

# Effect of Rehabilitation Training on Limb Function and Self-Care Ability of Patients with Parkinson's Disease

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**Abstract:** Objective: This study mainly analyzes the effect of rehabilitation training on limb function and self-care ability of Parkinson's disease patients. Methods: 50 patients with Parkinson's disease who were diagnosed and treated in a Shaanxi Provincial People's Hospital in China from February 2, 2018 to July 2, 2021 were tested. These patients were divided into two groups randomly with 25 patients in each group. The control group should adopt routine treatment and nursing intervention, and the experimental group should take the control group as the benchmark and apply rehabilitation exercise training. The limb function and self-care ability of patients in the experimental group were compared with control group before and after the intervention. Results: after the intervention, the patients in the control group, whether Berg balance scale or UPDRS - III score, will be lower than the patients in the observation group. And after the intervention, the Barthel score of both groups will be better than that before the intervention ( $P < 0.01$ ). Conclusion: rehabilitation training has a great impact on the limb function and self-care ability of patients with Parkinson's disease. Through the form of rehabilitation exercise training, we can further improve the limb function of current patients, make the self-care ability of patients become higher, and delay the development of the disease.

**Keywords:** Rehabilitation Training; Parkinson's Disease Patients; Limb Function; Self-Care Ability; Influence

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## Introduction

Parkinson's disease is a kind of neurodegenerative disease that is more common in clinical elderly patients in China at this stage. It will include many kinds of symptoms such as postural gait abnormalities and bradykinesia, and non-motor symptoms will include many contents such as mental disorders and sleep disorders. This disease is mainly caused by the damage of dopamine neurodegeneration in the substantia nigra of the brain, which is lack of dopamine medium support in the brain, as a result, choline and dopamine are out of balance, and the clinical treatment method used for the treatment of Parkinson's disease is not more accurate, so lifelong medication maintenance will be adopted for diagnosis and treatment. Most patients will have limb motor dysfunction, which will have a direct impact on the patients' ability to take care of themselves, so it is necessary to implement efficient and reasonable training methods to further delay the development of the disease course, formulate more targeted training contents and methods according to the patient's condition, pay attention to cultivating and improving the patients' limb motor ability, and vigorously carry out the training of self-care ability.<sup>[1]</sup>

## 1. Data and methods

### 1.1 Clinical data

50 patients with Parkinson's disease admitted to a Shaanxi Provincial People's Hospital in China from February 2, 2018 to July 2, 2021 were taken as the research objects of the experiment. These patients and their families signed relevant experimental agreements and voluntarily participated in the clinical study. All patients met the diagnostic criteria of

Parkinson's disease and received regular drug treatment for Parkinson's disease. Excluding patients with incomplete clinical data or who have received rehabilitation diagnosis and treatment in the past three months, there were 25 patients in the experimental group and the control group. Among them, there were 12 male patients and 13 female patients in the control group; The youngest is 55 years old, and the oldest is 78 years old; Hoehn Yahr grade I 6 cases, grade II 8 cases, grade III 6 cases, grade IV 5 cases; The minimum length of education is 8 years and the maximum is 12 years; There were 16 patients with hypertension, 9 patients with diabetes, 14 male patients and 11 female patients in the experimental group; The youngest is 52 years old, and the oldest is 77 years old; Hoehn Yahr grade I in 5 cases, grade II in 9 cases, grade III in 5 cases, and grade IV in 6 cases; The minimum length of education is 7 years and the maximum is 11 years; There were 15 cases of hypertension and 10 cases of diabetes. There was no significant difference in the general data between the two experimental groups ( $P > 0.05$ ).<sup>[2]</sup>

## **1.2 Method**

### **1.2.1 Control group**

Routine nursing intervention was carried out based on routine treatment. First of all, in terms of medication guidance, we should communicate with patients so that they can follow the doctor's advice, take drugs on time, clarify the time and type of drug taking, and record the patient's remission information after taking drugs. Secondly, in terms of psychological knowledge, communicate with patients to appease their emotions in real time, so that patients can actively cooperate with relevant diagnosis and treatment work. Thirdly, it is the safety protection intervention measures, which should help patients choose to wear appropriate clothes, ensure the cleanliness of the ward, and protect the bedside guardrail, so as to prevent patients from falling and other problems. Finally, it is the guidance of routine rehabilitation training, so that patients can actively participate in rehabilitation training activities. When walking, they should keep in step with the upper step, control the speed of stepping, and carry out a series of facial expression training such as laughing and frowning.<sup>[3]</sup>

