

**Coding note:** Use additional code 293.89 (F06.1) catatonia associated with schizophrenia to indicate the presence of the comorbid catatonia.

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Part One (cont.)

A. **DSM 5**

**Schizophrenia**

295.90 (F20.9)

*Specify current severity:*

Severity is rated by a quantitative assessment of the primary symptoms of psychosis, including delusions, hallucinations, disorganized speech, abnormal psychomotor behavior, and negative symptoms. Each of these symptoms may be rated for its current severity (most severe in the last 7 days) on a 5-point scale ranging from 0 (not present) to 4 (present and severe). (See Clinician-Rated Dimensions of Psychosis Symptom Severity in the chapter “Assessment Measures” in Section III of DSM-5).

**Note:** Diagnosis of schizophrenia can be made without using the severity specifier.

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Part One (cont.)

B. **ICD-10**

**F20** Schizophrenia

This overall category includes the common varieties of schizophrenia, together with some less common varieties and closely related disorders.

**F20.0 – F20.3**

General criteria for Paranoid, Hebephrenic, Catatonic and Undifferentiated type of Schizophrenia:

G1. Either at least one of the syndromes, symptoms and signs listed below under [1], 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 one month (or at some time during most of the days).

(1) At least one of the following:

a. Thought echo, thought insertion or withdrawal, or thought broadcasting.
Part One (cont.)

B. ICD-10

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 patient’s behavior, or discussing him between 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 (e.g. being able to control the weather, or being in communication with aliens from another world).

Part One (cont.)

B. ICD-10

(2) Or at least two of the following:

e. Persistent hallucinations in any modality, when occurring every day for at least one month, when accompanied by delusions (which may be fleeting or half-formed) without clear affective content, or when accompanied by persistent over-valued ideas.

f. Neologisms, breaks or interpolations in the train of thought, resulting in incoherence or irrelevant speech.

g. Catatonic behavior, such as excitement, posturing or waxy flexibility, negativism, mutism and stupor.

h. “Negative” symptoms such as marked apathy, paucity or speech, and blunting or incongruity of emotional responses (it must be clear that these are not due to depression or to neuroleptic medication).

Part One (cont.)

B. ICD-10

G2. Most commonly used exclusion criteria: If the patient also meets criteria for manic episode (F30) or depressive episode (F32), the criteria listed under G1.1 and G1.2 above must have been met before the disturbance of mood developed.

G3. The disorder is not attributable to organic brain disease (in the sense of F0), or to alcohol- or drug-related intoxication, dependence or withdrawal.

Comments: In evaluating the presence of these abnormal subjective experiences and behavior, special care should be taken to avoid false-positive assessments, especially where culturally or sub-culturally influenced modes of expression and behavior, or a subnormal level of intelligence, are involved.
Part One (cont.)

B. ICD-10

In view of the considerable variation of the course of schizophrenic disorders it may be desirable (especially for research) to specify the pattern of course by using a fifth character. Course should not usually be coded unless there has been a period of observation of at least one year.

Pattern of course
F20.x0 Continuous (no remission of psychotic symptoms throughout the period of observation);
F20.x1 Episodic, with a progressive development of ‘negative’ symptoms in the intervals between psychotic episodes;

Part One (cont.)

B. ICD-10

F20.x2 Episodic, with persistent but non-progressive ‘negative’ symptoms in the intervals between psychotic episodes;
F20.x3 Episodic (remittent) with complete or virtually complete remissions between psychotic episodes;
F20.x4 Incomplete remission;
F20.x5 Complete or virtually complete remission;
F20.x8 Other pattern of course.
F20.x9 Course uncertain, period of observation too short.

Part One (cont.)

B. ICD-10

F20.0 Paranoid Schizophrenia
A. The general criteria for Schizophrenia (F20.0 - F20.3 above) 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.
Part One (cont.)

B. ICD-10

F20.1  Hebephrenic Schizophrenia

A. The general criteria for Schizophrenia (F20.0 – F20.3 above) must be met.

B. Either (1) or (2):
   1. Definite and sustained flattening or shallowness of affect;
   2. Definite and sustained incongruity or inappropriateness of affect.

Part One (cont.)

B. ICD-10

F20.1  Hebephrenic Schizophrenia, cont.

C. Either (1) or (2):
   1. Behavior which is aimless and disjointed rather than goal-oriented;
   2. Definite thought disorder, manifesting as speech which is disjointed, rambling or incoherent.

