



Depression: Types, Symptoms And Treatment

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Abstract:

An estimated 3.8% of the world's population suffers from depression, including 5.0% of adults and 5.7% of persons over the age of 60. About 280 million people around the world suffer from depression. Depression is different from the usual mood swings and transient emotional reactions to problems in everyday life. Depression can progress to a serious illness, especially if it is recurrent and of moderate to severe severity. It could be characterised as sorrowful, grieving, or angry feelings. Depression is a severe condition with clinical and sociological significance. Major depression is more common in women than in males.

Keywords: Depression, Serotonin, Monoamines, Antidepressant, Norepinephrine

Introduction: Depression (also called major depressive disorder or clinical depression) is a common but serious mood disorder. It causes serious side effects that influence how you feel, think, and handle everyday exercises, like resting, eating, or working. Depression is a prevalent mental illness. According to estimates, 5% of adults worldwide experience depression.

Depression affects more women than males. Suicide can result from depression. Depression can be effectively treated at all stages—mild, moderate, and severe. The discovery of antidepressant medicines in the 1950s prompted the first biochemical hypothesis of depression, who proposed that a defect in central monoaminergic activity is the underlying lesion status.

Disorder creates significant distress and interruption in one's life, and if left untreated, it can be fatal. A psychopathological state is characterised by a triad of symptoms, including low or depressed mood, anhedonia, and low energy or exhaustion. Additional symptoms include sleep and psychomotor difficulties,

feelings of guilt, low self-esteem, suicidal impulses, and autonomic and gastrointestinal disorders. Depression has a lifetime frequency of up to 20% in the general population worldwide, with a female to male ratio of roughly 5:2. Depression raises the chance of developing cardiac illness, particularly coronary artery disease, and lowers the prognosis following a heart attack. Norepinephrine (NE), 5-HT, and/or dopamine (DA), the brain's monoaminergic transmitters, are functionally deficient in depression, while an excess of monoamines at key brain synapses results in mania.

Reserpine, an antihypertensive medication that depletes NE, 5-HT, and DA presynaptic reserves, induces a condition that resembles depression. First-generation antidepressants, tricyclic antidepressants (TCAs) and MAO inhibitors (MAOIs) increase 5-HT and/or NE concentrations and effectively relieve symptoms of depression. Impaired corticosteroid receptor signaling is a key mechanism in the pathogenesis of depression. Both stress and depression have been associated with weakened immune function and increased susceptibility to infectious and tumor diseases. The application of magnetic resonance imaging (MRI) and positron emission tomography (PET) techniques revealed several abnormalities in the brains of patients with severe depression. Depression (also called major depressive disorder or clinical depression) is a common but serious mood disorder. It causes serious side effects that influence how you feel, think, and handle everyday exercises, like resting, eating, or working.

The signs of depression must last for at least two weeks before a diagnosis may be made. There are various forms of depression, some of which are brought on by certain events.

Different Types of Depression:

- **Major depression** - which comprises depressive symptoms that are present the majority of the time for at least two weeks and frequently make it difficult to work, sleep, study, or eat.
- **Catatonia** - depression includes motor activity involving aimless, uncontrolled movements or a fixed, inflexible posture.
- **Melancholic features** - severe depression unresponsive to anything pleasurable and associated with early morning awakening, bad mood in the morning, major changes in speech taste and guilt, restlessness or sluggishness Persistent **depressive disorder**
- (also known as dysthymia), which frequently involves less severe depressive symptoms that last for a longer period of time, usually for at least two years
- **Perinatal depression** - this happens when a woman has severe depression either during her pregnancy or right after giving birth (postpartum depression)

- **Seasonal affective disorder-** come and go seasonally, usually beginning in late fall and early winter and disappearing in spring and summer.
- **Depression with symptoms of psychosis-** it is a severe form of depression when a person experiences psychotic symptoms, such as delusions (worrying, false, and fixed beliefs) or hallucinations (hearing or seeing things that others do not see or hear).

Pathophysiology of Depression:

Selective serotonin reuptake inhibitors (SSRIs), an antidepressant, can lessen depression symptoms but can also leave behind side effects. Serotonin (5-HT) activity is increased by the action of SSRIs, while norepinephrine (NE) and dopamine (DA) activity are decreased. Clinical professionals may be able to assist patients with persistent symptoms and treatment-resistant depression by targeting additional targets (e.g., NE, DA) in addition to 5-HT.

