



## **Psychological Complications of Parkinson's Disease (Hallucination and Delusion)**

**A comprehensive and new look at non-pharmacological methods**

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## Introduction

Based on my years of experience, as a neurologist and observing Parkinson's patients in the last one or two years, the issue of their psychological complications, especially the resistance to common treatments, had occupied my mind. In practice, I saw that this The patients are in an acceptable condition in terms of Parkinson's disease. But when I faced the psychological complications of these patients, I saw that the conditions of these patients could not be controlled. For this reason, this issue became a motivation for me and provided the conditions to look at this issue from the perspective of neuropsychology and share my experiences in this regard with colleagues and medical scholars.

I must remind you that before preparing this report, I never imagined that working closely with Parkinson's patients and answering all their doubts, whether right or wrong, would, first of all, have an impact on the people around them and the patients' families. .So this work provides the motivation to work closely with these patients.

### **What year was Parkinson's disease officially recognized?**

Parkinson's disease was officially recognized in 1817. In this year, English physician James Parkinson published the first detailed clinical description of the disease in an article entitled "An Essay on Paralytic Tremors

In this article, Parkinson accurately described the symptoms of the disease, which included tremors, slowness of movement, and muscle stiffness. For this reason, this disease was named after him

### **Interesting points:**

Before this date, the symptoms of Parkinson's disease were observed in some ancient medical writings, but there was no accurate and comprehensive clinical description of it. James Parkinson not only described the disease, but also pointed out the importance of physical and drug treatments. After the official discovery of Parkinson's , a lot of research has been done to better understand this disease and find effective treatments.

With the advancement of science and technology, our understanding of the mechanisms of Parkinson's disease and the factors influencing its occurrence has greatly increased. Various drugs have been developed to control the symptoms of the disease and improve the quality of life of patients. However, many aspects

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of Parkinson's disease are still unknown and research continues to find a definitive cure for this disease.

In this report, we will have a comprehensive look at the psychological distress of these patients and the effects of social relations on them in different societies, regardless of the common psychological treatments.

## **Psychological complications of Parkinson's disease and their prevalence:**

### **a comprehensive view :**

Parkinson disease not only affects a person's motor aspects , but can also cause significant psychological complications. These complications can severely affect the quality of life of patients and require special attention.

Types of psychological complications in Parkinson's patients:

- **Depression:**

It is one of the most common psychological complications in Parkinson's patients. This depression can be caused by physiological changes in the brain, loss of independence and changes in lifestyle. In general, depression is more common in women with Parkinson's disease.

- **Anxiety:**

It is shown as excessive worry, panic attacks and phobias...Both men and women can suffer from anxiety at the same levels.

- **Sleep disturbances:**

problems such as insomnia, daytime sleepiness, and REM sleep disorders are common complications in Parkinson's patients.

- **Cognitive disorders:**

As the disease progresses, some patients experience cognitive disorders such as memory loss, concentration problems, and slow thinking. The prevalence of cognitive disorders is similar in both sexes, but the severity and type of these disorders may be different. Neuro Psychological Symptoms or N.P.S in Parkinson's disease is different and varies. Pathology in several brain regions, psychological stress and adverse effects attributed to dopamine replacement therapy to be Sleep disorders and mood symptoms such as B Depression and anxiety are possible year before the appearance of forward movement symptoms fall, while Other N.P.S

such as control disorders Impulsivity, psychosis and disorder Cognitive in stages after Patient Y common are more.

- Personality changes :

Changes in mood, increased irritability, decreased motivation, and indifference are among the personality changes seen in some Parkinson's patients.

- Hallucinations and delusions:

In the advanced stages of the disease, some patients may experience visual or auditory hallucinations and delusions. Discriminating to become between Psychosis, and psychosis caused by Parkinson's disease and other factors and forms The combination of psychosis is difficult. About 30% of Parkinson's patients are being treated with dopaminergics , they may suffer from psychosis.For this reason, reducing do paminergics and even stopping them completely . Often the first option It is for the treatment of psychosis in P.D If the . P.D psychosis does not improve with the reduction of the dose of the P.D drug , antiatypicalpsychotics are ,often considered.

