

## Schizophrenia: An Ayurvedic Review and Treatment—A Case Study

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### Abstract

*Schizophrenia is a complex, heterogeneous disorder. It is neuro developmental disorder characterized by problems with thinking (cognition) and behavior—not focused on goals, negative symptoms, and suicidal thoughts. This mean showing a reduced or impaired ability to function normally and having no emotions (not making eye contact, not changing facial expressions or speaking in a monotone). Additionally, the person may lose interest in daily activities, withdraw from relationships or be unable to sustain and reflect, often associated with hearing or speech disorders, extreme confusion and associated functional impairments. The pathophysiology is not known. It is a disease or collection of diseases associated with changes in brain circuits. This can manifest itself in many ways, from child-like stupidity to a lack of anxiety. The type and severity of symptoms may change over time with periods of recovery and abstinence. Some symptoms may occur. Symptoms of schizophrenia in men usually begin in their early to mid-20s. In women, symptoms usually begin in their 20s. It is rare for children to be diagnosed with schizophrenia; these cases are usually more severe and are rare in people over 45 years of age. Schizophrenia affects approximately 24 million people or 1 in 300 people (0.32%) worldwide. This rate is 1 in 222 people (0.45%) among adults. It is not as common as many other mental disorders. Onset is most often during late adolescence and the twenties, and onset tends to happen earlier among men than among women. Schizophrenia is frequently associated with significant distress and impairment in personal, family, social, educational, occupational, and other important areas of life. Antipsychotics, antidepressants, lithium, and cognitive behavioral therapy are the best effective agents in reducing symptoms. Post-diagnosis treatment now focuses on reducing psychological symptoms. A 38-year-old female patient was presented to the outpatient department No. 3 (Panchakarma OPD) at Sardar Ayurved College and Hospital with chief complaining of Smrutinasha, Aspashta-Asambandhavakapravriti, Balakavata Shabdauchharana evam vyavahara, Atichintita, Manoavasada, Atikrodha, Paraspara Samvada kale Asamarthata, Manobhavavihina Mukha, Karmanekashtata, Shirahashoola, Vibandha and Bhrama since past 12 years. Shamana Chikitsa, Shodhana Chikitsa (Shirodhara and Nasya) was performed on the patient.*

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### INTRODUCTION

Schizophrenia is a serious mental illness that affects how a person thinks, behaves, expresses emotions, perceives reality and interacts with

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others. People with schizophrenia often experience problems in society at work, at school and in relationships. They may feel scared and withdrawn and seem detached from reality. There is no cure for this disease forever, but it can be controlled with appropriate treatment. This may be partly because some of the symptoms of schizophrenia in young people often appear in adulthood like withdrawal from friends and family, not doing well at school, sleep problems, feeling anxious or restless and lack of motivation. Additionally, the uses of drugs such as marijuana, methamphetamine or LSD sometimes cause similar symptoms [1]. Contrary to popular belief, schizophrenia is not an isolated or multidimensional disease. Schizophrenia involves a mental disorder in which the patient is unable to distinguish between reality and imagination. Sometimes people with mental illness lose sight of the truth. Schizophrenia symptoms can differ from person to person, but they generally fall into three main categories—psychotic, negative, and cognitive. Psychotic symptoms include changes in the way a person thinks, acts, and experiences the world. People with psychotic symptoms may lose a shared sense of reality with others and experience the world in a distorted way. For some people, these symptoms come and go. For others, the symptoms become stable over time.

Psychotic symptoms include:

- *Hallucinations*: When a person sees, hears, smells, tastes, or feels things that are not actually there.
- *Delusions*: When a person has strong beliefs that are not true and may seem irrational to others. For example, individuals experiencing delusions may believe that people on the radio and television are sending special messages that require a certain response or they may believe that they are in danger or that others are trying to hurt them.
- *Thought disorder*: When a person has ways of thinking that are unusual or illogical. People with thought disorder may have trouble organizing their thoughts and speech. Sometimes a person will stop talking in the middle of a thought, jump from topic to topic, or make up words that have no meaning.
- *Movement disorder*: When a person exhibits abnormal body movements. Hearing voices is common for people with schizophrenia. People who hear voices may hear them for a long time before family or friends notice a problem. People with movement disorder may repeat certain motions over and over.

