

# A Review of Psychosis and Anti-Psychotic Plants

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**Abstract:** *A class of severe mental diseases known as psychosis includes schizophrenia, schizoaffective, and affective disorders. Worldwide, around 1% of people suffer with psychosis, and the number rises for those whose close relatives have had the illness. Hallucinations, delusions, flat affect, amnesia, alogia, avolition, and anhedonia are typical signs of psychosis. Dizziness, hyperglycemia, weight gain, tardive dyskinesia, neuroleptic malignant syndrome, sexual dysfunction, agitation, and drowsiness are some of the severe side effects of currently marketed medications including chlorpromazine, haloperidol, clozapine, risperidone, and olanzapine. There is currently no effective treatment for managing or preventing psychosis. Consequently, there is a growing need for herbal therapy. This page compiles data on potential plants and dietary supplements that might alleviate psychotic symptoms without causing negative side effects. In order to assist researchers create novel anti-psychotic herbal formulations, the current review covers anti-psychotic plants, their biological source, common name, and other biological activities.*

**Keywords:** Psychosis, Antipsychotics, Schizophrenia, Herbalism, Adaptogens

## I. INTRODUCTION

Because to the harsh atmosphere, urbanization, and ambitious lifestyle, mental problems have become more common. One of the most crippling, complicated, and expensive illnesses is psychosis. "Psyche" means "mind" or "soul," while the Greek term "-oasis" denotes an aberrant state. As a result, psychosis is often defined as a "loss of contact with reality." These conditions affect a person's capacity for rational thought, sound judgment, emotional response, effective communication, reality comprehension, and proper behavior. Positive, negative, and cognitive symptoms are the three main categories of symptoms that define it. Hallucinations, delusions, strange conduct, and positive formal thinking disorders are examples of positive symptoms, which are defined as a lack of reality awareness. Flat affect, alogia, avolition, and anhedonia are examples of negative symptoms, which are defined as a reduction in or lack of typical activities. Deficits in attention, learning, memory, focus, and executive functions (abstract thinking, problem solving) are examples of cognitive symptoms.

## RISK FACTORS OF PSYCHOSIS

A neurodegenerative disease (like Alzheimer's or Parkinson's);

An hereditary problem made worse by stress and hormone fluctuations;

A family history of psychosis or psychotic diseases;

A virus Chemical imbalances in the brain, including dopamine, glutamate, gamma-aminobutyric acid, acetylcholine, serotonin, and norepinephrine; depletion of specific fatty acids in cell membranes;

drug abuse or traumatic injury; dietary exorphins from milk; genetic predisposition interacting with an excess of dietary proteins; brain miswiring during development; perinatal hypoxia;

social stressors in urban environments; antidepressants and serotonin reuptake blockers, including prozac, ecstasy, and lysergic acid diethylamide, cause hallucinations, and false memories; Chronic alcoholics experience memory loss, cognitive dysfunction, gray matter loss, and disarray of thought. PCP, also referred to as "angel dust," causes both positive and negative symptoms of psychosis.

Pure cocaine and methamphetamine cause positive symptoms of schizophrenia, as well as withdrawal dysphoria. Special K, also known as ketamine, causes psychosis similar to schizophrenia in healthy people.

### PHARMACOLOGICAL TREATMENT OF PSYCHOSIS

The terms neuroleptic medicines and neuroleptics, which are derived from Greek, where neuro means nerves and lept means "to take hold of," are also used to refer to anti-psychotic medications. Therefore, "taking hold of one's nerves" is what the name neuroleptic signifies. The mainstay of both acute and long-term therapy for schizophrenia, antipsychotic medications also effectively cure delusions, hallucinations, and cognitive impairments. Typically, antipsychotic drugs are divided into two groups: first-generation (typical) and second-generation (atypical). First-generation (typical) antipsychotic medications: The first antipsychotic medication was chlorpromazine, a phenothiazine that was created as a surgical anesthetic.

The anti-psychotic medication reserpine, which is derived from the rauwolfia plant, was launched shortly after chlorpromazine. Chlorpromazine, triflupromazine, thioridazine, trifluoperazine, fluphenazine, haloperidol, trifluoperidol, penfluridol, flupenthixol, pimozide, and loxapine are common antipsychotic medications. Clozapine, risperidone, olanzapine, aripiprazole, quetiapine, ziprasidone, and sulpiride are examples of second generation (atypical) antipsychotic medications [3]. Atypical antipsychotics are categorized based on their pharmacological characteristics, while typical antipsychotics are categorized based on their chemical structure.

