

(January 2022) Schizophrenia is a chronic and severe brain disorder that interferes with a person's ability to think clearly, manage emotions, make decisions and relate to others. Although it affects barely 1% of the population, it is one of the most disabling diseases affecting humankind.

Schizophrenia is a chronic and severe neurological brain disorder estimated in 2020 to affect 1.1 percent of the population or approximately 2.8 million adults in the United States aged 18 or older. An estimated 40 percent of individuals with the condition are untreated in any given year. Abnormalities that characterize schizophrenia include:

- delusions and hallucinations;
- alterations of the senses;
- an inability to sort and interpret incoming sensations, and an inability therefore to respond appropriately;
- an altered sense of self; and
- changes in emotions, movements and behavior.

Psychotic disorders nearly always emerge in late adolescence or early adulthood, with onset peaking between the ages of 18 and 25. The reasons for its appearance in this age range have not been identified. Some consensus already has emerged around the concept that psychotic breaks are not, as they may seem, abrupt but rather are the climax of a long buildup. In this model, they are rooted in molecular changes in the brain that begin as much as a decade before symptoms occur and progress to an end-stage psychosis in which reality surrenders to delusion, paranoia, hallucinations or other forms of disordered thinking.

For decades, research on the causes of schizophrenia has been dominated by theories related genetics and neurotransmitters. In the mid-2010s, a third theory—the infectious/inflammatory theory—became a major new addition to schizophrenia study.

Symptoms of Schizophrenia

In healthy people, the brain functions in such a way that incoming stimuli are sorted and interpreted, followed by a logical response (e.g., saying "thank you" after a gift is given, realizing the potential outcome of arriving late to work, etc.). Conversely, the inability of patients with schizophrenia to sort and interpret stimuli and select appropriate responses is one of the hallmarks of the disease.

The symptoms of schizophrenia are generally divided into three categories: positive, negative and cognitive. The National Institute of Mental Illness (NIMH) publishes the following about the [three categories of symptoms](#):

Positive symptoms: "Positive" symptoms are psychotic behaviors not generally seen in healthy people. People with positive symptoms may "lose touch" with some aspects of reality. Symptoms include:

- Hallucinations
- Delusions
- Thought disorders
- Movement disorders (agitated body movements)

Negative symptoms: "Negative" symptoms are associated with disruptions to normal emotions and behaviors. Symptoms include:

- "Flat affect" (reduced expression of emotions via facial expression or voice tone)
- Reduced feelings of pleasure in everyday life
- Difficulty beginning and sustaining activities
- Reduced speaking

Cognitive symptoms: For some patients, the cognitive symptoms of schizophrenia are subtle, but for others, they are more severe and patients may notice changes in their memory or other aspects of thinking. Symptoms include:

- Poor "executive functioning" (the ability to understand information and use it to make decisions)
- Trouble focusing or paying attention
- Problems with "working memory" (the ability to use information immediately after learning it)

Diagnosing Schizophrenia

Although there are numerous abnormalities in the brain structure and function of individuals with schizophrenia, there is no single condition that can be tested or measured to produce a definitive diagnosis. Without such measures, the disease is diagnosed by its symptoms.

Prior to a medical diagnosis, it is critically important that a doctor rule out other problems that may mimic schizophrenia, such as psychotic symptoms caused by the use of drugs or other medical illnesses; major depressive episode or manic episode with psychotic features; delusional disorder (no hallucinations, disorganized speech or thought or "flattened" emotions) and autistic disorder or personality disorders (especially schizotypal, schizoid, or paranoid personality disorders). Schizoaffective disorder is a diagnosis used to indicate that the person has an illness with a mix of symptoms of both schizophrenia and bipolar disorder.

"Although there is no single symptom that is found only in schizophrenia, there are several that are found very uncommonly in diseases other than schizophrenia," Dr. Torrey writes in *Surviving Schizophrenia*, now in its sixth edition as the authoritative book on the subject. "When they are present they should elevate the index of suspicion considerably...."

Precise diagnosis is of "utmost importance," he writes. "It both determines the appropriate treatment for the patient and provides the patient and family with an informed prognosis. It also makes research on the disease easier because it allows researchers to be certain they are talking about the same thing." It is important to diagnose and treat schizophrenia as early as possible to help people avoid or reduce frequent relapses and re-hospitalizations. Several promising, large-scale studies suggest early intervention may forestall the worst long-term outcomes of this devastating brain disorder.

