



# An Introduction to Schizophrenia

A guide to the ways in which  
schizophrenia presents in patients  
and the main treatment approaches



This booklet is part of a pioneering initiative that can transform the care and outcomes of Rwandans living with schizophrenia.

Our campaign is called Love, Hope, and Treatment because care that is rooted within these three pillars leads those living with schizophrenia down the path to successful recovery and a happy, healthy way of life. This campaign aims to empower you, the Health Care Professionals of Rwanda providing treatment and care to those living with schizophrenia, with more training and educational materials to help you improve the lives of people living with schizophrenia.

As part of the Rwanda Mental Health Strategic Plan put forth by the Ministry of Health and in collaboration with Johnson & Johnson, this is a national campaign that positions Rwanda as a leader in the continent for providing treatment for people living with schizophrenia.

This booklet is one of a series that corresponds to a video series that is also available to all Health Care Providers working in Mental Health. I urge you to embrace these new training materials and implement what you learn in your practice.

In addition, we are also providing materials for those in your care, their caregivers, their families, and the wider community. We hope you encourage them to use these new materials to educate themselves, reduce stigma, and better collaborate with their treatment team.

This is a movement to support care providers like you, and bring better outcomes to Rwandans living with schizophrenia through Love, Hope, and Treatment.

# Contents

Introduction	4
What is schizophrenia?	5
The impact of schizophrenia	6
The cause of schizophrenia	7
The symptoms of schizophrenia	10
Confirming the diagnosis	11
The DSM-5 diagnostic criteria	12
The initial psychiatric evaluation	13
The Mental Status Examination (MSE)	17
Treatment approaches	20
Treatment goals and initial treatment	21
Further information	22
References	23



# Introduction

Schizophrenia is serious and lifelong mental illness, but with timely diagnosis and evaluation, with the right treatment, and with the skills and dedication of close family members and a multi-disciplinary team, symptoms can improve and patients can go on to live productive lives.

This series of booklets has been developed to outline the many different aspects of schizophrenia and its treatment. Their aim is to act as an accessible resource to help the HCPs, caregivers and family of people living with schizophrenia provide the best support possible.

This is the first in a series of booklets and matching videos available to all health care providers working in mental health in Rwanda. In this booklet, and in the accompanying video of the same name, we will outline the ways in which schizophrenia presents in patients and introduce the main treatment options.



# What is Schizophrenia?

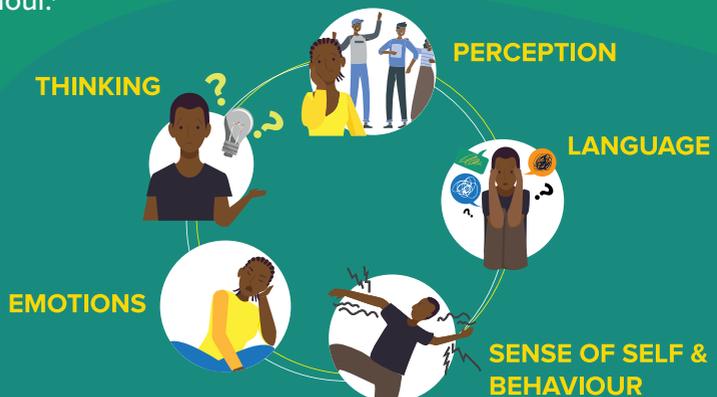
Globally, there are around **20 million cases** of schizophrenia<sup>1</sup>; while not as common as many other mental disorders, it is the **12<sup>th</sup> leading cause of disability worldwide** according to the Global Burden of Disease Study conducted in 2016.<sup>2</sup>

Schizophrenia is a complex, and severe mental disorder that is characterized by distortions in thinking, perception, emotions, language, sense of self, and behaviour.<sup>1</sup>

The most common characteristics of the illness are:<sup>1</sup>

- *Hallucinations* (hearing voices or seeing things that aren't there)
- *Delusions* (fixed beliefs that aren't true)