Negative symptoms include loss of motivation, loss of interest or enjoyment in daily activities, withdrawal from social life, difficulty showing emotions, and difficulty functioning normally. In extreme cases, a person might stop moving or talking for a while, which is a rare condition called catatonia. These symptoms are sometimes mistaken for symptoms of depression or other mental illnesses.

Cognitive symptoms include problems in attention, concentration, and memory. These symptoms can make it hard to follow a conversation, learn new things, or remember appointments. A person's level of cognitive functioning is one of the best predictors of their day-to-day functioning. Healthcare providers evaluate cognitive functioning using specific tests.

The world can seem like a jumble of ideas, images and sounds. Their behavior may be strange, even surprising. Changes in personality and behavior occur when a person with this disease falls into a state of reality known as a psychotic episode. While some people have only one mental disorder, others have and live around more than one mental disorder throughout their lives. Others may improve cognitive function over time but may experience little improvement in overall mental health. Schizophrenia symptoms develop and improve in cycles called relapse and remission. Paranoia is a pattern of behavior in which a person suspects and distrusts others acts accordingly [2]. Malnourished mothers during mid-trimester starvation, perinatal trauma, and cytokine exposure interpret earliest stage.

## **RISK FACTORS**

The associated risk factors are genetic and epigenetic biomarkers, cognitive and physiological determinants of exposure, and illness. The environmental factors are identified so far but are also related

to prenatal or perinatal factors. There is no definitive cause of schizophrenia. Some factors increase the risk of developing or causing schizophrenia [3]. Causes of schizophrenia include having a family history of schizophrenia, certain pregnancy and birth conditions, such as poor nutrition or exposure to toxins or diseases, affected cells communicating between brain cells, drugs affecting brain development, and suicidal thinking. Modulating (psychoactive or psychotropic) drugs in adolescence and early adulthood, suicide attempts and suicidal thoughts, anxiety and obsessive-compulsive disorder (OCD), depression, alcohol or other drugs (e.g. nicotine), inability to work or go to school, financial problems and homelessness, isolation, health and medical care, and trauma are some other risk factors associated with schizophrenia [4].

### KEY FACTS

- Schizophrenia causes psychosis and is associated with considerable disability and may affect all areas of life including personal, family, social, educational, and occupational functioning.
- Stigma, discrimination, and violation of human rights of people with schizophrenia are common.
- More than two out of three people with psychosis in the world do not receive specialist mental health care.
- A range of effective care options for people with schizophrenia exist and at least one in three people with schizophrenia will be able to fully recover.

### SYMPTOMS

Schizophrenia is characterized by significant impairments in the way reality is perceived and changes in behavior related to:

- *Persistent Delusions*: The person has fixed beliefs that something is true, despite evidence to the contrary;
- *Persistent Hallucinations*: The person may hear, smell, see, touch, or feel things that are not there;
- *Experiences of Influence, Control or Passivity*: The experience that one's feelings, impulses, actions, or thoughts are not generated by oneself, are being placed in one's mind or withdrawn from one's mind by others, or that one's thoughts are being broadcast to others;
- Disorganized thinking, which is often observed as jumbled or irrelevant speech;
- Highly disorganized behavior; for example, the person does things that appear bizarre or purposeless, or the person has unpredictable or inappropriate emotional responses that interfere with their ability to organize their behavior.
- "Negative symptoms" such as very limited speech, restricted experience and expression of emotions, inability to experience interest or pleasure, and social withdrawal; and/or extreme agitation or slowing of movements, maintenance of unusual postures.
- People with schizophrenia often also experience persistent difficulties with their cognitive or thinking skills, such as memory, attention, and problem-solving.

At least one third of people with schizophrenia experiences complete remission of symptoms. Some people with schizophrenia experience worsening and remission of symptoms periodically throughout their lives, others experience a gradual worsening of symptoms over time.