Treatments and Therapies

While there is no cure for schizophrenia, it is a highly treatable disorder. In fact, according to the National Advisory Mental Health Council, the treatment success rate for schizophrenia is comparable to the treatment success rate for heart disease. People who experience acute symptoms of schizophrenia may require intensive treatment, sometimes including hospitalization, to treat severe delusions or hallucinations, serious suicidal inclinations, inability to care for oneself or severe problems with drugs or alcohol.

It is critical that people with schizophrenia stay in treatment even after recovering from an acute episode. About 80 percent of those who stop taking their medications after an acute episode will have a relapse within one year, whereas only 30 percent of those who continue their medications will experience a relapse in the same time period. Because the causes of schizophrenia are still unknown, treatments focus on eliminating the symptoms of the disease. Antipsychotic drugs typically are used in the treatment of schizophrenia because they help relieve the positive symptoms. No treatments exist for negative symptoms of the disease.

The NIMH publishes the following on [treatments and therapies for schizophrenia](#):

Antipsychotic medications: Antipsychotic medications are usually taken daily in pill or liquid form. Some antipsychotics are injections that are given once or twice a month. Some people have side effects when they start taking medications, but most side effects go away after a few days. Doctors and patients can work together to find the best medication or medication combination, and the right dose. Up-to-date information on medication use and side effects can be found on the [U.S. Food and Drug Administration \(FDA\) website](#), including the latest information on warnings, patient medication guides, or newly approved medications.

Psychosocial treatments: These treatments are helpful after patients and their doctor find a medication that works. Learning and using coping skills to address the everyday challenges of schizophrenia helps people to pursue their life goals, such as attending school or work. Individuals who participate in regular psychosocial treatment are less likely to have relapses or be hospitalized. For more information on psychosocial treatments, see the [Psychotherapies webpage](#) on the NIMH website.

Coordinated specialty care (CSC): This treatment model integrates medication, psychosocial therapies, case management, family involvement and supported education and employment services, all aimed at reducing symptoms and improving quality of life. The NIMH [Recovery After an Initial Schizophrenia Episode \(RAISE\)](#) research project seeks to fundamentally change the trajectory and prognosis of schizophrenia through coordinated specialty care treatment in the earliest stages of the disorder. RAISE is designed to reduce the likelihood of long-term disability that people with schizophrenia often experience and help them lead productive, independent lives.

Schizophrenia and Mortality

Individuals with schizophrenia die at a younger age than do healthy people. Males have a 5.1 greater than expected early mortality rate than the general population, and females have a 5.6 greater risk of early death. Suicide is the single largest contributor to this excess mortality rate, which is 10 to 13 percent higher in schizophrenia than the general population.

Suicide is in fact the number one cause of premature death among people with schizophrenia, with an estimated 10 percent to 13 percent killing themselves. The extreme depression and psychoses that can result due to lack of treatment are the usual culprits in these sad cases. These suicides rates can be compared to the general population, which is somewhere around 0.01%. Other contributors to excess mortality include:

Accidents: Although individuals with schizophrenia do not drive as much as other people, studies have shown that they have double the rate of motor vehicle accidents per mile driven. A significant but unknown number of individuals with schizophrenia also are killed as pedestrians by motor vehicles.

Diseases: There is some evidence that individuals with schizophrenia have more infections, heart disease, type II (adult onset) diabetes, and female breast cancer, all of which might increase their mortality rate. Individuals with schizophrenia who become sick are less able to explain their symptoms to medical personnel, and medical personnel are more likely to disregard their complaints and assume that they are simply part of the illness. There also is evidence that some persons with schizophrenia have an elevated pain threshold so they may not complain of symptoms until the disease has progressed too far to be treatable.

Homelessness: Although it has not been well studied to date, it appears that homelessness increases the mortality rate of individuals with schizophrenia by making them even more susceptible to accidents and diseases.

Additional information about schizophrenia is available from the following resources:

Torrey, E. Fuller. (2013). *Surviving Schizophrenia: A Family Manual* (sixth edition). New York: Harper Perennial.

National Institute of Mental Illness (NIMH): [Schizophrenia overview](#)

Treatment Advocacy Center. (2015). [Clozapine for Treating Schizophrenia: A Comparison of the States](#)