Typical age of onset of schizophrenia is in late adolescence or early adulthood, and it commonly starts earlier among men than women.<sup>1</sup>



# The Impact of Schizophrenia

The impact of the illness on patients is significant, affecting educational and occupational performance. People living with schizophrenia are 2–3 times more likely to die early than the general population, often due to preventable physical diseases.<sup>1</sup>



People with schizophrenia face a high degree of stigma which contributes to discrimination. This in turn can limit access to general health care, education, housing and employment.<sup>1</sup>

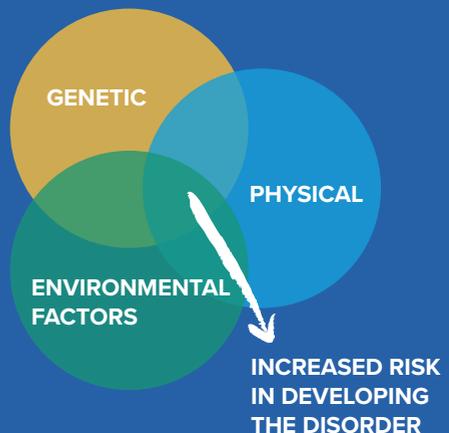
Because of their poorer physical health, it is important that patients have access to a primary care doctor who can provide regular check-ups and management of concomitant physical health conditions.<sup>3</sup>



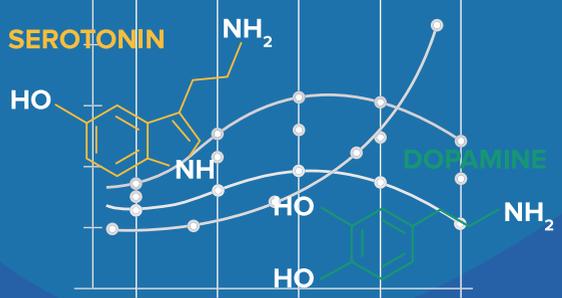
# The Cause of Schizophrenia?

Despite the progress made in understanding the causes of schizophrenia, there is widespread confusion around how and why someone develops schizophrenia. In some regions, more than a quarter of schizophrenia cases are attributed to supernatural forces such as possession by demons or ancestral spirits.

False beliefs such as these can, in turn, lead to untimely and ineffective treatment, and exacerbation of symptoms.<sup>4,5</sup> While the exact cause of schizophrenia is unknown, research suggests that a combination of genetic, physical, and environmental factors can increase a person's risk of developing the disorder.<sup>6</sup>



SEROTONIN



## GENETIC FACTORS

It is likely that different combinations of genes make some people more vulnerable to the condition. However, the majority of people with a close family member diagnosed with schizophrenia do not have the disorder, and many people with schizophrenia do not have any family history whatsoever.<sup>6</sup>

## PHYSICAL FACTORS

Research suggests that one of the causes of schizophrenia may be changes in the levels of the neurotransmitters dopamine and serotonin. Altering the levels of these neurotransmitters with the use of medications may alleviate the symptoms of schizophrenia and is the basis of the pharmacological treatment of the disorder.<sup>6</sup>

## ENVIRONMENTAL FACTORS

Three types of environmental factors are believed to contribute to the development of schizophrenia:

- *Drug abuse:* Drugs do not directly cause schizophrenia. However, their regular use can trigger its development in someone who is vulnerable to the condition. Drugs commonly associated with the development of schizophrenia are cannabis, cocaine, LSD, and amphetamines.<sup>6</sup>
- *Pregnancy and birth complications:* Research has shown that people



who develop schizophrenia are more likely to have experienced complications before and during birth, such as low birth weight, premature labor, and a lack of oxygen during birth.<sup>6</sup>

- *Childhood adversity:* People with schizophrenia commonly have a history of trauma, including early childhood adverse experiences. These experiences include physical, sexual, and emotional abuse, the death of a loved one, and job loss or homelessness.<sup>6</sup>