The primary distinction between the first- and second-generation antipsychotics is that the former inhibit dopamine while the latter also alter serotonin levels. In contrast to conventional antipsychotics, atypical antipsychotics are often thought to be more effective and to have less adverse effects. Research indicates that compared to first-generation medications, several second-generation medications have less severe adverse effects associated to mobility. When treating schizophrenia, second-generation antipsychotics are often the first option. Although clozapine is unique in that it often works even after other drugs have failed, it is rarely the primary treatment option since it necessitates monitoring white blood cell levels. Dizziness, hyperglycemia, weight gain, tardive dyskinesia, neuroleptic malignant syndrome, sexual dysfunction, agitation, and drowsiness are among the negative side effects of synthetic anti-psychotic medications. There is an urgent need for ongoing research on safe natural therapies. Because of their many therapeutic uses, greater safety margins, and lower prices, herbal medicines are much sought after for basic healthcare in both developed and developing nations (Table 1). Herbal remedies and dietary supplements may help with psychotic symptoms.

### SOME DIETARY SUPPLEMENTS TO IMPROVE SYMPTOMS OF PSYCHOSIS

Vitamins that are antioxidants According to reports, schizophrenia is associated with a higher formation of free radicals, and antioxidants aid lower the risk of

**Table 1: A brief description of some anti-psychotic plants**

Serial No.	Botanical Name (Family)	Common/Local Name	Other Herbal Uses/Activities
1	<i>Allium cepa</i> (Liliaceae)	Onion	Anti-diabetic, anti-inflammatory, and antioxidant properties; widely used in traditional medicine
2	<i>Allium sativum</i> (Liliaceae)	Garlic	Anti-diabetic, antihypertensive, hypolipidemic, antimicrobial, and anticancer activities
3	<i>Annona squamosa</i> (Annonaceae)	Sitaphal	Anti-diabetic, hepatoprotective, anti-inflammatory, antioxidant
4	<i>Azadirachta indica</i> (Meliaceae)	Neem	Antidiabetic, anti-inflammatory, antiviral, and antioxidant activity
5	<i>Bougainvillea spectabilis</i> (Nyctaginaceae)	Bougainvillea	Antidiabetic and antihyperlipidemic
6	<i>Cajanus cajan</i> (Fabaceae)	Pigeon pea	Antidiabetic, antioxidant

7	<i>Calotropis gigantea</i> (Asclepiadaceae)	Akanda	Antidiabetic, anti-inflammatory, hepatoprotective
8	<i>Catharanthus roseus</i> (Apocynaceae)	Sadabahar	Antidiabetic and antioxidant
9	<i>Coccinia indica</i> (Cucurbitaceae)	Kundru	Antidiabetic and antioxidant
10	<i>Curcuma longa</i> (Zingiberaceae)	Haldi (Turmeric)	Antioxidant, anti-inflammatory, anti-cancer
11	<i>Cynodon dactylon</i> (Poaceae)	Doob grass	Antidiabetic, antioxidant
12	<i>Ficus racemosa</i> (Moraceae)	Gular	Antidiabetic and antimicrobial
13	<i>Gymnema sylvestri</i> (Asclepiadaceae)	Gurmar	Antidiabetic, anti-obesity, hypoglycemic
14	<i>Mangifera indica</i> (Anacardiaceae)	Mango tree	Antidiabetic and antioxidant
15	<i>Momordica charantia</i> (Cucurbitaceae)	Bitter gourd	Antidiabetic, anti-inflammatory, and antioxidant
16	<i>Ocimum sanctum</i> (Lamiaceae)	Tulsi	Antidiabetic, anti-inflammatory, antimicrobial, and antioxidant
17	<i>Phyllanthus emblica</i> (Euphorbiaceae)	Amla	Antioxidant, antidiabetic
18	<i>Psidium guajava</i> (Myrtaceae)	Guava	Antidiabetic, antioxidant
19	<i>Syzygium cumini</i> (Myrtaceae)	Jamun	Antidiabetic, antioxidant
20	<i>Tinospora cordifolia</i> (Menispermaceae)	Giloy	Immunomodulator, anti-inflammatory
21	<i>Trigonella foenum-graecum</i> (Fabaceae)	Fenugreek	Antidiabetic and antioxidant
22	<i>Zingiber officinale</i> (Zingiberaceae)	Ginger	Antidiabetic, anti-inflammatory, antioxidant
23	<i>Withania somnifera</i> (Solanaceae)	Ashwagandha	Adaptogen, anti-inflammatory, antioxidant
24	<i>Lawsonia inermis</i> (Lythraceae)	Mehndi	Antidiabetic and hepatoprotective
25	<i>Lantana camara</i> (Verbenaceae)	Unknown	Antidiabetic and antioxidant
26	<i>Moringa oleifera</i> (Moringaceae)	Drumstick tree	Antidiabetic, anti-inflammatory
27	<i>Nardostachys jatamansi</i> (Valerianaceae)	Jatamansi	Anti-depressant, anxiolytic, anti-Parkinson's, and neuroprotective
28	<i>Ocotea odorifera</i> (Lauraceae)	Sweet wood	Anti-inflammatory, anti-intestinal, and anti-nociceptive
29	<i>Ocimum sanctum</i> (Lamiaceae)	Tulsi	Anti-diabetic, anti-inflammatory, anti-anxiety, anti-cancer, anti-fertility, antioxidant, immunomodulatory
30	<i>Panax ginseng</i> (Araliaceae)	American ginseng	Anti-senility, anti-proliferative, adaptogenic, memory stimulant
31	<i>Passiflora incarnata</i> (Passifloraceae)	Passion flower	Anxiolytic, sedative, and anti-diabetic

