



Overview

Schizophrenia is a severe and debilitating brain disorder affecting how one thinks, feels and acts. It can make one unable to distinguish reality from fantasy, express or manage normal emotions, or make decisions. People with schizophrenia may hear voices others don't, or believe others are reading their minds, controlling their thoughts or plotting to harm them. Affecting about 1 percent of the world's population over age 18 – nearly 2.5 million people in the U.S – symptoms usually appear in men in late teens and early 20s and in women in the mid-20s to early 30s. It rarely begins after age 45 and seldom before puberty.

Most people with schizophrenia suffer from their symptoms throughout their lives and are often severely stigmatized by lack of public understanding about the disease. Contrary to popular perception, people with schizophrenia do not have “split” or multiple personalities, and the majority pose no danger to others. However, the symptoms they experience are terrifying to them and can make them unresponsive, agitated or withdrawn from social interactions. People with schizophrenia attempt suicide much more often than people in the general population, and about 10 percent, primarily young adult males, succeed.

While schizophrenia is a chronic disorder, it can be controlled with medication and psychotherapy, substantially improving the lives of those who suffer with it. Scientists around the world are working to understand the mechanisms, both genetic and environmental, that combine to cause the devastating symptoms of schizophrenia, and as they learn more about how the brain works, better treatments are being developed.

Symptoms

Symptoms of schizophrenia are categorized as positive, negative and cognitive. They vary from person to person and may appear abruptly or develop slowly over months or years. Cycles of relapse and remission are typical.

Positive symptoms, which can be severe or mild, include delusions, hallucinations, thought disorders and movement problems. Those experiencing delusions believe people are monitoring or threatening them or reading their thoughts. Hallucinations cause a patient to hear, see, feel or smell something that is not there. Delusions, hallucinations and inner voices are sometimes collectively called psychosis, an aspect of schizophrenia that is sometimes seen in other serious mental illnesses, notably bipolar disorder. Thought disorders may involve difficulty putting cohesive thoughts together or making sense of speech. Disorders of movement may show up as clumsiness, involuntary motions, unusual mannerisms or repetitive actions and, in extreme cases, motionless rigidity held for hours at a time.

Negative symptoms refer to loss or reduction in the ability to initiate plans, speak, express emotion or find pleasure in everyday life. They include emotional flatness or lack of expression, diminished ability to begin and sustain a planned activity, social withdrawal and apathy. These symptoms can be mistaken for laziness or depression.

Cognitive symptoms involve problems with attention and memory, especially in being able to plan and organize in order to achieve a goal. These deficits are actually the most disabling in terms of being able to lead a normal life.

Schizophrenia is also divided into prevalent types:

- Paranoid schizophrenia – when a person feels extremely suspicious, persecuted or grandiose, or experiences a combination of these emotions.
- Disorganized schizophrenia – when a person is incoherent, but may not have delusions.
- Catatonic schizophrenia – when a person is extremely withdrawn, negative and isolated, and has marked psychomotor disturbances.
- Residual schizophrenia – when a person is no longer experiencing delusions or hallucinations, but has no motivation or interest in life.
- Schizoaffective disorder – when a person has symptoms of both schizophrenia and a major mood disorder, such as depression.

How Is It Diagnosed?

Currently, schizophrenia is diagnosed by the presence, over a six-month period, of symptoms such as hallucinations, delusions, disorganized speech and grossly disorganized or catatonic behavior. Two or more of the symptoms must be present for a significant time during a one-month period. Only one of the symptoms is required for diagnosis if delusions are bizarre or hallucinations consist of a voice keeping a running commentary on the person's behavior or thoughts or include two or more voices conversing. Social and/or occupational dysfunctions are also monitored during the six-month period of diagnostic evaluation. While the illness may develop abruptly or gradually, schizophrenia is difficult to diagnose initially because behaviors may at first seem mild, even though there is an awareness that something is wrong. Research toward diagnostics employing brain scans, blood tests and other forms of analysis may reveal definitive markers for the presence of the disease and possibly flag warning signs of its early development.