These experiences do not cause schizophrenia, but they are contributing factors in the development of schizophrenia for someone who is vulnerable to the condition. It is also important to note that some people develop schizophrenia in the absence of an identifiable stressor.<sup>6</sup>



# The Symptoms of Schizophrenia

Symptoms of schizophrenia are divided into three categories:<sup>7</sup>

**POSITIVE SYMPTOMS:**  
any change in behavior or thoughts, such as hallucinations or delusions, disorganized behavior

**NEGATIVE SYMPTOMS:**  
include social withdrawal, self-neglect, loss of motivation, poverty of speech, and emotional blunting

**COGNITIVE SYMPTOMS:**  
changes in memory, an inability to complete tasks or understand new information, and trouble focusing and paying attention or making decisions

The infographic features three green boxes with text and illustrations. The first box, 'POSITIVE SYMPTOMS', shows a person with colorful, swirling lines around their head, representing hallucinations. The second box, 'NEGATIVE SYMPTOMS', shows a person with a speech bubble containing symbols like '#!.,?', representing communication difficulties. The third box, 'COGNITIVE SYMPTOMS', shows a person with a thought bubble containing a question mark and a dog, representing cognitive distortions.

Correctly identifying a patient's symptoms is an essential step in choosing the most effective treatment.<sup>7</sup>



# Confirming the Diagnosis

The diagnostic process ensures the differentiation between schizophrenia and schizoaffective disorder and depression or bipolar disorder with psychotic symptoms. The potential that the symptoms are caused by drug abuse must also be assessed and eliminated.<sup>8</sup>

To adequately rule out these differential diagnoses, a time period of 6 months must have elapsed before a formal diagnosis of schizophrenia is made.<sup>8</sup>

In previous versions of internationally accepted diagnostic criteria, schizophrenia was categorized into *paranoid*, *catatonic*, *undifferentiated* and *residual* subtypes.

In 2015, the American Psychiatric Association removed these subtypes due to their limited diagnostic stability, low reliability, and poor validation. These subtypes have also not been shown to exhibit distinctive patterns in treatment response or longitudinal course.<sup>9</sup> Today, the American Psychiatric Association DSM-5 for Diagnosis of Schizophrenia is one of the widely accepted diagnostic classifications.

# THE DSM-5 DIAGNOSTIC CRITERIA FOR SCHIZOPHRENIA<sup>9</sup>

**A**

The presence of two or more of the following, each present for a significant portion of time during a 1-month period (or less if successfully treated):

- *Delusions*
- *Hallucinations*
- *Disorganized speech (e.g. frequent derailment or incoherence)*
- *Grossly disorganized or catatonic behavior*
- *Negative symptoms (e.g. diminished emotional expression or avolition)*

At least one of these symptoms must be delusions, hallucinations or disorganized speech.<sup>8</sup>

**B**

For a significant portion of the time since the onset of the disturbance, level of functioning in one or more major areas (such as work, interpersonal relations, or self-care) is markedly below the level achieved prior to the onset.

When the onset is in childhood or adolescence, failure to achieve the expected level of interpersonal, academic, or occupational functioning is observed.

**C**

Continuous signs of the disturbance persist for at least 6 months.

This 6-month period must include at least 1 month of symptoms (or less if successfully treated) that meet Criterion A (i.e., active-phase symptoms) and may include periods of prodromal or residual symptoms.

During these prodromal or residual periods, the signs of the disturbance may be manifested by only negative symptoms or by two or more symptoms listed in Criterion A present in an attenuated form (e.g., odd beliefs, unusual perceptual experiences).

**D**

Schizoaffective disorder and depressive or bipolar disorder with psychotic features have been ruled out because either:

1. no major depressive or manic episodes have occurred concurrently with the active-phase symptoms, or
2. if mood episodes have occurred during active-phase symptoms, they have been present for a minority of the total duration of the active and residual periods of the illness

**E**

The disturbance is not attributable to the physiological effects of a substance (e.g., a drug of abuse, a medication) or another medical condition.

