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## Review Article

# Treatment of Psychological Disorders in Parkinson's Patients

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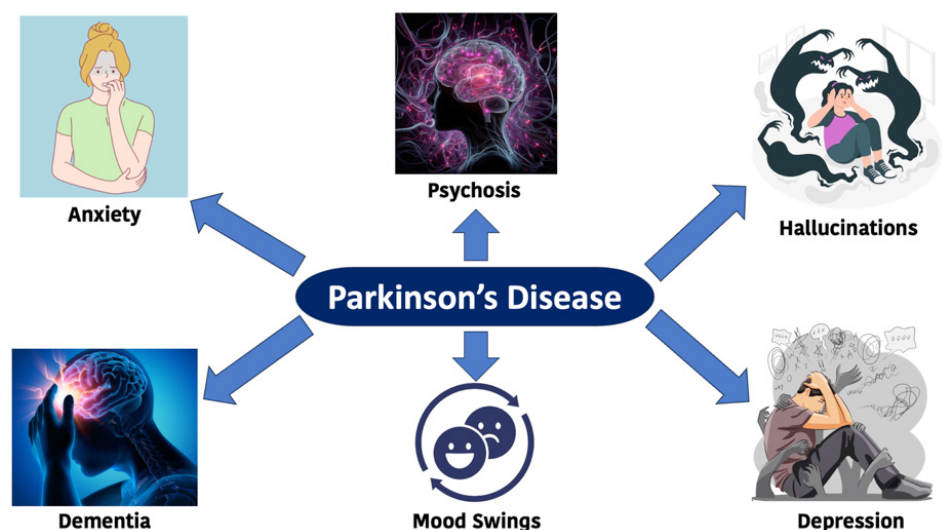
### ABSTRACT

Parkinson's disease is the second most prevalent neurodegenerative disorder after Alzheimer's disease. It is characterized by psychological disturbances and other symptoms that vary with the severity of the condition. Common mental health issues include anxiety, mood fluctuations, hallucinations, psychosis, depression, and cognitive decline. These psychiatric conditions should be taken into account when diagnosing Parkinson's disease. Therefore, an accurate diagnosis before initiating treatment is essential, as overlooking these psychological aspects can lead to suboptimal care.

**Key words:** Parkinson's disease, mood swings, anxiety, depression, hallucinations, psychosis, intellectual retardation

### INTRODUCTION

Parkinson's disease is a multifaceted condition that involves numerous mental health disorders alongside its hallmark motor symptoms, such as bradykinesia, rigidity, tremor, and postural instability. Individuals with Parkinson's often experience psychiatric issues like depression, mood disturbances, anxiety, hallucinations, psychosis, and dementia. Throughout the disease, more than half of patients develop these mental health complications. This article explores the primary psychiatric disorders associated with Parkinson's and strategies for their management. The major psychological disorders of Parkinson's disease are highlighted in **Figure 1**.



**Figure 1:** Major psychological disorders of Parkinson's disease.

## ANXIETY

Anxiety disorders include conditions such as panic attacks, obsessive-compulsive disorder, social phobia, and generalized anxiety. Individuals with Parkinson's disease are believed to have a higher likelihood of experiencing these symptoms. [1] Unlike the general population, where anxiety can appear early, it typically develops in Parkinson's patients after the onset of motor symptoms. Likewise, although anxiety is generally more prevalent in women, Parkinson's patients show no significant gender differences in its occurrence. [2]

Anxiety disorders in Parkinson's patients often occur alongside depression. [3] It has also been suggested that the neurobiology of Parkinson's disease may be linked to anxiety disorders. Some studies indicate that noradrenergic dysfunction could play a role in the pathophysiology of anxiety disorders. Post-mortem examinations of Parkinson's patients have revealed neuropathological changes in the locus ceruleus. [4]

The treatment of anxiety disorders in Parkinson's patients generally follows the same approach used for older adults with generalized anxiety disorder, with added caution to avoid drug interactions and side effects. Selective serotonin reuptake inhibitors (SSRIs) are the primary treatment option, while benzodiazepines may be used temporarily until SSRIs take effect. However, it is important to note that benzodiazepines can impair cognitive function in Parkinson's patients, especially those who already have dementia.

## MOOD SWINGS

Parkinson's patients are more prone to mood swings and depression compared to healthy individuals. [5] Approximately 40% of these patients experience depression. [6] The likelihood of depressive symptoms is higher among women, older adults, and those with cognitive decline. [7] Mood fluctuations in Parkinson's disease have been linked to neurochemical changes. The most probable neuropathological cause of mood disorders is believed to be the loss of dopamine neurons in the ventral tegmental area, which is the origin of mesolimbic dopaminergic projections.

