

Facts about Schizophrenia

Schizophrenia is a chronic, severe, and disabling brain disorder that has been recognized throughout recorded history. It affects about 1 percent of Americans.

People with schizophrenia may hear voices other people don't hear or they may believe that others are reading their minds, controlling their thoughts, or plotting to harm them. These experiences are terrifying and can cause fearfulness, withdrawal, or extreme agitation. People with schizophrenia may not make sense when they talk, may sit for hours without moving or talking much, or may seem perfectly fine until they talk about what they are really thinking. Because many people with schizophrenia have difficulty holding a job or caring for themselves, the burden on their families and society is significant as well.

Available treatments can relieve many of the disorder's symptoms, but most people who have schizophrenia must cope with some residual symptoms as long as they live. Nevertheless, this is a time of hope for people with schizophrenia and their families. Many people with the disorder now lead rewarding and meaningful lives in their communities. Researchers are developing more effective medications and using new research tools to understand the causes of schizophrenia and to find ways to prevent and treat it.

The symptoms of schizophrenia fall into three broad categories:

- **Positive symptoms** are unusual thoughts or perceptions, including hallucinations, delusions, thought disorder, and disorders of movement.
- **Negative symptoms** represent a loss or a decrease in the ability to initiate plans, speak, express emotion, or find pleasure in everyday life. These symptoms are harder to recognize as part of the disorder and can be mistaken for laziness or depression.
- **Cognitive symptoms** (or cognitive deficits) are problems with attention, certain types of memory, and the executive functions that allow us to plan and organize. Cognitive deficits can also be difficult to recognize as part of the disorder but are the most disabling in terms of leading a normal life.

Positive symptoms

Positive symptoms are easy-to-spot behaviors not seen in healthy people and usually involve a loss of contact with reality. They include hallucinations, delusions, thought disorder, and disorders of movement. Positive symptoms can come and go. Sometimes they are severe and at other times hardly noticeable, depending on whether the individual is receiving treatment.

Hallucinations. A hallucination is something a person sees, hears, smells, or feels that no one else can see, hear, smell, or feel. "Voices" are the most common type of hallucination in schizophrenia. Many people with the disorder hear voices that may comment on their behavior, order them to do things, warn them of impending danger, or talk to each other (usually about the patient). They may hear these voices for a long time before family and friends notice that something is wrong. Other types of hallucinations include seeing people or objects that are not there, smelling odors that no one else detects (although this can also be a symptom of certain brain tumors), and feeling things like invisible fingers touching their bodies when no one is near.

Delusions. Delusions are false personal beliefs that are not part of the person's culture and do not change, even when other people present proof that the beliefs are not true or logical. People with schizophrenia can have delusions that are quite bizarre, such as believing that neighbors can control their behavior with magnetic waves, people on television are directing special messages to them, or radio stations are broadcasting their thoughts aloud to others. They may also have delusions of grandeur and think they are famous historical figures. People with paranoid schizophrenia can believe that others are deliberately cheating, harassing, poisoning, spying upon, or plotting against them or the people they care about. These beliefs are called delusions of persecution.

Thought Disorder. People with schizophrenia often have unusual thought processes. One dramatic form is disorganized thinking, in which the person has difficulty organizing his or her thoughts or connecting them logically. Speech may be garbled or hard to understand. Another form is "thought blocking," in which the person stops abruptly in the middle of a thought. When asked why, the person may say that it felt as if the thought had been taken out of his or her head. Finally, the individual might make up unintelligible words, or "neologisms."

Disorders of Movement. People with schizophrenia can be clumsy and uncoordinated. They may also exhibit involuntary movements and may grimace or exhibit unusual mannerisms. They may repeat certain motions over and over or, in extreme cases, may become catatonic. Catatonia is a state of immobility and unresponsiveness. It was more common when treatment for schizophrenia was not available; fortunately, it is now rare.

Negative symptoms

The term "negative symptoms" refers to reductions in normal emotional and behavioral states. These include the following:

- flat affect (immobile facial expression, monotonous voice),
- lack of pleasure in everyday life,
- diminished ability to initiate and sustain planned activity, and
- speaking infrequently, even when forced to interact.

People with schizophrenia often neglect basic hygiene and need help with everyday activities. Because it is not as obvious that negative symptoms are part of a psychiatric illness, people with schizophrenia are often perceived as lazy and unwilling to better their lives.

Cognitive symptoms

Cognitive symptoms are subtle and are often detected only when neuropsychological tests are performed. They include the following:

- poor "executive functioning" (the ability to absorb and interpret information and make decisions based on that information),
- inability to sustain attention, and
- problems with "working memory" (the ability to keep recently learned information in mind and use it right away)

Cognitive impairments often interfere with the patient's ability to lead a normal life and earn a living. They can cause great emotional distress.