### **1.2.2 Experimental group**

Based on the control group, rehabilitation exercise training is applied. During the hospitalization of patients, medical staff should lead patients and their families to learn relevant exercise methods, master the essentials of rehabilitation exercise training, and formulate a more targeted training plan for the patient's condition. Under normal circumstances, their training time should be controlled at 3-5 times a week, the length of each training should be controlled at 30-45 minutes, and they should continue to train for three months without interruption. After discharge, they should be guided to continue to exercise and develop good exercise habits, from the original 3-5 times to 2-3 times a week, and the training time should be controlled at 60 minutes. First of all, in the stage of physical and mental relaxation exercise, patients can take the form of sitting or supine position to practice abdominal breathing, put their hands on the abdomen or chest, so as to better help them perceive the changes of chest and abdomen fluctuations. They should first breathe naturally through the nose, close their lips in the process of breathing, slowly exhaust all the lung gas, and then slowly inhale through the nose, and adjust the time of exhalation and inhalation to 2:1, Let the patient repeat the above process for three times. Secondly, when carrying out facial rehabilitation training, let them frown first, focus on the middle of the two eyebrows, and then let the patient carry out panic and other actions after the concentrated exercise, do a good job of eye muscle exercise, open and close eyes, smile training, show teeth, whistle training, etc. Thirdly, the limb rehabilitation training is to guide the patient to carry out the traction exercise after lifting the shoulder. After completing the training task, the medical staff will help the patient relax and massage the muscles, guide the patient to move the head up and down, first raise the head, then lower the head, and let the patient try to move the head left and right, and then swing the head. In terms of gait practice, guide patients to stand still, practice walking slowly, and communicate with patients, so that they can swing their upper limbs as much as possible while walking, and practice repeatedly. In terms of posture and gait practice, let patients stand up and sit down first, and practice alternately

in this way.<sup>[4]</sup>

## 2. Results

The results of this study showed that after the intervention, the updrs- III score and BBS score of the observation group were better than those of the control group ( $P < 0.01$ ); After the intervention, Barthel score of the two groups was higher than that before the intervention ( $P < 0.01$ ), and that of the observation group was higher than that of the control group ( $P < 0.05$ ).

## 3. Discussion

With the aggravation of population aging in China, the incidence rate of Parkinson's disease patients has increased significantly. Most patients with Parkinson's disease have static tremor, myotonia and gait abnormalities, followed by motor dysfunction. According to statistics, Parkinson's disease has become the third major neurological disease affecting the quality of life of the elderly in China, which has a serious impact on daily life. Nondrug treatment methods, such as rehabilitation exercise training, have achieved satisfactory application results in patients with Parkinson's disease, which can improve the patient's joint function, correct the poor motor state, and posture, and improve the patient's limb function. The theory of modern rehabilitation training therapy believes that passive stimulation is constantly implemented in the early stage of illness, and stimulating information is continuously input into brain cells by stimulating the afferent impulse of receptors in the body, so as to promote the germination and extension of neuronal axons in the brain of patients with Parkinson's disease, continue to form new protrusions, intensify repeated training stimulation, promote the brain to accept sensory stimulation, and promote the reorganization of the central nervous system.<sup>[5]</sup>

## 4. Conclusion

In recent years, due to the increasingly serious problem of population aging in China, the incidence rate of Parkinson's patients is also increasing. Most Parkinson's patients will have symptoms such as gait abnormalities and tremor. And through statistical analysis of data, we can understand that Parkinson's disease has become an important nervous system disease that affects the quality of life of the elderly in China and will have an adverse impact on their daily life. To improve this clinical symptom, the medical community will promote the medical model and pay attention to drug treatment. This method will ignore other factors that affect the quality of life of patients, which makes the effect of diagnosis and treatment not particularly good. We should pay attention to non-drug treatment methods, such as rehabilitation exercise training, and use this diagnosis and treatment intervention method to improve the joint function of patients and correct their wrong exercise posture.

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