The primary method of communication between nerves is chemical transfer. Pre- and postsynaptic events are highly controlled and serve as the foundation for plasticity and learning in the central nervous system (CNS), it is now well accepted. A number of processes are necessary for chemical transmission, including the synthesis of the neurotransmitters, their storage in secretory vesicles, and their controlled release into the synaptic cleft between pre- and postsynaptic neurones. Additionally, the action of the neurotransmitters must be stopped, and the final cellular responses must be induced via various steps in the signal transduction cascade. The process of synthesis begins with the facilitation of amino acid transport from the blood to the brain, where precursors are transformed into transmitters by enzymatic processes, stored in synaptic vesicles, and then released into the synaptic cleft by a Ca^{2+} -dependent process. Because the pace at which neurones fire determines how quickly neurotransmitters are released, diseases or medications that change the firing rate also change how quickly neurotransmitters are released. Since binding of the released transmitter molecules results in decreased synthesis or further release from the presynapse, the somato dendritic autoreceptors are another crucial component of the regulating process of release. By binding the transmitters to the synaptic membrane, which are frequently connected to guanine nucleotide-binding proteins (G-proteins), the synaptic effects are stopped. Adenyl cyclases, phospholipases, and the phosphoinositide-mediated system are just a few of the effector systems within the cells that these G-proteins influence, making them crucial early regulatory components in transmembrane signalling. Early cellular events in the signal transduction cascade, such as an increase in intracellular calcium ion concentrations or second messengers like cyclic adenosine monophosphate (cAMP), start a pathway by phosphorylating protein kinases, which in turn controls a variety of biological responses and short- and long-term brain functions by regulating neuronal ion channels, receptor modulation, neurotransmitter release, and, ultimately, synaptic potentiation. Depression may be caused, in part, by dysfunction in one or more of the chemical transmission's phases. On the other hand, it is now well-established that antidepressant activity targets these systems.

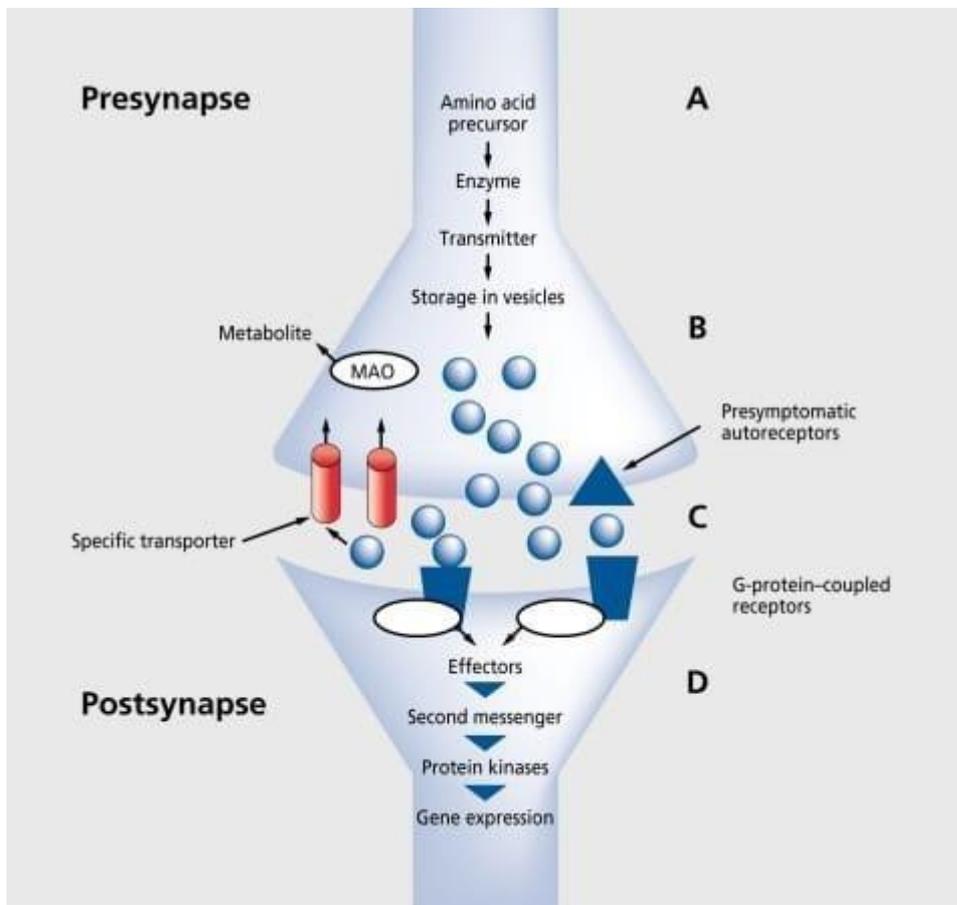


Fig. Schematic representation of a synapse for classic neurotransmitters

Signs and Symptoms:

You may have depression if you have had the following signs and symptoms of depression most days for at least two weeks:

- Moods such as anger, aggression, irritability, anxiety and restlessness
- Feelings of hopelessness, worthlessness, pessimism
- Feeling harassed, annoyed, or angry
- Decreased energy or fatigue
- Difficulty concentrating, remembering, or making decisions
- Sleep disturbance, early morning awakening, oversleeping
- changes in appetite or weight;
- chronic body pain that has no obvious cause and does not improve with treatment (headache, tingling, digestive problems, cramps)
- Thoughts of death, suicide, self-harm or suicide attempt.

• Causes of Depression :

There are several possible causes of depression. They can range from biological to circumstantial.

Common causes include :

- **Brain chemistry-** There may be chemical imbalances in parts of the brain that control mood, thinking, sleep, appetite and behavior in people with depression.
- **Hormone levels-** Changes in the female hormones estrogen and progesterone during different phases of the menstrual cycle, postpartum, perimenopause, and menopause can increase the risk of depression.
- **Medical conditions-** Certain medical conditions can increase your risk of: B. Chronic disease, insomnia, chronic pain, Parkinson's disease, stroke, heart attack, cancer.
- **Pain-** People who experience long-term emotional or chronic physical distress are significantly more likely to develop depression.
- **Genes-** Depression in the family may raise the risk. Since depression is considered to be a complicated trait, it is more likely that there are numerous small-effect genes at play than a single gene that increases the risk of developing the condition. Like other mental disorders, the genetics of depression is not as clear-cut or easy as it is in diseases that are solely genetic, such as Huntington's chorea or cystic fibrosis.
- **Significant occurrences-** Depression can result from happy life events like starting a new job, graduating, or getting married. Moving, losing a job or source of money, divorcing, or retirement can also do this. Yet, a "natural" reaction to stressful life situations is never the clinical depressive syndrome.
- **Certain medicines-** Isotretinoin, a medication used to treat acne, is one example that can increase your risk of depression.

Below are some examples of things that can cause depression:

Situation	Event
Not having a job	Getting married or divorced
Not sleeping well	Being diagnosed with an illness
Money worries	Moving house
Work problems	Having a job interview
Being bullied	Someone close to you passing away
Problems looking after children	Being evicted from your home
Health issues	Leaving hospital after a long stay
Family or relationship problems	Going to court
Not having a routine	Going to a benefits assessment

Who is affected by depression?

Anybody can experience depression, including both adults and children. In comparison to men and those assigned male at birth, women and those assigned female at birth are more prone to experience depression. Depression is more likely to occur if you have certain risk factors. As an illustration, the following circumstances are linked to higher rates of depression:

- Neurodegenerative conditions including Parkinson's and Alzheimer's disease.
- Stroke.
- MS, or multiple sclerosis.
- Seizure conditions.
- Cancer.
- Degeneration of the macula.
- Prolonged pain.

Risk factors:

Risk factors for depression can be biochemical, medical, social, genetic, or situational. Common risk factors include:

- Socioeconomic status** - Socioeconomic status, such as financial problems and low social status, can increase the risk of depression.
- **Gender identity**- A 2018 study found that transgender people are almost four times more likely to develop depression than cisgender people.
- **Substance misuse**-About 21% of people with substance use disorders also experienced depression.
- **Medical illnesses**- Depression is associated with other chronic diseases. People with heart disease are about twice as likely to be depressed as those without, and one in four cancer patients are also likely to be depressed.

Treatment for depression:

In some cases, one treatment may be successful in managing symptoms, and in other cases a combination of

treatments may prove most effective. It is common to combine treatment with lifestyle therapy, such as:

- **Medications**-Your healthcare professional may prescribe:
 - **Selective serotonin reuptake inhibitors (SSRIs)**- SSRIs are the most commonly prescribed antidepressants and usually have few side effects. They treat depression by increasing the availability of the neurotransmitter serotonin in the brain .
 - **Serotonin and norepinephrine reuptake inhibitors (SNRIs)**-SNRIs treat depression by increasing levels of the neurotransmitters serotonin and norepinephrine in the brain.
 - **Inhibitors of monoamine oxidase (MAOIs)**- Because they can have severe side effects, MAOIs, such as tranylcypromine (Parnate), phenelzine (Nardil), and isocarboxazid (Marplan), may be administered when other medications haven't helped. Due to potentially fatal interactions between various foods, including some cheeses, pickles, and wines, as well as some drugs and herbal supplements, using MAOIs necessitates adhering to a rigorous diet. Selegiline (Emsam), a more recent MAOI that is applied as a patch to the skin, might have less adverse effects than previous MAOIs. SSRIs cannot be taken with these drugs.
 - **Psychotherapy**-Talking with a therapist can help you learn skills to deal with negative emotions. You can also benefit from her sessions in family and group therapy. Psychotherapy, also known as "talk therapy," involves talking with a trained therapist to learn to identify and manage factors that contribute to mental health. B. Depression.
 - **Light therapy**-Exposure to large amounts of white light can help regulate mood and improve symptoms of depression. Light therapy is now common for seasonal depression, known as seasonal pattern major depression.

Natural Treatment:

You can't usually treat a disorder like depression by yourself. Yet in addition to medical care, the following self-care measures can be beneficial:

- **Adhere to your treatment schedule**- Never miss a psychotherapy appointment or session. Do not skip taking your meds, even if you are feeling fine. If you quit, your depressive symptoms can return, and you

might also feel like you're withdrawing. Understand that feeling better will not happen overnight.

- **Study up on depression-** Learning more about your disease might give you confidence and inspire you to follow your treatment plan. To help them understand and support you, encourage your family to learn about depression.
- **Watch out for warning indications-** Learn what can set off your depressive symptoms by consulting your physician or therapist. Plan beforehand so you'll know what to do if your symptoms worsen. If your symptoms or how you feel change, consult your physician or therapist. Encourage friends or family to keep an eye out for warning indicators.
- **Avoid using recreational drugs and alcohol-** Although it may appear that alcohol or drugs relieve the symptoms of depression, in the long run, these substances usually make the condition harder to manage. If you require assistance with alcohol or drug usage, speak with your doctor or therapist.
- **Ensure your own wellbeing-** Eat well, exercise frequently, and get plenty of sleep. Think about swimming, gardening, walking, jogging, or engaging in another enjoyable activity. You need quality sleep for both your physical and emotional health. See your doctor about possible solutions if you are having difficulties falling asleep.

Herbs and Supplements:

Researchers have discovered strong proof that those who consume fruits and vegetables have less signs of stress, despair, and general negativity. According to research, individuals who consume the most fruits and vegetables tend to be happier, feel more pleased, and find more meaning and fulfillment in their lives than those who consume little to no amounts of these foods.

The symptoms of depression can range from moderate to incapacitating and even life-threatening. It is a serious mood disease. Instead of using prescription drugs for depression, some people turn to natural therapies.

More than 17 million individuals in the United States suffer from depression, a mental health disease. However, given that many people with depression don't seek treatment for a variety of reasons, the true figure is likely far higher.

Psychotherapy and prescription medication are used to treat depressive disorders. Additionally, implementing lifestyle changes including dietary adjustments and supplementation may aid in recovery and lessen the likelihood of recurrence.

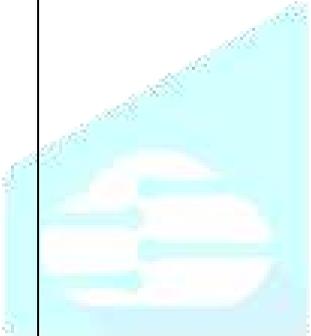
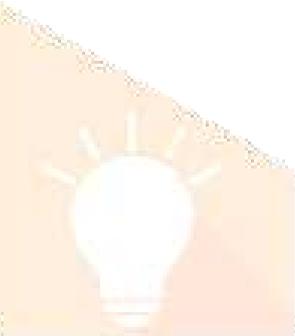
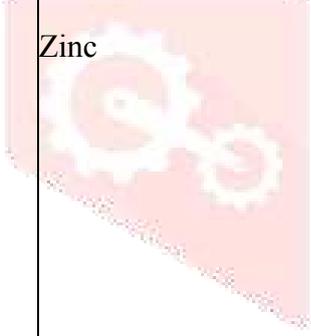
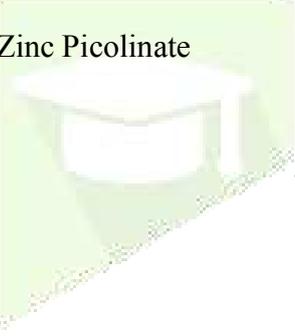
For instance, some studies suggest that some vitamins, minerals, herbs, and other substances may have an extra advantage in reducing the symptoms of depression.