When does it start and who gets it?

Psychotic symptoms (such as hallucinations and delusions) usually emerge in men in their late teens and early 20s and in women in their mid-20s to early 30s. They seldom occur after age 45 and only rarely before puberty, although cases of schizophrenia in children as young as 5 have been reported. In adolescents, the first signs can include a change of friends, a drop in grades, sleep problems, and irritability. Because many normal adolescents exhibit these behaviors as well, a diagnosis can be difficult to make at this stage. In young people who go on to develop the disease, this is called the "prodromal" period. Research has shown that schizophrenia affects men and women equally and occurs at similar rates in all ethnic groups around the world. Like many other illnesses, schizophrenia is believed to result from a combination of environmental and genetic factors.

Can schizophrenia be inherited?

Scientists have long known that schizophrenia runs in families. It occurs in 1 percent of the general population but is seen in 10 percent of people with a first-degree relative (a parent, brother, or sister) with the disorder. People who have second-degree relatives (aunts, uncles, grandparents, or cousins) with the disease also develop schizophrenia more often than the general population. The identical twin of a person with schizophrenia is most at risk, with a 40 to 65 percent chance of developing the disorder.

Although there is a genetic risk for schizophrenia, it is not likely that genes alone are sufficient to cause the disorder. Interactions between genes and the environment are thought to be necessary for schizophrenia to develop. Many environmental factors have been suggested as risk factors, such as exposure to viruses or malnutrition in the womb, problems during birth, and psychosocial factors, like stressful environmental conditions.

The brains of people with schizophrenia look a little different than the brains of healthy people, but the differences are small. Sometimes the fluid-filled cavities at the center of the brain, called ventricles, are larger in people with schizophrenia; overall gray matter volume is lower; and some areas of the brain have less or more metabolic activity. Microscopic studies of brain tissue after death have also revealed small changes in the distribution or characteristics of brain cells in people with schizophrenia. It appears that many of these changes were prenatal because they are not accompanied by glial cells, which are always present when a brain injury occurs after birth. One theory suggests that problems during brain development lead to faulty connections that lie dormant until puberty. The brain undergoes major changes during puberty, and these changes could trigger psychotic symptoms.

The only way to answer these questions is to conduct more research. Scientists in the United States and around the world are studying schizophrenia and trying to develop new ways to prevent and treat the disorder.

Because the causes of schizophrenia are still unknown, current treatments focus on eliminating the symptoms of the disease.

Antipsychotic medications

Antipsychotic medications have been available since the mid-1950s. They effectively alleviate the positive symptoms of schizophrenia. While these drugs have greatly improved the lives of many patients, they do not cure schizophrenia.

Everyone responds differently to antipsychotic medication. Sometimes several different drugs must be tried before the right one is found. People with schizophrenia should work in partnership with their doctors to find the medications that control their symptoms best with the fewest side effects.

The older antipsychotic medications can cause extrapyramidal side effects, such as rigidity, persistent muscle spasms, tremors, and restlessness. In the 1990s, new drugs, called atypical antipsychotics, were developed that rarely produced these side effects. The first of these new drugs was clozapine. It treats psychotic symptoms effectively even in people who do not respond to other medications, but it can produce a serious problem called agranulocytosis, a loss of the white blood cells that fight infection. Therefore, patients who take clozapine must have their white blood cell counts monitored every week or two. The inconvenience and cost of both the blood tests and the medication itself has made treatment with clozapine difficult for many people, but it is the drug of choice for those whose symptoms do not respond to the other antipsychotic medications, old or new.

Some of the drugs that were developed after clozapine was introduced—such as risperidone, olanzapine, quetiapine, sertindole, and ziprasidone—are effective and rarely produce extrapyramidal symptoms and do not cause agranulocytosis; but they can cause weight gain and metabolic changes associated with an increased risk of diabetes and high cholesterol.

People respond individually to antipsychotic medications, although agitation and hallucinations usually improve within days and delusions usually improve within a few weeks. Many people see substantial improvement in both types of symptoms by the sixth week of treatment. No one can tell beforehand exactly how a medication will affect a particular individual, and sometimes several medications must be tried before the right one is found.

Like diabetes or high blood pressure, schizophrenia is a chronic disorder that needs constant management. At the moment, it cannot be cured, but the rate of recurrence of psychotic episodes can be decreased significantly by staying on medication. Although responses vary from person to person, most people with schizophrenia need to take some type of medication for the rest of their lives as well as use other approaches, such as supportive therapy or rehabilitation.

Relapses occur most often when people with schizophrenia stop taking their antipsychotic medication because they feel better, or only take it occasionally because they forget or don't think taking it regularly is important. It is very important for people with schizophrenia to take their medication on a regular basis and for as long as their doctors recommend. If they do so, they will experience fewer psychotic symptoms. No antipsychotic medication should be discontinued without talking to the doctor who prescribed it, and it should always be tapered off under a doctor's supervision rather than being stopped all at once.