D. Hallucinations or delusions must not dominate the clinical picture, although they may be present to a mild degree.

Part One (cont.)

B. ICD-10

F20.2  Catatonic Schizophrenia

A. The general criteria for Schizophrenia (F20.0 – F20.3 above) must eventually be met, though this may not be possible initially if the patient is uncommunicative.

B. For a period of at least two weeks, one or more of the following catatonic behaviors 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).
Part One (cont.)
B. ICD-10
F20.2 Catatonic Schizophrenia, cont.
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 movement 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 externally imposed positions);
7. Command automatism (automatic compliance with instructions).

C. Other possible participants of catatonic behavior, including brain disease and metabolic disturbances, have been excluded.
Part One (cont.)

B. ICD-10

F20.4   Post-schizophrenic Depression

A. The general criteria for Schizophrenia (F20.0 – F20.3 above) must have been met within the past twelve months, but are not met at the present time.
B. One of F20 G1.2 e, f, g or h 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 (F32.0).

Part One (cont.)

B. ICD-10

F20.5   Residual Schizophrenia

A. The general criteria for Schizophrenia (F20.0 – F20.3 above) 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 twelve months:
   1. Psychomotor slowing or underactivity;
   2. Definite blunting of affect;
   3. Passivity and lack of initiative;
   4. Poverty of either the quantity or the content of speech.

DUK

Who Are the 70-Year-Olds?
A statistical snapshot of the boomers turning 70 in 2016
Part Two:
A Better Way?

Using Brain-based Biomarkers, Researchers Identify Three Psychosis Biotypes
Fri, 1/8/16

- Biotype 1 was the most impaired, according to researchers. Patients demonstrated poor cognition and eye tracking and the most brain tissue damage. All of the usual psychosis diagnoses appeared in Biotype 1, but schizophrenia cases were slightly predominant.

- Biotype 2 demonstrated cognitive impairment, poor eye tracking, and high brain wave response, with patients often rated as overstimulated, hyperactive, or hypersensitive. Biotype 2 had worse scores on mood scales, such as depression and mania.

- Biotype 3 was the least impaired. Subjects had near-normal evaluations of cognition, EEG function, and brain structure and were slightly more likely to be diagnosed with bipolar disorder.

Social Impairment Precedes Presentation of Schizophrenia

These three components of community functioning – social activity, school/work functioning, and independent behavior – follow distinct premorbid trajectories in the years before hospitalization for schizophrenia, and impairment in social activity is by far the most severe, according to a prospective population-based study of young Israeli men.

Patients with schizophrenia had premorbid impairments in social activity and in functioning in school or work, the researchers noted in a report online November 25 in JAMA Psychiatry.

“We found that impairments in social activity and school/work functioning and recognizable up to 15 years prior to hospitalizations, while the level of independency seems preserved until the few years prior to first admission,” Dr. Velthorst said.
Social Impairment Precedes Presentation of Schizophrenia, cont.

The study's findings have substantial implications for treatment, Dr. Philip Harvey, of the University of Miami Miller School of Medicine, told Reuters Health by email. "As these deficits likely have differential causes, it seems unlikely that a single treatment would improve them all," said Dr. Harvey, who was not involved with the study.

Although schizophrenia researchers once believed that cognitive impairments were the underlying cause of all of these aspects of disability, it's now clear "that social cognitive deficits may be more important for social outcomes than neurocognitive deficits, and that impairments in social motivation may be a powerful predictor of social deficits in schizophrenia," Dr. Harvey said.

DUK

1. 1976 – 2005
2. 295,893
3. Over 14 y/o
4. 9 out of 10

Part Three:
It’s a Sign of the Times
A. Benzodiazepine Use in Schizophrenia a High-Risk Practice.  

The researchers investigated the association between mortality and cumulative exposure to antipsychotics, antidepressants, and benzodiazepines using two Swedish nationwide healthcare registers. Among roughly million people aged 17 to 64 years, they identified 21,492 patients with schizophrenia, a prevalence of 0.34%.

Altogether, 1591 (7.4%) schizophrenia patients died during the 5-year follow-up period. Compared with 214,670 age- and sex-matched individuals from the general Swedish population, the mortality of the schizophrenia cohort was 4.8-fold higher. The most common specific cause of death was cardiovascular disease (32.7%), followed by neoplasms (16.5%), respiratory diseases (11.0%), and suicide (9.5%).

