

# WHAT IS SCHIZOPHRENIA?

- Schizophrenia is a serious mental illness that has an effect on how a person feels, behaves, and thinks.
- Brain disorder
- Often confused with “Multiple Personality Disorder.”

## EPIDEMIOLOGY:

- ◆ Affects 1 % of the general population.
- ◆ 8% in siblings of affected subjects.
- ◆ 12% in offsprings of one affected parent.
- ◆ 40% in offsprings of two affected parents.
- ◆ 47% in subjects of affected monozygotic twins.



# CAUSES:

- No one knows the exact causes of Schizophrenia, but multiple possible factors have been discovered.
- These factors include:
  1. Genetics
  2. Brain chemical imbalance
  3. Environmental factors
  4. Family history

**Genetic Predisposition + Environmental, Social and Psychological Factors**

**Neurodevelopmental abnormalities  
and target features**

**Brain dysfunction, improper balance of  
chemicals**

**Schizophrenia**

# 1. GENETICS:

- Defects in long arms of chromosomes 5, 11 and 18 and short arms of chromosome 19 and X chromosome.
- Increase the incidence of schizophrenia in subjects related to an affected person.



## 2. BRAIN CHEMICAL IMBALANCE:

- Abnormal production or reaction to the important chemical neurotransmitter dopamine and maybe others.
- Dopamine is responsible in sending messages through the brain and effects how the brain perceives things.
- Imbalance between dopamine and serotonin.

# THE BRAIN IN SCHIZOPHRENIA

MANY BRAIN REGIONS and systems operate abnormally in schizophrenia, including those highlighted below. Imbalances in the neurotransmitter dopamine were once thought to be the prime cause of schizophrenia. But new findings suggest that

impoverished signaling by the more pervasive neurotransmitter glutamate—or, more specifically, by one of glutamate's key targets on neurons [the NMDA receptor]—better explains the wide range of symptoms in this disorder.

## BASAL GANGLIA

Involved in movement and emotions and in integrating sensory information. Abnormal functioning in schizophrenia is thought to contribute to paranoia and hallucinations. [Excessive blockade of dopamine receptors in the basal ganglia by traditional antipsychotic medicines leads to motor side effects.]

## FRONTAL LOBE

Critical to problem solving, insight and other high-level reasoning. Perturbations in schizophrenia lead to difficulty in planning actions and organizing thoughts.

## LIMBIC SYSTEM

Involved in emotion. Disturbances are thought to contribute to the agitation frequently seen in schizophrenia.

## AUDITORY SYSTEM

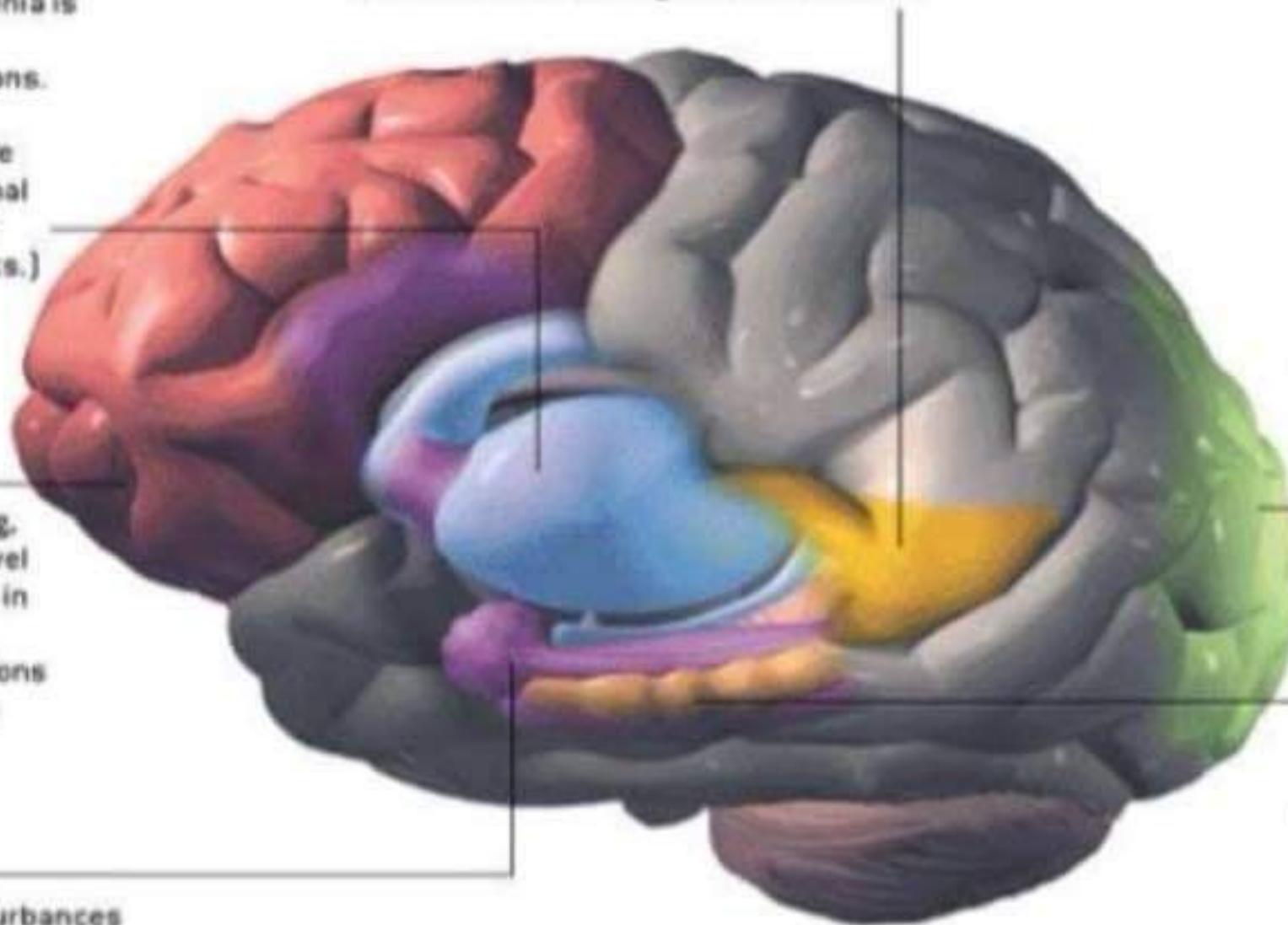
Enables humans to hear and understand speech. In schizophrenia, overactivity of the speech area [called Wernicke's area] can create auditory hallucinations—the illusion that internally generated thoughts are real voices coming from the outside.