Treatment of mood disorders in Parkinson's patients is generally similar to that of other elderly individuals. However, they are prescribed lower medication doses, and extra caution is exercised to prevent potential drug interactions and side effects (**Table 1**).

**Table 1:** Common drugs for treating mood swings.

Class of drug	Examples	Average dose (mg/day)	Comments
SSRI	Escitalopram	10	All three may also be used to treat anxiety, which would require higher doses.
	Paroxetine	20	
	Sertraline	50–100	
SNRI	Venlafaxine	37.5–150	Useful for both depression and anxiety.
TCA	Nortriptyline	50–150	Blood levels of the drug should be monitored. Night-time dosing is recommended as TCAs cause sedation.
Others	Bupropion	100–300	May worsen anxiety.
	Mirtazapine	15–45	It is very sedating, but it is useful if depression is accompanied by insomnia and/or agitation.

SSRI: Selective Serotonin Reuptake Inhibitor; SNRI: Selective Noradrenaline Reuptake Inhibitor; TCA: Tricyclic Antidepressant

## HALLUCINATIONS

Parkinson's patients may experience highly vivid hallucinations, often associated with psychosis. Visual hallucinations are the most common type, featuring a range of images that can be either amusing or unsettling. [8] Some studies note that these images disappear when the patient attempts to touch them. Around 30% of individuals with Parkinson's disease report experiencing visual hallucinations or delusions. [9] Such hallucinations are more frequent in older patients, in advanced stages of the disease, who have cognitive decline or suffer from depression. [10] Research suggests that dopaminergic therapy might induce hallucinations, possibly due to overstimulation of the mesocorticolimbic dopamine pathway. [11] The neuroleptic drug risperidone has shown limited effectiveness in managing hallucinations. [12]

## PSYCHOSIS

Hospitalization may be required for Parkinson's patients who develop psychosis while on antipsychotic treatment. Excessive use of levodopa for managing motor symptoms has been associated with a higher risk of psychosis, which in some cases can be fatal. Notably, 20% to 40% of patients experience psychotic symptoms at some point during the progression of the disease. [13] Clozapine and quetiapine have proven effective in managing psychosis. [14]

## MENTAL RETARDATION

Population-based studies report that the prevalence of dementia ranges between 18% and 41%. [15] Although the exact neuropathology remains unclear, memory loss in Parkinson's patients is thought to result from neuronal dysfunction. Interestingly, its neuropathological features resemble those of Alzheimer's disease. Research suggests that dopaminergic and possibly cholinergic system dysfunction may worsen the condition. This is supported by findings from autopsy studies showing a significant reduction in cholinergic neurons in the neocortex of Parkinson's patients. [16]

Dementia caused by Parkinson's can be differentiated from other types, such as Alzheimer's, through standard neurophysiological testing.

Several factors can worsen the condition of Parkinson's patients, which are indicated below:

- Polypharmacy
- Toxicity from dopaminergic drugs

- Being old-aged
- Severe extrapyramidal symptoms
- Sleep disturbances:
  - Sleep deprivation
  - Rapid eye movement sleep disorder
  - Occurrence of nightmares

Cholinesterase inhibitors are effective in managing dementia in Parkinson's patients, with galantamine showing particular promise in this regard. [17] Donepezil is another well-studied drug that has proven effective in slowing cognitive decline in these patients. [18] Additionally, memantine, a moderate-affinity *N*-methyl-D-aspartate (NMDA) antagonist, has demonstrated benefits in treating motor symptoms of Parkinson's disease. [19,20] Ongoing research is also exploring neuroprotective agents for the treatment of Parkinson's-related dementia. [21]

Alongside medication, counseling can be highly beneficial. Since Parkinson's disease is often perceived primarily as a movement disorder, counseling for families and caregivers can help raise awareness about the cognitive deficits patients may not fully recognize. These impairments can significantly hinder a patient's ability to plan and execute tasks, leading to reduced workplace productivity and, in some cases, complete withdrawal from work.

## CONCLUSIONS

Psychiatric issues such as mood swings, anxiety, psychosis, hallucinations, and cognitive impairment are common in Parkinson's patients, making the condition far more than a simple movement disorder. A thorough assessment before initiating treatment is essential, as failure to properly diagnose these issues can lead to worsening mental health. Therefore, managing Parkinson's disease effectively requires a holistic and comprehensive approach.

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None.

## CONFLICT OF INTEREST

None.

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