There are a variety of reasons why people with schizophrenia do not adhere to treatment. If they don't believe they are ill, they may not think they need medication at all. If their thinking is too disorganized, they may not remember to take their medication every day. If they don't like the side effects of one medication, they may stop taking it without trying a different medication. Substance abuse can also interfere with treatment effectiveness. Doctors should ask patients how often they take their medication and be sensitive to a patient's request to change dosages or to try new medications to eliminate unwelcome side effects.

There are many strategies to help people with schizophrenia take their drugs regularly. Some medications are available in long-acting, injectable forms, which eliminate the need to take a pill every day. Medication calendars or pillboxes labeled with the days of the week can both help patients remember to take their medications and let caregivers know whether medication has been taken. Electronic timers on clocks or watches can be programmed to beep when people need to take their pills, and pairing medication with routine daily events, like meals, can help patients adhere to dosing schedules.

Antipsychotic medications can produce unpleasant or dangerous side effects when taken with certain other drugs. For this reason, the doctor who prescribes the antipsychotics should be told about all medications (over-the-counter and prescription) and all vitamins, minerals, and herbal supplements the patient takes. Alcohol or other drug use should also be discussed.

Psychosocial treatment

Numerous studies have found that psychosocial treatments can help patients who are already stabilized on antipsychotic medications deal with certain aspects of schizophrenia, such as difficulty with communication, motivation, self-care, work, and establishing and maintaining relationships with others. Learning and using coping mechanisms to address these problems allows people with schizophrenia to attend school, work, and 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, all of which are essential for managing the disease. The therapist can 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.

Illness Management Skills. People with schizophrenia can take an active role in managing their own illness. Once they learn basic facts about schizophrenia and the principles of schizophrenia treatment, they can make informed decisions about their care. If they are taught how to monitor the early warning signs of relapse and make a plan to respond to these signs, they can learn to prevent relapses. Patients can also be taught more effective coping skills to deal with persistent symptoms.

Integrated Treatment for Co-occurring Substance Abuse. Substance abuse is the most common co-occurring disorder in people with schizophrenia, but ordinary substance abuse treatment programs usually do not address this population's special needs. Integrating schizophrenia treatment programs and drug treatment programs produces better outcomes.

Rehabilitation. Rehabilitation emphasizes social and vocational training to help people with schizophrenia function more effectively in their communities. Because people with schizophrenia frequently become ill during the critical career-forming years of life (ages 18 to 35) and because the disease often interferes with normal cognitive functioning, most patients do not receive the training required for skilled work. Rehabilitation programs can include vocational counseling, job training, money management counseling, assistance in learning to use public transportation, and opportunities to practice social and workplace communication skills.

Family Education. Patients with schizophrenia are often discharged from the hospital into the care of their families, so it is important that family members know as much as possible about the disease to prevent relapses. Family members should be able to use different kinds of treatment adherence programs and have an arsenal of coping strategies and problem-solving skills to manage their ill relative effectively. Knowing where to find outpatient and family services that support people with schizophrenia and their caregivers is also valuable.

Cognitive Behavioral Therapy. Cognitive behavioral therapy is useful for patients with symptoms that persist even when they take medication. The cognitive therapist teaches people with schizophrenia how to test the reality of their thoughts and perceptions, how to "not listen" to their voices, and how to shake off the apathy that often immobilizes them. This treatment appears to be effective in reducing the severity of symptoms and decreasing the risk of relapse.

Self-Help Groups. Self-help groups for people with schizophrenia and their families are becoming increasingly common. Although professional therapists are not involved, the group members are a continuing source of mutual support and comfort for each other, which is also therapeutic. People in self-help groups know that others are facing the same problems they face and no longer feel isolated by their illness or the illness of their loved one. The networking that takes place in self-help groups can also generate social action. Families working together can advocate for research and more hospital and community treatment programs, and patients acting as a group may be able to draw public attention to the discriminations many people with mental illnesses still face in today's world.

The outlook for people with schizophrenia has improved over the last 30 years or so. Although there still is no cure, effective treatments have been developed, and many people with schizophrenia improve enough to lead independent, satisfying lives.

This is an exciting time for schizophrenia research. The explosion of knowledge in genetics, neuroscience, and behavioral research will enable a better understanding of the causes of the disorder, how to prevent it, and how to develop better treatments to allow those with schizophrenia to achieve their full potential.

If you or a family member is experiencing a mental health or an alcohol or other drug-related emergency, seek immediate assistance by calling the 24-hour Suicide Prevention, Mental Health Crisis, Information and Referral Hotline: (216) 623-6888 or the United Way's First Call for Help, 211 or (216) 436-2000.