**F**

If there is a history of autism spectrum disorder or a communication disorder of childhood onset, the additional diagnosis of schizophrenia is made only if prominent delusions or hallucinations, in addition to the other required symptoms of schizophrenia, are also present for at least 1 month (or less if successfully treated).

## THE INITIAL PSYCHIATRIC EVALUATION

represents the beginning of an ongoing, therapeutic relationship with the patient. It provides crucial information for you regarding differential diagnosis, shared decision-making about treatment, and an opportunity to educate patients and family members about illness course and prognosis.<sup>3</sup>



The initial evaluation can be made around some or all of the following elements:<sup>3</sup>

<p><b>HISTORY OF PRESENT ILLNESS</b></p>	<ul style="list-style-type: none"> <li>Reason that the patient is presenting for evaluation, including current symptoms, behaviors, and precipitating factors</li> <li>Current psychiatric diagnoses and psychiatric review of symptoms</li> </ul>
<p><b>PSYCHIATRIC HISTORY</b></p>	<ul style="list-style-type: none"> <li>Hospitalization and emergency department visits for psychiatric issues, including substance use disorders</li> <li>Psychiatric treatments (type, duration, and, where applicable, doses)</li> <li>Response and adherence to psychiatric treatments, including psychosocial treatments, pharmacotherapy, and other interventions such as electroconvulsive therapy</li> <li>Prior psychiatric diagnoses and symptoms including:               <ul style="list-style-type: none"> <li>Hallucinations (including command hallucinations), delusions, and negative symptoms</li> <li>Aggressive ideas or behaviors (e.g., homicide, domestic or workplace violence, other physically or sexually aggressive threats or acts)</li> <li>Impulsivity</li> <li>Suicidal ideas, suicide plans, and suicide attempts, including details of each attempt (e.g., context, method, damage, potential lethality, intent) and attempts that were aborted or interrupted</li> <li>Intentional self-injury in which there was no suicide intent</li> </ul> </li> </ul>
<p><b>SUBSTANCE USE HISTORY</b></p>	<ul style="list-style-type: none"> <li>Use of tobacco, alcohol, and other substances (e.g., vaping, marijuana, cocaine, heroin, hallucinogens) and any misuse of prescribed or over-the-counter medications or supplements</li> <li>Current or recent substance use disorder or change in use of alcohol or other substances</li> </ul>

## MEDICAL HISTORY

- Whether or not the patient has an ongoing relationship with a primary care health professional
- Allergies and drug sensitivities
- All medications the patient is currently taking or recently took and the side effects of these medications (*i.e., both prescribed and non-prescribed medications, herbal and nutritional supplements, and vitamins*)
- Past and current medical illnesses and related hospitalizations
- Relevant past and current treatments, including surgeries, other procedures, or complementary and alternative medical treatments
- Sexual and reproductive history
- Cardiopulmonary status
- Past and current neurological or neurocognitive disorders or symptoms
- Past physical trauma, including head injuries
- Past and current endocrinological disease
- Past and current infectious disease, including sexually transmitted diseases, HIV, tuberculosis, hepatitis C, and locally endemic infectious diseases such as Lyme disease
- Past and current sleep abnormalities, including sleep apnea
- Past and current symptoms or conditions associated with significant pain and discomfort
- Additional review of systems, as indicated

## FAMILY HISTORY

- Including history of suicidal behaviors or aggressive behaviors in biological relatives

## PERSONAL & SOCIAL HISTORY

- Preferred language and need for an interpreter
- Personal/cultural beliefs, sociocultural environment and cultural explanations of psychiatric illness
- Presence of psychosocial stressors (*e.g., financial, housing, legal, school/occupational, or interpersonal/relationship problems; lack of social support; painful, disfiguring, or terminal medical illness*)
- Exposure to physical, sexual, or emotional trauma
- Exposure to violence or aggressive behavior, including combat exposure or childhood abuse
- Legal or disciplinary consequences of past aggressive behaviors

