Topic: Schizophrenia

Course: Clinical psychology PSX_002

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March, 2015

What is schizophrenia?

- Schizophrenia is a syndrome of unknown etiology characterized by disturbances in cognition, emotion, perception, thinking, and behavior.
- The expression of these manifestations varies across patients and over time, but the effect of the illness is always severe and is usually long-lasting.
- The disorder is usually chronic, with a course encompassing a prodromal phase, an active phase, and a residual phase.

Epidemiology

- Schizophrenia affects just less than 1 percent of the world's population (Kaplan & Sadock, 2005).
- If schizophrenia spectrum disorder are included in the prevalence estimates, then the number of affected individuals increases to approximately 5 percent (Kaplan & Sadock, 2005).

Etiology

- The etiology and pathogenesis of schizophrenia is not known yet.
- It is accepted generally, that in the case of schizophrenia we are dealing with "the group of schizophrenias" which origins is multi-factorial with participation of internal (genetic, inborn and biochemical) and external (trauma, infection of CNS, stress) factors.
- The *stress diathesis model* is most often used, which states that the person in whom schizophrenia develops has a specific biological vulnerability, or diathesis, that is triggered by stress and leads to schizophrenic symptoms.
- Stressors may be genetic, biological, and psychosocial or environmental.

➢ ***Genetic*** – Both single-gene and polygenic theories have been proposed. Although neither theory has been definitely substantiated, the polygenic theory appears to be more consistent with the presentation of schizophrenia.

- o Consanguinity – Incidence in families is higher than in the general population, and monozygotic twins concordance is greater than dizygotic.
- o Adoption studies
  a) The prevalence of schizophrenia is greater in the biological parents of schizophrenic adoptees than in adoptive parents.
  b) Monozygotic twins reared apart have the same concordance rate as twins reared together.
  c) Rates of schizophrenia are not increased in children born to unaffected parents but raised by a schizophrenic parent.

➢ ***Biological***

- o Dopamine hypothesis – Schizophrenic symptoms may result from increased limbic dopamine activities (positive symptoms) and decreased frontal dopamine activity (negative symptoms).

- Norepinephrine hypothesis – Increased norepinephrine levels in schizophrenia lead to increased sensitization to sensory input.
- GABA hypothesis – Decreased GABA activity results in increased dopamine activity.
- Serotonin hypothesis – Serotonin metabolism apparently is abnormal in some chronically schizophrenic patients, with both hyperserotoninemia and hyposerotoninemia being reported. Specifically, antagonism at the serotonin 5-HT2 receptor has been emphasized as an important in reducing psychotic symptoms and the development of movement disorders related to D2 antagonism. Research on mood disorders has implicated serotonin activity in suicidal and impulsive behavior, which schizophrenic patients can also exibit.
- Glutamate hypothesis – Hypofunction of the glutamate N-methyl-D-aspartate (NMDA)-type receptor is theorized to cause both positive and negative symptoms of schizophrenia based on the observed psychotogenic effects of the NMDA antagonists phencyclidine and ketamine (Ketalar), in addition to the observed therapeutic effects of the NMDA antagonists glycine and D-cycloserine.
- Neurodevelopmental theories – There is evidence of abnormal neuronal migration during the second trimester of fetal development. Abnormal neuronal functioning may lead to the emergence of symptoms during adolescence.

➢ ***Psychosocial and environmental***

- Family factors
- Gestational and birth complications
- Exposure to influenza epidemics or maternal starvation during pregnancy
- Rhesus (Rh) factor incompatibility etc.