## OCCIPITAL LOBE

Processes information about the visual world. People with schizophrenia rarely have full-blown visual hallucinations, but disturbances in this area contribute to such difficulties as interpreting complex images, recognizing motion, and reading emotions on others' faces.

## HIPPOCAMPUS

Mediates learning and memory formation, intertwined functions that are impaired in schizophrenia.





### 3. ENVIRONMENTAL FACTORS:

- Stress inducing environmental factors such as social pressure, physical or sexual abuse, loss of loved ones, hormones, malnutrition, and early exposure to viruses.
- The major brain changes that occur during puberty has also been identified as a possible contributing factor.



## 4. FAMILY HISTORY:

- If ones mother, father, brother or sister has the illness, statistics show a 10 percent chance of developing it.
- If ones twin, or both father and mother has the disorder then the probability of developing it rises to 40 percent.

# SYMPTOMS:

- The symptoms of schizophrenia can be categorized into three wide-ranging groups.
  1. Positive symptoms
  2. Negative symptoms
  3. Cognitive symptoms



## Positive

symptoms reflect an increase in the presence of abnormal behaviours. These active, abnormal symptoms may include:

1. Hallucinations
2. Delusions
3. Thought Disorders
4. Movement Disorders

## Negative

symptoms refer to an absence of normal behaviours found in healthy individuals. They may appear months or years before positive symptoms. They include:

1. Loss of interest in everyday activities
2. Appearing to lack emotion
3. Reduced ability to plan or carry out activities
4. Neglect of personal hygiene
5. Social withdrawal
6. Loss of motivation

## Cognitive

Cognitive symptoms involve problems with thought processes. These symptoms may be the most disabling in schizophrenia, because they interfere with the ability to perform routine daily tasks. They include:

1. Problems with making sense of information
2. Difficulty paying attention
3. Memory problems<sup>3</sup>

## TYPES:

1. Catatonic
2. Paranoid
3. Disorganized
4. Residual
5. Undifferentiated



# DIAGNOSIS:

- **Two or more of the following must be present:**
  - 1) Hallucinations.
  - 2) Delusions.
  - 3) Disorganized behavior or catatonic behaviour.
  - 4) Disorganized speech.
  - 5) Negative symptoms
- **The symptoms must last at least for 6 months.**

# TREATMENT:

- ❑ Institutional Care
- ❑ Antipsychotic Drugs
- ❑ Psychotherapy
- ❑ The Community Approach



**CONCLUSION:**

**“If you talk to God,**

**you are praying;**

**if God talks to you,**

**you have schizophrenia”**