Whereas Parkinson disease psychosis (P.D.P; hallucinations or delusions) was thought to occur in less than 10% of untreated P.D patients and was uncommon prior to the introduction of dopamine replacement therapy (D.R.T), recent research using a detailed psychiatric interview suggested a high prevalence rate (42%) for minor hallucinations in de novo, untreated patients. However, these findings require replication, and may have included a subset of patients with cognitive impairment (i.e., dementia with Lewy bodies), or may in some.

Management of psychiatric disorders in Parkinson's disease 1513 cases rather represent the intrusion of rapid eye movement sleep behavior disorder (RBD) visual imagery symptoms into wakefulness. In addition, a prospective study that encompassed currently available PD treatments reported a long-term cumulative prevalence of 60%. Psychosis is associated with reduced quality of life and worse prognosis. Psychotic symptoms are an independent predictor of increased mortality in PD, and are also the single greatest risk factor for nursing home placement. Psychosis is associated with increased caregiver burden;

Among the patients who were under our supervision and lived in the same community as these people, we had the lowest statistics, that is, a numbe 11%-13% which is very significant considering the number of statistics published so far. The reason for this decrease will be explained later in the rest of the article.

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**Aetiology: risk factors**

Proposed risk factors for the development of psychosis in Parkinson's disease include the duration, severity of illness, and cognitive impairment. The development of these symptoms at a time when demands associated with caring for someone with Parkinson's disease are already high results in a greater sense of burden for the carer in comparison with caring for someone with psychosis-free Parkinson's, and is also a predictive factor for nursing home placement (Marsh Reference Marsh, Williams and Rocco2004). Additional risk factors for psychosis include treatment with dopaminergic and anticholinergic medications. The relationship between the use of Parkinson's disease medication and development of Parkinson's disease psychosis remains controversial. Anecdotally, an association between Parkinson's disease psychosis and the use of dopaminergic therapies and duration of treatment has been observed. Psychotic symptoms can develop on initiation of medication, with a subsequent improvement on reduction or withdrawal, and this is most potently seen with the use of dopamine agonists. Nonetheless, a causal effect of dopaminergic medications has not been established and psychotic symptoms have been described in recently diagnosed patients who have not yet started treatment (Aarsland Reference Aarsland, Marsh and Schrag 2009)

**Factors affecting the prevalence of psychological complications:**

- Severity of the disease:

As the disease progresses, the possibility of psychological complications increases .

- Age of diagnosis:

Early diagnosis of the disease can help reduce the severity of psychological complications.

- Genetic factors:

some genes may play a role in the occurrence of psychological complication.

- Physiological changes in the brai:

A decrease indopamine levels and changes in the structure of the brain can lead to psychological symptoms.

- Side effects of medications:

,Some medications used to treat Parkinson's may have psychological side effects. In one of our patients

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whose symptoms of hallucinations changed on and off, finally, while discussing with our colleagues, we came to the conclusion that these side effects were caused by the long-term use of dopaminergic drugs, and when we stopped the drug, the problem got better. It became more bearable for the patient and his family.

- Existence of concomitant diseases:

The presence of other diseases such as depression or anxiety can increase the possibility of hallucinations and delusions.

- Environmental factors:

social support, lifestyle and stressful factors can affect the incidence and severity of psychological complications.

It must be acknowledged that in our experiences working with these patients as neuropsychiatrists, what has been very prominent and clear above all these factors are the environmental factors and lifestyle and extensive relationships with different people have been very helpful. This work has made the patients not feel alone at all, and they can entertain themselves with different activities and be a part of the society to which they belong. I have worked with a range of these patients who, unlike the societies of different countries, have had the social support of friends, families, and medical staff. The human and very friendly relationships and the endless intimacy of healthy people and the regulation of their relationships with sick people have been very impressive. In fact, we provided conditions for these patients, even in small family environments, so that they do not feel ineffective or useless among other people. It means that we never put them out of work just because they are sick, but by following lifestyle guidelines, these patients were placed in their true position. I had seen before when Parkinson's disease occurred, first of all, the patient's main family was tired of the patient's condition, and this condition quickly provided disability for this type of patient.