Screening tests to diagnose schizophrenia and exclude other disorders are Positive and Negative Syndrome Scale (PANSS), Scale for the Assessment of Negative Symptoms (SANS), and Scale for the Assessment of Positive Symptoms (SAPS) evaluations, Brief Psychiatric Rating Scale (BPRS), Clinical Global Impression of Schizophrenia (CGI-SCH), Carl Gary Schizophrenia Scale. Some tests include cognitive tests and personality tests [5].

### TREATMENT

The goal of treating schizophrenia is to reduce symptoms and the risk of symptoms returning or reoccurring. Atypical antipsychotics, antidepressants, lithium, and cognitive behavioral therapy were most effective in reducing symptoms or preventing progression to depression [6].

## Drugs

Medications do not cure schizophrenia, but can help relieve associated symptoms; for example, emotional problems such as delusions and hallucinations. These medications are:

- First generation antipsychotics including [3] Chlorpromazine, fluphenazine (Prolixin), haloperidol (Haldol), loxapine hydrochloride (Loxapine), perphenazine (Trilafon), thiothiazide (Navane), and Fluoperazine (Stelazine).
- "Atypical" or second-line medications used to treat schizophrenia include aripiprazole (Abilify), aripiprazole lauroil (Aristada), asenapine (Saphris), Brexpipr (Rexulti), cariprazine (Vraylar), clozapine (Clozaril), iloperidone (Fanapt), Lumateperone (Caplyta), Lurasidone (Latuda), Olanzapine (Zyprexa), Olanzapine/Samidofen (Lybalvi), Paliperidone (Invega Sustenna), Paliperidone (Invega Trinza), Quetiapine (Seroquel), Risperidone (Risperdal), and Ziprasidone (Ziperidone).
- Psychosocial therapy, rehabilitation, individual therapy, social coaching, family therapy, rehabilitation and vocational support, individual psychotherapy, group therapy/support group in hospital, electroconvulsive therapy (ECT), and deep brain stimulation (DBS) are also employed [2, 7–9].

## CASE PRESENTATION

A 38-year-old female patient was presented to the outpatient department (OPD) No. 3 (Panchakarma OPD), Sardar Ayurved College and Hospital, Gujarat, India with the chief complaint of *Smrutinasha* (forgetfulness), *Aspashta-Asambandhavaka pravriti* (non-sense words, combination of meaningless words) *Balakavata shabdauchharana evam vyavahara* (childish tone and childish behavior), *Atichintita* (excessive anxiety and fear), *Manoavasada* (depression), *Atikrodha* (excessive anger), *Manobhavavihina Mukha* (doesn't make eye contact, doesn't change facial expressions), *Karmanekastata* (decreased or lack of normal activity), *Shirahashoola* (headache), *Vibandha* (constipation) and *Bhrama* (fainting) for last 12 years. As a result, the patient consulted many psychiatrists but could not find help. She also consulted an Ayurvedic doctor and took medication for 10 days and underwent *Shirodhara* procedure but still could not get relief.

## Medical History

The patient had been healthy before 12 years. She was talkative, friendly, and extremely sensitive to the people around her. After marriage, she experienced more stress, anxiety and insecurity in her daily life. Six months after their marriage, she suddenly attempted suicide (for an unknown reason, according to his family), fell into a coma, and was admitted to intensive care. After waking up, she lost her memory and gradually developed the above symptoms. A psychiatric doctor was consulted and Tab. Alprazolam (0.25 mg) (0-0-1), Tab. Amitriptyline (25 mg) (1-0-1), Tab. Escitalopram (10 mg) (1-0-0), Tab. Sodium propionate (200mg) (1-1-1)] were prescribed and treatment was started. After 15 days, the patient became hemodynamically stable and can be discharged. All the symptoms of mental illness appeared afterwards.