Diagnosis and symptoms

- Schizophrenia is a disorder whose diagnosis is based on observation and description of the patient.
- Abnormalities are often present on most components of the mental status examination.
- **There are no pathognomonic signs or symptoms.**

- *General functioning*

  - **Overall functioning** – Level of functioning declines or fails to achieve the expected level
  - **Thought content** – Abnormal (e.g., delusions, poverty of content)
  - **Form of thought** – Illogical (e.g., incoherence, neologisms, echolalia)
  - **Affect** – Abnormal (e.g., flat, silly, labile, inappropriate)
  - **Sense of self** – Impaired (e.g., loss of ego boundaries, gender confusion, inability to distinguish internal from external reality)
  - **Volition** – Altered (e.g., inadequate drive or motivation and marked ambivalence)
  - **Interpersonal functioning** – Impaired (e.g., social withdrawal and emotional detachment, aggressiveness, sexual inappropriateness)
  - **Psychomotor behavior** – Abnormal or changed (e.g., agitation versus withdrawal, grimacing, posturing, rituals, catatonia)
  - **Cognition** – Impaired (e.g., inattention, impaired information processing)

- *Key features*

- **Delusions** - Fixed beliefs that are not amenable to change in light of conflicting evidence.

➢ Variety of themes

- Persecutory – belief that one is going to be harmed, harassed, and so forth by an individual, organization, or other group.
- Referential – belief that certain gestures, comments, environmental cues, and so forth are directed at oneself.
- Grandiose – when an individual believes that he or she has exceptional abilities, wealth, or fame.
- Erotomanic – when an individual believes falsely that another person is in love with him or her.
- Nihilistic – conviction that a major catastrophe will occur.
- Somatic – preoccupation with health and organ function.
- Thought withdrawal – belief that one's thoughts have been "removed" by some outside force.
- Thought insertion – belief that alien thoughts have been put into one's mind
- Delusions of control – belief that one's body or actions are being acted on or manipulated by some outside force.

- **Halucinations** - Perception-like experiences that occur without an external stimulus. They may occur in any sensory modality, but auditory hallucinations are the most common in schizophrenia and related disorders.

- **Disorganized thinking** - Typically inferred from the individual's speech.

➢ The symptom must be severe enough to substantially impair effective communication.

➢ Less severe disorganized thinking or speech may occur during the prodromal and residual periods of schizophrenia.

➢ Manifestations:

- Derailment or loose associations – when the individual switches from one topic to another
- Tangentiality – answers to questions may be obliquely related or completely unrelated
- Incoherence or "word salad" – the speech may be so severely disorganized that it's nearly incomprehensible and resembles aphasia in its linguistic disorganization.

- **Grossly disorganized or abnormal behavior** - Varies from childlike silliness to unpredictable agitation.

- Problems may be noted in any form of goal-directed behavior.
- Catatonic behavior is a marked decrease in reactivity to the environment.
- Negativism – resistance to instructions
- Mutism – lack of verbal responses
- Stupor – lack of motor responses
- Catatonic excitement – purposeless and excessive motor activity without obvious cause
- Stereotyped movements
- Staring
- Grimacing

- **Negative symptoms**

- Diminished emotional expression – includes reductions in the expression of emotions in the face, eye contact, intonation of speech, and movements of the hand, head, and face that normally give an emotional emphasis to speech.
- Avolition – decrease in motivated self-initiated purposeful activities.
- Alogia – diminished speech output
- Anhedonia – decreased ability to experience pleasure from positive stimuli or a degradation in the recollection of pleasure previously experienced.
- Asociality – apparent lack of interest in social interactions.

Types of schizophrenia

- Paranoid
- Disorganized schizophrenia / Hebephrenia
- Catatonic
- Undifferentiated
- Residual
- Simple
- Other subtypes

Prognosis

In terms of overall prognosis, some investigators have described a loose rule of thirds: approximately one third of patients lead somewhat normal lives, one third continue to experience significant symptoms but can function within society, and the remaining one-third are markedly impaired and require frequent hospitalization. Approximately 10% of this final third of patients require long-term institutionalization.

Treatment

- Pharmacologic treatment
- Electro-convulsive therapy
- Psychosocial treatment

Used literature:

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