From our point of view, this idea is completely rejected and every Parkinson's patient must adapt to the disease and its challenges at all costs and become part of the active forces of their family or community. This is not practical except to involve them in social activities and not allow them to be excluded from their families and environment just because of illness.

- Changes in lifestyle:

loss of independence, movement limitations and changes in social relationships can cause depression and anxiety. This is where we have been able to have the greatest impact on these patients. It means that, first of

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all, we recognize their independence in their daily work and the responsibilities they have or want to have. As long as they are not disabled and unable to do individual work, we have preferred to consider their physical condition as an outpatient. In other words, we have not taken them out of the routine work and life cycle in advance. Unless there were vital threats in their situation, in which case their problem would be different.

### **Hallucinations and delusions in parkinsonian patients: a closer review**

Hallucinations and delusions are common psychological complications in the advanced stages of Parkinson's disease, which can severely affect the quality of life of patients.

- Hallucinations in Parkinson's disease

Hallucinations are seeing, hearing, or feeling things that are not actually there. In Parkinson's patients, hallucinations are usually visual and may include seeing people, animals, objects, or movements that do not exist externally. These hallucinations often seem vivid and real and can cause fear, anxiety, and confusion in the patient.

Types of hallucinations in Parkinson's disease:

#### **Visual hallucinations:**

This is the most common type of hallucination in these patients and usually involves seeing people, animals, or small objects. Although auditory and tactile hallucinations also occur. Often, these take the form of non-threatening visual hallucinations that do not require active intervention. However, overtly threatening hallucinations can produce human or animal faces that are stereotyped for each patient and are more common at night. Delusions, which are uncommon in the first 2 years of treatment, may also occur and, like hallucinations, are often preceded by vivid dreams. Delusions are usually distressing: fear of being injured, falling from a height, being poisoned is very common.

#### **Auditory hallucinations:**

hearing sounds such as whispers, music, or other people's voices

#### **Tactile hallucinations:**

The sensation of being touched or the presence of insects on the body

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- **Delirium in Parkinson's disease**

Delusions are false beliefs that are not based on reality. In Parkinson's patients, delusions may include beliefs such as a spouse cheating, things being stolen, or being watched by others.

Types of delusions in Parkinson's disease:

- **Delusion of betrayal:**

Believing that the spouse or close people are cheating.

- **Delusions of persecution:**

Believing that one is being pursued by others.

- **Delusions of grandeur:**

Beliefs of having extraordinary abilities or great importance .

### **The role of social relationships in hallucinations and delusions:**

Strong and supportive social relationships can have a significant impact on the incidence and severity of hallucinations and delusions in Parkinson's patients.

- Reducing the feeling of isolation:

Strong social relationships give patients a sense of belonging and support, and prevent the feeling of isolation and loneliness that can exacerbate hallucinations and delusions.

- Increasing self-confidence:

communicating with others and receiving social support can help increase the patient's self-confidence and, as a result, reduce false beliefs and illusions.

- Reduce anxiety and stress:

Healthy social relationships can help reduce anxiety and stress, both of which can contribute to worsening hallucinations and delusions.

- Increased awareness of reality:

interacting with others and receiving feedback from them can help the patient distinguish between reality

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and delusions.

Some studies have shown that Parkinson's patients who have stronger social relationships are less prone to hallucinations and delusions. In our experience, more than all these treatments, the strong support of the patient by the patient's relatives and friends and acquaintances have played a very important role. We have no doubt that if they were not in these friendly social environments, their problem would have escalated much faster and they would have faced irreversible repercussions, and we have a special emphasis on this issue. That is, understanding the mental and physical problems of the patient played a key role in these cases. In many cases, we as medical staff may not have perfect solutions to solve the problem of these patients in that particular situation, but conveying this feeling to the patient that yes, I understand you and feel what problems you are facing, even though It's simple for me. Transferring this feeling to a Parkinsonian patient has been very effective in many cases.