## Investigations

- 20/09/2012: Psychiatric evaluation data: Dissociative disorder with depressive symptoms.
- 16/12/2013: Brain magnetic resonance imaging (MRI)—No exceptions produced.
- 21/10/2021: "Rorschach (inkblot) test"—Results showed schizophrenia
- 29/11/2021: Lumbar spine MRI: Cervical spines showed small spinal lesions, dorsal spines was abnormal. There was significant right postero-lateral disc swelling at the L5-S1 level, causing further indentation of exists in nerve on the right side.
- 10/04/2023: No participation during consultation (question-answer session)

## Samprapati

- *Dosha - Kapha Vata Pradhana Tridoshajavyadhi.*
- *Dushya - Rasa, Rakta, Hridaya, Mastikya.*

- *Agni- Jatharagni,*
- *Srotas- Manovahastotas*
- *Srotodushti - Sanga*
- *Vyadhiudbhav asthana- Hridaya, Mastikya*
- *Avastha- Chirakari and Prabhava-Kruchhasadhyad Asah.*

Ayurvedic medicines given (from 10-04-2023 to 17-04-2023) are mentioned in Table 1.

### **Brahmi Churna**

There are *Tikta, Madhura, Kashaya rasa; Madhura Vipaka; Shita Virya; Rasayani; Medhya; Swarya* and *Smritiprada*. It acts directly on the *Manohvaha srotas* (central nervous system, including the limbic system). *Brahmi* has neuroprotective, anxiolytic (anti-anxiety) and antidepressant properties. Bronchiectasis and digestive ulcer prevention directly supports the brain, increasing certain brain chemicals involved in thinking, learning and memory. A potential mechanism that may contribute to cognitive improvement involves changes in acetylcholine release, muscarinic cholinergic receptor binding and choline acetylase activity. Saponins in *Bacopa monnieri* regulate hypothalamic-pituitary-adrenal (HPA) axis output and protect the hippocampus. *Brahmi* has anti-inflammatory properties by activated microglia. Microglia responds to any insult by transforming into a neuroprotective or neurotoxic phenotype that releases pro-inflammatory cytokines [9].

It has been described as a calming cognitive enhancer. Various clinical studies have shown that *Bacopa* can improve language learning, word recall, delay memory, and reduce anxiety. It is described as a calming cognitive enhancer. *B. monnieri* refers to a class of herbs believed to improve mental health, memory and intelligence, and promote healing and longevity as “*medhyarasayana*.”

### **Sankapushpi Churna**

Regulates the production of stress hormones (such as adrenaline and cortisol). *Shankpushpi* is considered *Medhya Rasayana* meaning medicine that heals, regulates and enhances intelligence and memory. *Shankpushpi* balances neurotransmitter levels and improves children's attention and concentration by balancing neurotransmitters such as epinephrine, glutamate and acetylcholine. The pharmacological properties of SP (Sankhapushpi drug) provide health benefits, including anti-inflammatory, antioxidant, and immunomodulatory properties. It possess *Katu, Kashaya rasa; Guru, Sara, Snigdha, Pichchila gunas, Ushna Virya, Madhura Vipaka* that increases longevity, strength, digestion and complexion. It supports the body's sensory and motor functions and is effective against central nervous system, depression, anxiolytic, sedative, antidepressant, anti-anxiety, neurodegenerative disease, anti-amnesic, antioxidant, hypolipidemic, immunomodulatory, analgesic, antifungal, antibacterial, antidiabetic, antiulcer, heart disease. This herb promotes peace, calmness, good sleep and reduce stress, anxiety and mental fatigue [10, 11].

### **Vacha Churna**

It acts as a brain tonic (*Medhya*). It has also been reported to have sedative, antibacterial, antidiarrheal, antidyslipidemic, neuroprotective, antioxidant, anti cholinesterase, antispasmodic, anti-ulcer, anthelmintic, anti-inflammatory and analgesic activities. Most of this activity is attributed to the aromatic oil found in the rhizomes. Acorus essential oil has also been reported to have anti-epileptic properties against seizures caused by various mutations [12–14].

Ayurvedic methods mentioned in Table 2. Move through the process of using a single medication.