# Physical Examination and Mental Status Examination

- General appearance and nutritional status
- Height, weight, and body mass index (BMI)
- Vital signs
- Skin, including any signs of trauma, self-injury, or drug use
- Coordination and gait
- Involuntary movements or abnormalities of motor tone
- Sight and hearing
- Speech, including fluency and articulation
- Mood, degree of hopelessness, and level of anxiety
- Thought content, process, and perceptions, including current hallucinations, delusions, negative symptoms, and insight
- Cognition
- Current suicidal ideas, suicide plans, and suicide intent, including active or passive thoughts of suicide or death
  - If current suicidal ideas are present, assess: patient's intended course of action if current symptoms worsen; access to suicide methods including firearms; patient's possible motivations for suicide (e.g., *attention or reaction from others, revenge, shame, humiliation, delusional guilt, command hallucinations*); reasons for living (e.g., *sense of responsibility to children or others, religious beliefs*); and quality and strength of the therapeutic alliance
- Current aggressive ideas, including thoughts of physical or sexual aggression or homicide
  - If current aggressive ideas are present, assess: specific individuals or groups toward whom homicidal or aggressive ideas or behaviors have been directed in the past or at present; impulsivity, including anger management issues and access to firearms



# The Mental Status Examination



In Rwanda, the Mental Status Examination (MSE) is an examination tool commonly used during the initial evaluation to assist in the diagnostic process.

The MSE is a structured assessment of the patient's behavioral and cognitive functioning. It includes descriptions of the patient's appearance and general behavior, level of consciousness and attentiveness, motor and speech activity, mood and affect, thought and perception, attitude and insight, the reaction evoked in the examiner, and, finally, higher cognitive abilities.<sup>10</sup>

A successful assessment is conducted in such a way that much of the mental status examination is performed through relatively unstructured observations made during the routine history and physical examination. How the patient describes the history of their present illness will reveal much about general appearance and behavior, alertness, speech, activity, affect, and attitude.

A primary technique in mental status testing is to impose some structure onto these observations, raising them from subliminal impressions to clinically useful descriptions of behavior.

When there is history or evidence of clinically significant psychiatric illness, then a formal dissecting of specific cognitive abilities should be performed near the close of the consultation. When carried out, the examination needs to be introduced carefully to the patient, with some explanation as to why it is being done, in order to enlist patient cooperation rather than resistance.

# THE STRUCTURED MENTAL STATUS EXAMINATION IS BASED ON THE FOLLOWING OBSERVATIONS:<sup>10</sup>

<b>LEVEL OF CONSCIOUSNESS</b>	Refers to the state of wakefulness of the patient (normal, clouded consciousness, delirium, obtundation, stupor, coma). Levels are defined by the strength of stimuli needed to elicit responses. When examining patients with reduced levels of consciousness, noting the type of stimulus needed to arouse the patient and the degree to which the patient can respond when aroused is a useful way of recording this information.
<b>APPEARANCE &amp; GENERAL BEHAVIOR</b>	The patient's physical appearance (apparent vs. stated age), grooming (immaculate/unkept), dress (subdued/riotous), posture (erect/kyphotic), and eye contact (direct/furtive) are all pertinent observations.
<b>SPEECH &amp; MOTOR ACTIVITY</b>	Listening to spontaneous speech as the patient relates answers to open-ended questions yields much useful information. Overall motor activity should also be noted, including any tics or unusual mannerisms.
<b>AFFECT &amp; MOOD</b>	Affect is the patient's immediate expression of emotion; mood refers to the more sustained emotional makeup of the patient's personality.
<b>THOUGHT &amp; PERCEPTION</b>	The inability to process information correctly is part of the definition of psychotic thinking. How the patient perceives and responds to stimuli is therefore a critical psychiatric assessment. Does the patient harbor realistic concerns, or are these concerns elevated to the level of irrational fear? Is the patient responding in exaggerated fashion to actual events, or is there no discernible basis in reality for the patient's beliefs or behavior?
<b>ATTITUDE &amp; INSIGHT</b>	The patient's attitude is the emotional tone displayed toward the examiner, other individuals, or his or her illness. Patient attitude often changes through the course of the interview, and it is important to note any such changes.
<b>EXAMINER'S REACTION TO THE PATIENT</b>	The feelings aroused in the examiner by the patient are often a source of very useful information. However, these data are sometimes subtle and easily overlooked.