### **Treatment of hallucinations and delusions in Parkinson's patients**

Treating hallucinations and delusions in Parkinson's patients can be challenging and requires a multifaceted approach. Treatments may include

- Adjusting the dose of drugs: :

Reducing the dose of Levodopa or changing the type of drug can help reduce hallucinations and delusions .

- Adding antipsychotics:

In some cases, it may be necessary to use low-dose antipsychotics under the supervision of Psychologist.

- Non-pharmacological treatments:

cognitive-behavioral treatments, psychotherapy and social support can help reduce anxiety and improve patients' quality of life.

### **Important points:**

- Depression , anxiety and psychosis are complications common Patients by Parkinson's and its treatment are due to the mutual relationship between neurological symptoms and psychological symptoms , treatment adjustments are often required. Kartimy between the psychiatrist,

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neurologist , patient and caregiver , as well as the patient's family can be The best result of hand treatment finder.

- Hallucinations and delusions can be treated in Parkinson's patients
- Early diagnosis and appropriate treatment can help improve the quality of life of patients.
- B. A list of psychiatric symptoms seen in Parkinson's disease Shown , among others Mood changes, anxiety disorders, swelling, and overt psychosis. Changes in performance. Recognition is also seen and in some cases to The side of causing dementia going forward the river .Treatment of these behavioral symptoms It can increase the overall performance of patients Improve the load.It is placed on the shoulders of caregivers Let it be
- Like any sign Parkinson's disease , there is a big difference between people when it comes to mental health. Some people with Parkinson's disease There are those who have no mental health concerns, and others whose main problems stem from depression, anxiety, psychosis, or cognitive issues, all of which can be non-motor symptoms .

### **Strategies to strengthen social relationships in Parkinson's patients**

- Encourage participation in group activitiesn :

Participation in support groups, educational classes, or recreational activities can help patients connect with others who have similar conditions.

- Support from family and friends:

Family and friends play a very important role in supporting Parkinson's patients. They can help improve the patient's quality of life by creating a supportive environment and encouraging the patient to participate in social activitiesAttention to the patient's social need.

- Understanding the patient's social needs and trying to meet them can help strengthen social relationships.
- Use of technology:
- The use of technology such as smartphones and social networks can help patients connect with friends and family.

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In general, strong and supportive social relationships can play a very important role in improving the quality of life of Parkinson's patients and reducing psychological symptoms such as hallucinations and delusions.

It is clear that in different societies, these types of patients withdraw themselves from all current life and family activities. Somehow it becomes ineffective in the rest of life. Whereas, I have patients who are still working hard. They have warm relations with their friends and are responsible in their work. They do not accept to be careful. This question should be answered anyway.

Various reasons can be effective in this, including:

- **Personality and individual characteristics:**

Some people have a stronger personality and stronger will and can better cope with the changes caused by the disease.

- **Social support:**

Having supportive family and friends can motivate the patient to continue living.

- **The type and severity of the disease:**

The severity of the symptoms of the disease and the type of dominant symptoms in each person can affect the ability of the person to perform daily activities.

- **Appropriate treatment:**

Timely and appropriate treatment of the disease and control of symptoms can help the patient to continue his activities.

- **Attention to mental health:**

Treatment of psychological problems such as depression and anxiety can help the patient regain his energy and motivation to continue living.

### **Are close social relationships effective in these patients?**

Yes, close and supportive social relationships play a very important role in maintaining the quality of life of Parkinson's patients. These relationships can help the patient to:

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- Don't feel isolated
  - Better cope with the disease
  - Keep your motivation to continue living
  - Better to adapt to the changes caused by the disease

However, this does not mean that social relations alone can solve all the problems of Parkinson's patients. Other factors such as disease severity, treatment and family support also play an important role.