The 10 supplements that may benefit people with depression.

- Rhodiola
- saffron
- omega-3s
- N-acetyl-L-cysteine
- vitamin D
- Vitamin B
- zinc
- SAM-e
- magnesium
- creatine

Drug	Active Ingredients	Action
Saffron	Saffron	Saffron raises the brain's concentration of serotonin, a chemical that improves mood.
		Serotonin reuptake is prevented by saffron.
Rhodiola	Rhodiola Extract	The herb is supposed to help those who suffer from depression by lowering overactivity of the hypothalamic-pituitary-adrenocortical (HPA) axis and by influencing molecular networks and neurotransmitter receptors.
Omega-3S	(Omega-3s) (EPA, DHA and other)	Some people may have less depression symptoms after using omega-3 supplements.

<p>N-acetyl-L-Cysteine (NAC)</p>	<p>N-acetyl-L-Cysteine</p>	<p>The amino acids L-cysteine and glutathione are precursors of NAC.</p> <p>NAC may help those with psychiatric problems who have dysregulation of neurotransmitters.</p> <p>Mood disorders and schizophrenia may both be accompanied by the dysregulation of neurotransmitters like glutamate and dopamine.</p>
<p>Vitamin D</p>	<p>Vitamin D3 and K2</p>	<p>Through a number of mechanisms, including lowering inflammation, controlling mood, and guarding against neurocognitive dysfunction, vitamin D may lower the risk of</p>
		<p>depression.</p> <p>It is possible to suggest vitamin D as a general remedy for depression.</p>

 <p>B Vitamins</p>	 <p>Thiamine, Vitamin B6, B12, Folate, Riboflavin</p>	<p>play significant roles in regulating mood and brain activity.</p> <p>The creation and control of neurotransmitters including serotonin, gamma-amino butyric acid (GABA), and dopamine depend on vitamin B, particularly folate, B12, and B6.</p> <p>According to earlier studies, depression risk may be increased by vitamin B12 and folate deficits.</p>
 <p>Zinc</p>	 <p>Zinc Picolinate</p>	<p>The mineral zinc is essential for maintaining the health of neurotransmitter pathways in the brain.</p> <p>Lack of zinc is closely associated with a higher risk of developing depression and more severe depressive symptoms.</p>

SAM-e	S-Adenosylmethionine	<p>SAMe is a chemical with sulphur that has demonstrated potential in the treatment of depression.</p> <p>It occurs naturally in your body and is crucial for proper brain function.</p>
Magnesium	Magnesium Bisglycinate	<p>Research demonstrates that supplementing with magnesium may lessen depressed symptoms. Magnesium insufficiency is typical among those who suffer from depression.</p> <p>The risk of depression is much higher in people who consume very little magnesium, particularly in younger individuals.</p>

Creatine	Creatine monohydrate	An organic acid called creatine is essential for preserving brain energy, among other things. It is believed that altered brain energy levels contribute to the development of depression.
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Other Treatment options:

Further procedures, frequently referred to as brain stimulation therapies, may be recommended for some patients:

- **Electroshock Treatment (ECT)**- With ECT, electrical currents are sent into the brain to affect the way neurotransmitters work and have an impact on your mood. People who are at high risk of suicide or who cannot take antidepressants due to medical conditions often benefit from ECT.
- **Magnetic Stimulation of the brain (TMS)**-For those who have not responded to medications, TMS may be an option. Brief magnetic pulses are sent through a treatment coil across your scalp during TMS to stimulate the brain's mood-regulating and depressive nerve cells. Ocarboxazid (Marplan) — might be used before.

Diagnosis of Depression:

- **Inspection of the body**- Your physician might conduct a medical examination and inquire about your health. Sometimes a physical health issue may be the root cause of depression.
- **Experiments in the lab**- For instance, your doctor might check your thyroid to see if it is functioning correctly or perform a blood test called a complete blood count.
- **Psychiatric assessment**- Your mental health expert will enquire about your signs, patterns of thought and behavior, and feelings. To assist in addressing these inquiries, you might be requested to complete a questionnaire.
- **DSM-5**- Your mental health professional can use the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) published by the American Psychiatric Association to determine if you meet the criteria for depression. feel or not.

Conclusion:

Depression is common and causes distress, functional impairment, increased risk of suicide, additional medical costs, and decreased productivity. Effective treatments are available whether depression occurs alone or with common medical conditions.

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