B. High-Potency Cannabis Linked to Brain Damage, Experts Warn

Liam Davenport | December 15, 2015

**White Matter Damage**

For the study, investigators recruited 56 patients with first-episode psychosis (FEP) from South East London in the United Kingdom and 43 individuals without psychosis from the same area.

Following a clinical assessment and assessment of cannabis use, the participants underwent diffusion tensor magnetic resonance imaging (DTI) of the corpus callosum, which previous studies have shown is rich in cannabinoid receptors.

The corpus callosum was virtually dissected using tractography, and the diffusion index of fractional anisotropy, mean, axial, and radial diffusivity was calculated for each segment.
B. High-Potency Cannabis Linked to Brain Damage, Experts Warn, cont.

The participants were similar with respect to age, sex, ethnicity, and amount of education. Of the individuals with FEP, 70% had ever used cannabis (mean duration, 7.6 years), compared with 52% (mean duration, 7.2 years) of non-FEP individuals.

Cannabis was used daily by 70% and 50% of FEP participants and non-FEP participants, respectively; high-potency cannabis was used by 46% and 30%, respectively. The age at first use was <15 years for 32.4% of participants with FEP vs 27.3% of those without FEP.

DTI revealed that, overall, for individuals who were users of high-potency cannabis, both total mean diffusivity and total axial diffusivity in the corpus callosum were significantly higher than was the case for users of low-potency cannabis and for those who had never used the drug (P=.005 for mean diffusivity and P=.004 for axial diffusivity).

B. High-Potency Cannabis Linked to Brain Damage, Experts Warn, cont.

“I know that there are some arguments against a causal link between cannabis use and schizophrenia, and that there might be other confounding factors,” said Dr. Rigucci.

“However, previous studies from our group showed that the risk of developing psychosis is greater, and onset occurs earlier, in those individuals who use more frequently and those who use cannabis with higher THC content.”

C. Does Cannabis Cause Psychosis? A Brief Review of the Evidence

D.C. Rettew, M.D. | December 12, 2015

- Clinical Psychiatry Now

- The well-known fact that acute intoxication of cannabis can produce transient psychotic symptoms.
- The replicated finding that there is a dose-dependent response between amount of cannabis use and psychosis.
- Increasing evidence that the more potent marijuana that is available now may be associated with additional risk.
- The finding that the link between cannabis and psychosis is not equal for all age groups, but may be stronger for adolescents.
DUK

Over-the-Counter Insulin Available for Patients with Diabetes Who Cannot Afford Prescription
First Report Managed Care | January 7, 2016

Although it is uncommon, patients with diabetes can legally purchase specific forms of insulin without a prescription, something many physicians are not even aware of.

According to Medscape, Eli Lilly and Novo Nordisk manufacture the 2 types of over-the-counter available to patients with diabetes. They are older versions of medicine created in the 1980s, taking longer to metabolize than newer, prescribed medications would. The prices for these over-the-counter insulin drugs can range from ≥$200 a vial, to as little as $25.

Part Four:
“I Don’t Treat Schizophrenics”

A. Schizophrenia is more prevalent than RA or MS.
B. Patients report poor attention, poor executive functioning, disorganized thoughts, diminished memory, lack of pleasure, social withdrawal, movement disorders.
C. Patients present with flat affect.
D. Patients don’t talk about hallucinations/delusions if you don’t ask.
E. Are you sure you don’t see schizophrenics?
D4S

Mini Quiz: Violence and Psychosis

Findings indicate that more than ___% of patients hospitalized for a first episode of schizophrenia who had threatened others had displayed overt signs of illness for over a year.

A. 3%
B. 10%
C. 25%
D. 50%

Part Five:
“So Let’s Just Treat Them”

Challenges Associated with Schizophrenia
First Report Managed Care | November 20, 2013

A. • Treating negative and cognitive defects
   • Achieving and maintaining remission
   • Handling serious adverse effects
   • Having people adhere to their medications
   • Returning patients to normal functioning

B. PANSS
   CGI

C. 10 years: 25% much improved, 25% improved with extensive support, 15% hospitalized, 10% expired

D. 30 Years: 35% much improved, 15% improved with extensive support, 10% hospitalized, 15% expired
Challenges Associated with Schizophrenia, cont.