### **Why do some patients not admit that they have a disease?**

Several reasons can cause some patients to not admit that they have Parkinson's disease, including:

- Fear of the future , fear of disability and loss of independence:

these two factors can make the patient avoid accepting his illness.

- Denial of illness:

Some people may deny their illness in order to cope with it.

- Lack of awareness of the disease:

Some people may not have enough information about Parkinson's disease and therefore do not take it seriously.

It is important to note that denying the disease cannot help improve the patient's condition. In fact, denying the disease can cause the patient to be denied proper treatment and the disease to progress. We have the duty to express the facts with the Parkinsonian patient in the most correct way and try to remove him from the psychological problem by stating the facts. Because in any chronic and difficult and incurable disease, usually some degree of patients and around this stage They become psychological, which sometimes does not cure the main disease of these people, but thinking about the treatment and the prospect of the disease aggravates the patient's problems and binds his hands and feet. While we have tried to acquaint them with the facts by talking to the patients and their relatives and at the same time not leaving them to their own devices , so that they come to us whenever they become weak against the disease. Rather, we have always found ourselves by their side and assured them that we understand them and understand what challenges they are facing or will face.

Their understanding was more effective than psychological treatments in many cases. As some patients have admitted correctly.

In this discussion, we should emphasize the thoughts of Prof. William Glosser under the issue of "Selection Theory" is, selection and implementation by psychological patients. He says that every psychological patient who enters the disease stage chooses to stay inside the innermost layer of the disease and spend his whole life and the result of his efforts in an aura of dead ends, or the ability to get out of this circle. Does it have the package? I believe that this new thought in the discussion of psychology will challenge many beliefs in the coming years. The meaning of this word was and is that every psychological patient chooses to imprison himself in this closed circle or break the cage and find himself in an environment. It is a choice to find the life that should be, and we, the medical staff, our role is to help patients to show this new path.

### **Interesting news report:**

Here are some of the forms of hallucinations of Parkinson's patients that need to be reported

- First Case:

A man who was a medical student in his young years and who refused to continue his education due to the patient's family situation and never became a doctor, talked about digestive parasites in his talks some time ago. I referred this issue to the infectious disease doctors, and after performing parasitology tests, they treated the patient with antiparasitics for several periods with the diagnosis of Giardiasis Lambelia. Unlike other patients who had Giardiasis and responded well to the treatment, this patient claimed that his problem has not been solved and he even has such a problem that the giardias are moving under his skin and he can feel them. even inside the eye and inner ear canal behind the eardrum. He said that I am a medical student and I know what kind of vermin they are and where they hide and...

- Second Case:

In another example, he is still a man, he refuses to sleep on the bed alternately every two weeks and says that the cats have gone to catch mice under the bed and they are loud and I can't sleep, even when we changed the place of his bed, he said :

The cats are gone and the dogs are sleeping and looking for prey...

This story continues and somehow they have become resistant to even common antipsychotic treatments.

But an interesting experience should be mentioned again: among the patients we have controlled, we have not found any complaints by the patients themselves or their relatives about memory disorders, and it can be said that this is basically the case with our patients, despite the fact that most of them were over fifty or sixty. We have not found

## In Summary

Although psychological complications in parkinsonian patients are a known problem. But in the group of patients that we have monitored over the past ten years, we were faced with at most two complications of hallucinations and illusions in an on-off form

- Familiarizing patients with the category of Parkinson's disease and answering all patients' questions in any condition.
- Encouraging patients to do daily activities as before as much as they can.
- Establishing social relations with patients through friends and colleagues and making them partners in the resolution of patients.
- Encouraging patients to do physical activities, especially healthy walking.
- Regular medical checks in terms of neurology and psychology at intervals of 4 to 6 months.
- Involving patients in their own medical follow-up and recognizing their requests

Finally, each Parkinson's patient is unique and has different treatment and support needs. Therefore, it is important to consider an individual treatment plan for each patient.

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