**Table 1.** Ayurvedic medicine.

Medicine	Dose	Time and route of administration	Anupana
<i>Brahmi churna+Sankpushpi chura+ Vacha churna</i>	3 g+3g+1 g	Twice a day, empty stomach	Cow milk

### **Shirodhara with Brahmi Taila**

This *Shirodhara* causes a state of unconsciousness, thus achieving balance between body and mind. This is *bahyasnehana* (external oil therapy) which works directly on *vata dosha*. *Brahmi taila* is mainly used for neurological and mental diseases. In the living body, the head is the source of all the senses or *Indriyas*, also called *Uttamanga*, so that it gives direct power to the *Prana* and *Indriyas*, which are the greatest fatigue in mental illness. *Indriyas* are closely associated with the mind, so when the *Indriyas* are healthy, the mind is also healthy. Conflict between *Prana*, *Udana* and *Vyana Vayu*, *Sadhaka Pitta* and *Tarpak Kapha* causes anxiety and depression [15, 16].

### **Nasya with Phalaghrita**

It reaches the brain through the nose and causes higher regions. The nervous system exerts local and physical effects by controlling different neurological, endocrine and circulatory functions. The olfactory nerve connects the higher places to the brain, which is the main chemoreceptor. The limbic system consists of the amygdala complex, hypothalamus, epithalamus, anterior thalamic nucleus part of the thalamus, and anterior thalamic nucleus part of the basal ganglia. Therefore, controlled by the nose, it stimulates the upper parts of the brain, exerting an endocrine regulatory effect and brain functions, and directly regulating brain neuro chemicals and neuro conductivity meters in the body. In this way, mental disorders can be treated directly. This *ghrita* has the qualities of *sodhana*, *ropana*, *prasadana*, *rasayana*. Thus acting directly on *majjadharakala*, it brings out *avarana* and *samprapti vighatana* from *mastiskya*.

## **OBSERVATION AND RESULTS**

After 7 days of medication and the above *Panchakarma* process, the patient achieved the results as mentioned in Table 3.

**Table 2.** Ayurvedic procedure: (from 18-04-2023 to 25-09-2023).

Procedure	Medicine	Dose	Duration
<i>Shirodhara</i>	<i>Brahmitaila</i>	Q.S.	10 days in every sitting
<i>Nasya</i>	<i>Phalaghrita</i>	8 drops in each nostril	10 days in every sitting

**Table 3.** Observations and result.

Symptoms	10/04/2023	17/04/2023	23/05/2023	27/06/2023	22/07/2023	29/08/2023	25/09/2023
<i>Smrutinasha</i> (Memory loss)	++++	++++	+++	++	++	+	+
<i>Aspasta-Asambandhavakpravriti</i> (Irrelevant speech, putting together meaningless words)	++++	++++	+++	+++	+	-	-
<i>Balakavatasabdauchharana evam vyavahara</i> (Childish tone and childish behavior)	++++	++++	++++	++	+	-	-
<i>Atichintita</i> (Excessive stress and fear)	++++	++++	+++	+++	+	+	+
<i>Manoavasada</i> (Depression)	++++	++++	+++	+++	+	-	-
<i>Atikrodha</i> (Excessive anger)	+++	+++	++	++	-	-	-
<i>Manobhavavihina</i> (Doesn't make eye contact, doesn't change facial expressions)	++++	++++	++	++	-	-	-
<i>Karmanekashitata</i> (Reduced or lack of ability to function normal)	++++	++++	+++	+++	+	-	-
<i>Shirashoola</i> (Headache)	++++	++++	++	+	-	-	-
<i>Vibandha</i> (Constipation)	+++	+	+	-	-	-	-
<i>Bhrama</i> (Fainting)	+++	++	+	-	-	-	-

## CONCLUSION

The present study concluded that there was not a single disease in *Ayurveda* which can be completely correlated as Schizophrenia. This study concluded that because of the proper *Ayurveda* concepts and potent medicines, the pathological condition was cured. Schizophrenia can also be benefited by oral medicines.

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