

A single 15-minute, hand-exercise session improves manual dexterity and movement in patients with Parkinson's disease

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Researchers from the University of Granada (UGR) have proven that a single 15-minute, hand-exercise session greatly improves manual dexterity and movement in patients with Parkinson's disease, helping them to carry out tasks such as writing or buttoning.

Parkinson's disease is, nowadays, the second most prevalent neurodegenerative disease in the world, and is characterized for being progressive and having a greatly heterogeneous development.

The clinic of this disease is characterized by motor and non-motor symptoms. Motor symptoms include bradykinesia (slowness of voluntary movements) and rigidity, both of them have a negative impact on the functional performance of different tasks.

Additionally, <u>patients</u> with Parkinson's often experience muscle weakness and a partial loss on their <u>manual dexterity</u>. The progression of these clinic symptoms throughout the disease causes difficulty in the performance of daily tasks. Despite the great number of therapeutic proposals for patients with this disease, new approaches from physiotherapy and occupational therapy are essential for the improvement in this population's quality of life.

60 patients with Parkinson's



In this research, UGR researchers belonging to the departments of Physiotherapy and Nursing have relied on the collaboration of the Asociación de Parkinson de Granada association. The research was carried out with 60 patients with Parkinson's: 30 of the participants were allocated to the designed exercise and the other 30 to a control group.

The researchers designed a brief intervention, of barely 15 minutes, which caused changes in arm, hand and finger movement quality, with the goal of improving the performance of different tasks.

"This intervention was based in hand exercises, whose effect in strength and dexterity was assessed. The goal was to improve the performance of this parameters, so that it could have an immediate application on the performance of tasks such as writing or buttoning", explains Marie Carmen Valenza, UGR professor at the Department of Physiotherapy.

Patients who participated in the project were evaluated before and after the intervention. The assessed parameters of movement, speed, dexterity and strength improved significantly.

Professor Valenza stresses that these results " will be of great clinical usefulness, given that, with only 15 minutes of exercise and in an autonomous way, the patients will be able to improve the performance of tasks that currently are too difficult to them."

More information: Sara Mateos-Toset et al. Effects of a Single Hand–Exercise Session on Manual Dexterity and Strength in Persons with Parkinson Disease: A Randomized Controlled Trial, *PM&R* (2015). DOI: 10.1016/j.pmrj.2015.06.004

Provided by University of Granada



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