E. 80% relapse in 5 years

F. Health effectiveness data and information set
   1. 55% of MA patients – no follow-up after hospitalization
   2. 50% did not remain on anti-psychotics for 80% of treatment period
   3. >70% did not receive glucose monitoring

G. Takeaway Points
   1. Patients are more likely to go into remission if they have an early treatment response, younger age, shorter duration of illness, better psychological status before treatment, fewer negative and depressive symptoms, and fewer adverse events.
   2. To treat negative symptoms of medications prescribed for schizophrenia, studies have examined using drugs intended for sleep disorders, attention deficit hyperactivity disorder, depression, and dementia, but the efficacy was modest.
   3. Patients with movement disorders or obsessive compulsive disorder may also benefit from glutamate modulators.

Part Six:
“Ok, I’m Depressed, Now What?”
Adults with schizophrenia in the United States die at approximately 3.5 times the rate of the general population, according to research published in *JAMA Psychiatry*. Although suicide and other unnatural causes of death were higher than the general population, more than 85% of the deaths were natural, with the most common causes found to be cardiovascular and respiratory diseases.

Causes of death were divided into natural causes (such as cardiovascular disease, cancer, diabetes, etc.), unnatural causes (such as suicide, accidents, assault (homicide), injuries or drug-induced deaths), and nonsuicidal deaths from drugs or abuse. Deaths related to legal interventions such as encounters with law enforcement officials were also examined.

Cardiovascular disease had the highest mortality rate at approximately 1 out of 3 of all natural deaths. Cancer accounted for approximately 1 in 6 deaths. Among other natural causes of death, COPD, diabetes, and influenza and pneumonia had the highest mortality rates.

Unnatural causes of death accounted for approximately 1 out of 7 deaths, with poisoning and non-poisoning accounting for similar numbers of accidental deaths, and suicide accounting for 1 out of 4 of the unnatural causes of death. Substance abuse accounted for 8.2% of known-cause deaths and was usually non-suicidal.

Part Seven:

“Everything Old is New Again...”
Injectable Antipsychotics for Medicaid Patients with Schizophrenia

First Report Managed Care

Tampa – Approximately 74% of patients with schizophrenia are nonadherent to oral antipsychotic medications. Even short treatment gaps with oral antipsychotics are associated with increased relapse risk, and 80% of patients with schizophrenia experience relapse following the discontinuation of antipsychotic treatment.

But...
A. FGA
B. SGA
C. Insurance

D4S

Which of the following statements is TRUE about the diagnosis of schizophrenia?
A. Schizophrenia should be categorized (e.g., paranoid, disorganized, catatonic)
B. A diagnosis of schizophrenia can be treated on a single bizarre delusion
C. A diagnosis of schizophrenia requires at least two symptoms of psychosis

D4S

During the stabilization phase of schizophrenia, if a patient with schizophrenia has improved with a particular medication regimen, for how long should the patient continue on the regimen and be monitored, according to the American Psychiatric Association (APA) guidelines?
A. At least 3 months
B. At least 6 months
C. At least 8 months
During the stable phase of schizophrenia, what is the recommended duration of an initial trial of an antipsychotic medication needed to determine if a patient with schizophrenia will have any symptomatic response, according to the American Psychiatric Association (APA) guidelines?

A. 1-2 weeks  
B. 2-3 weeks  
C. 4-6 weeks

In which phase of schizophrenia are psychosocial interventions recommended by the American Psychiatric Association (APA) guidelines as a useful adjunctive treatment to pharmacological treatment to help improve outcomes for most patients with schizophrenia?

A. Acute phase  
B. Stabilization phase  
C. Stable phase  
D. All of the above

Ideally, what should an evaluation of an individual with suspected first-episode psychosis include?

A. Screen for a variety of psychoses  
B. Consider typical and atypical presentations  
C. Establish medical baseline status  
D. A and B  
E. All of the above
D4S

What other tests may be warranted for the diagnosis of new-onset psychosis?

A. Brain CT scan
B. Testing for adult-onset Tay-Sachs disease
C. Functional MRI

D4S

Which of the following should be considered in a differential diagnosis for the prodromal stage of schizophrenia?

A. PTSD
B. Affective disorders
C. Personality disorders
D. All of the above

D4S

A diagnostic workup for new-onset psychosis should always include _______.

A. Urine for porphyrins
B. Testing for tuberous sclerosis
C. Lyme titer
D. A and B
E. All of the above
References

- ICD-10.