32	<i>Piper retrofractum</i> (Piperaceae)	Long cayna	Anti-inflammatory, anti-oxidant, anti-diabetic, anxiolytic, antimicrobial, and aphrodisiac
33	<i>Rondeletia odoratum</i> (Rubiaceae)	Emetic nut	Anti-hyperlipidemic, anti-allergic, and anxiolytic
34	<i>Rauwolfia tetraphylla</i> (Apocynaceae)	Devil pepper	Anxiolytic, antidepressant, anti-viral, anti-diabetic
35	<i>Rumex patientia</i> (Crassulaceae)	Monk's rhubarb	Aphrodisiac and anti-diabetic
36	<i>Saccharum munja</i> (Poaceae)	Sugar cane (rootstock)	Anti-diabetic, anti-hemorrhagic, and diuretic
37	<i>Solanum nigrum</i> (Solanaceae)	Black nightshade	Anti-inflammatory, hepatoprotective, antitumor
38	<i>Terminalia bellerica</i> (Combretaceae)	Bahera	Antioxidant, analgesic, anti-inflammatory
39	<i>Terminalia chebula</i> (Combretaceae)	Haritaki	Anti-inflammatory and memory enhancer
40	<i>Tetracarpidium conophorum</i> (Euphorbiaceae)	Nigerian walnut	Anti-microbial, anti-inflammatory, and anti-oxidant
41	<i>Thevetia peruviana</i> (Apocynaceae)	Yellow oleander	Anti-inflammatory, anti-diabetic
42	<i>Tinospora cordifolia</i> (Menispermaceae)	Guduchi	Anti-microbial, anti-diabetic, anti-inflammatory, hepatoprotective, and immunomodulatory
43	<i>Valeriana officinalis</i> (Valerianaceae)	All-Heal	Anxiolytic, sedative, hypnotic, and anti-arrhythmic
44	<i>Vervascum thapsus</i> (Verbenaceae)	Monk's pepper	Anti-depressant, anti-inflammatory, and anxiolytic
45	<i>Withania somnifera</i> (Solanaceae)	Ashwagandha	Anti-oxidant, anti-inflammatory, anti-stress, anti-anxiety, and immunomodulator
46	<i>Ziziphus jujuba</i> (Rhamnaceae)	Sour date	Anti-anxiety, anti-oxidant, wound healing

schizophrenia. The short psychiatric rating scale score is improved and oxidative stress is decreased when vitamin C and vitamin E are taken orally in combination with an atypical antipsychotic.

#### EICOSAPENTAENOIC ACID (EPA) OMEGA-3 FISH OILS

According to some experts, taking fish oil capsules that are rich in EPA (a kind of Omega-3 fatty acid) may help persons with schizophrenia by reducing their symptoms.

#### GLYCINE

Numerous modulatory sites on the N-Methyl-D-aspartate (NMDA) receptor influence its activation. Dissociative anesthetics like PCP ("angel dust") and ketamine, which act as non-competitive antagonists and cause symptoms of schizophrenia, have a binding location inside the channel. It is well known that glycine functions as an NMDA agonist. It might out to be a very advantageous adjunctive therapy when used with conventional antipsychotic drugs.

#### II. CONCLUSION

Since the dawn of civilization, people all across the globe have used plants to heal illnesses. Because plants are safe, affordable, and effective, there has been an increase in interest in using them therapeutically. A few plants that have

been previously investigated by different researchers for their antipsychotic properties have been highlighted in this study. All things considered, behavioral research on plants has produced a rare chance to discover novel pharmacotherapies for psychosis. Clinical research may be warranted to better assess the herbal extracts and ingredients that have shown psychotherapeutic benefits in animal models. Certain nutritional supplements, including EPA omega-3 fish oils and antioxidant vitamins, may also assist to alleviate psychotic symptoms. Therefore, herbal treatment combined with food supplements may provide superior effects. However, our lifestyle choices also affect our health.

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