Causes

Like other serious neuropsychiatric illnesses, schizophrenia is a highly complex disease believed to result from a combination of factors, including genetic vulnerability, biological imbalances in the brain's chemistry and environmental events that occur during a person's development, in some cases possibly beginning in the prenatal period.

Scientists recognize from studies of identical twins that schizophrenia runs in families. They have identified a number of gene variations that appear to increase risk for the disorder. But their presence, alone or in combination with other candidate genes, does not necessarily cause illness. Schizophrenia may also be triggered by environmental factors, such as viral infections, malnutrition in the womb, problems during birth, early-life stress or a combination of factors.

People with schizophrenia have abnormal amounts of the brain chemicals serotonin and dopamine, neurotransmitters that allow nerve cells to communicate. A neurotransmitter imbalance affects the way the brain reacts to stimuli (sights, smells, sounds, tastes), and in someone with schizophrenia may lead to being overwhelmed by sensory information. Problems in processing external stimuli can induce psychosis. Brain-imaging technology has revealed differences in the brains of people with schizophrenia compared with people who do not have the disease. This information is proving valuable in the search for definitive causes and in the ongoing effort to develop diagnostics and better treatments.

Treatments

While there is no cure for schizophrenia, it is treatable and manageable with medication and psychotherapy, especially if diagnosed early. Those with acute symptoms, such as severe delusions or hallucinations, suicidal thoughts or inability to care for themselves, may require hospitalization.

Antipsychotics are the primary medications used to treat schizophrenia. They relieve the positive symptoms of the disorder by helping to correct imbalances in the brain's chemicals. The first generation of antipsychotics, introduced in the 1950s, block the neurotransmitter dopamine and relieve positive symptoms. While they help to control abnormal thinking, they also decrease ability to show emotion, and cause slowing and stiffness in the muscles. This class of drugs includes chlorpromazine (Thorazine), fluphenazine (Prolixin), haloperidol (Haldol), thiothixene (Navane), trifluoperazine (Stelazine), perphenazine (Trilafon) and thioridazine (Mellaril). Side effects can include dry mouth, constipation, blurred vision, drowsiness, sexual dysfunction, menstrual changes, significant weight gain, restlessness, stiffness, tremors, muscle spasms and tardive dyskinesia (repetitive, involuntary and stereotypic movements).

In the last decade, a class of so-called atypical antipsychotics has been introduced. These drugs block both dopamine and serotonin. They appear to be as effective as the older medications in reducing the positive symptoms of schizophrenia, but may be better at relieving negative symptoms, such as withdrawal, lack of emotion and lack of energy. The atypicals include risperidone (Risperdal), clozapine (Clozaril), olanzapine (Zyprexa), quetiapine (Seroquel), and ziprasidone (Geodon).

When people first start taking atypical antipsychotics, they may become drowsy or experience dizziness when they change positions or develop blurred vision, a rapid heartbeat, menstrual problems, sensitivity to the sun or skin rashes. Many of these symptoms go away after the first days of treatment. Clozapine can lower the white blood cell count, making some who take it more susceptible to infection.

If people with schizophrenia become depressed, it may be necessary to add an antidepressant to their drug regimen. No antipsychotic medication should be discontinued without medical supervision.

Numerous studies have found that psychosocial treatments – various forms of psychotherapy and counseling – can help patients stabilized on antipsychotic medications deal with aspects of schizophrenia, such as difficulty with communication, motivation, self-care, work and relationships and learn coping mechanisms that allow them to attend school or work and to socialize. Patients who receive regular psychosocial treatment also adhere better to their medication schedule and have fewer relapses and hospitalizations. A positive relationship with a therapist or a case manager gives the patient a reliable source of information, sympathy, encouragement and hope. Therapists can also help patients better understand and adjust to living with schizophrenia by educating them about the causes of the disorder, common symptoms or problems they may experience and the importance of staying on medications.

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