## STRUCTURED EXAMINATION OF COGNITIVE ABILITIES

A structured examination of specific cognitive abilities is an approach that pays careful attention to neuroanatomic correlates. Such testing logically follows a hierarchic ordering of cortical function with attention and memory being the most basic functions on which higher-ordered abilities of language, constructional ability, and abstract thinking are layered.

- **Attention:** the testing of attention is a more refined consideration of the state of wakefulness than level of consciousness
- **Language:** basic examination of language function should include an assessment of spontaneous speech, comprehension of spoken commands, reading ability, reading comprehension, writing, and repetition.
- **Memory:** memory disturbance is a common complaint and is often a presenting symptom in the elderly. Memory can be grouped simplistically into three subunits: immediate recall, short-term memory, and long-term storage.
- **Short-term memory** is the most clinically pertinent, and the most important to be tested.
- **Constructional ability and praxis:** apraxia is the inability, not due to weakness, to perform previously learned motor acts. The more common of these are ideomotor apraxias wherein the patient can initiate movements and manipulation of objects but is unable to pretend a given action.
- **Constructional inability** is loss of the capacity to generate line drawings or manipulate block designs from verbal command or visual reproduction.

# Treatment Approaches

As schizophrenia is a complex disorder, with multiple causes and symptoms, a comprehensive psychopharmacological and psychosocial approach is needed to improve long-term outcomes in patients.<sup>3</sup>

It is common for patients to initially present to medical care in a severely decompensated state. Patients may be a danger to themselves or others, malnourished, and otherwise neglect themselves.

The cornerstone of schizophrenia treatment is antipsychotic medications, but this is a part of a comprehensive treatment program addressing clinical, emotional, and social needs of the patients.<sup>9</sup>

Having begun a treatment program with your patient, treatment progress should be assessed after 4 weeks. At this point, you can continue with or modify your patient's medications. The goal of this initial treatment is to return the patient to their original baseline of functioning prior to the onset of the illness.

Relapses may occur for patients with schizophrenia; these relapses are more likely to be mitigated if treatment occurs as soon as possible. Some of the typical early signs of relapse include trouble sleeping or insomnia.<sup>11</sup>

# Treatment Goals & Initial Treatment

An overall treatment goal (including both medication and psychosocial goals) is to maximise adherence to reduce the chance of a relapse.<sup>11</sup>

Pharmacologically, schizophrenia is treated with antipsychotic medications, which can be divided into 2 categories:<sup>3</sup>

- First-generation, or typical, antipsychotics (FGAs)
- Second-generation, or atypical, antipsychotics (SGAs)

Once the initial psychiatric evaluation is complete, several factors will need to be taken into consideration when choosing the initial treatment. These are:<sup>3</sup>

- Therapeutic indications
- Available drug formulations
- Drug-drug interactions
- Pharmacokinetic properties of medications
- Safety profile
- Contraindications



The initial goal of acute treatment with antipsychotics is to reduce acute symptoms with the aim of returning the individual to a baseline level of functioning.<sup>3</sup>

The second booklet in this series, 'Treatment Options in Schizophrenia', will provide more details of these medications along with the above factors for their consideration.

# Further Information

You may find the following links useful in providing further information about the topics covered in this booklet:

**American Psychological Association or APA schizophrenia treatment guidelines:** <https://www.psychiatry.org/psychiatrists/practice/clinical-practice-guidelines>

**National Alliance on Mental Illness:** <https://www.nami.org/About-Mental-Illness/Mental-Health-Conditions/Schizophrenia>



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