

# Physical exercise improves life quality of elderly in care homes

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The Ageing-On research group of the UPV/EHU-University of the Basque Country has devised a pioneering exercise programme for elderly people. Credit: Egoi Markaida. UPV/EHU

The number of people over 65 currently accounts for 22 percent of the

total population in the Basque Autonomous Community; predictions indicate that this percentage will rise to 30 percent by 2030. It is therefore important to promote healthy aging. Regular exercise may reverse age-related physical deterioration and frailty, a very common syndrome among the elderly that entails a higher risk of falls, hospital admissions, dependence and even death. Frailty syndrome is more widespread among people living in residential care homes.

In order to improve the [life quality](#) of this group, the UPV/EHU's aging-On research group led by Jon Irazusta, in collaboration with the Matia Institute, has designed a programme of [physical exercise](#) adapted to the capabilities of each individual. Strength, balance and stamina are emphasized. The programme is progressive and the intensities are increased as fitness improves. There are few studies exploring the effects of physical [exercise](#) on frailty in the elderly population, and existing programmes are not adapted to the capabilities of each individual.

The effectiveness of the programme was analysed in a sample of 112 participants from 10 centres for the elderly. They were randomly divided into two groups: a control group that continued with the usual activities and care, and an experimental group that did two 45-minute sessions of physical exercise per week designed to improve strength and balance. The time they spent walking gradually increased until they reached at least 20 minutes a day.

## **Physical and cognitive improvement**

The researchers found a link between greater limb strength, improved cognitive state and enhanced life quality. In other words, exercise designed to build strength, which is often overlooked in elderly people, can be of great help in improving their physical and mental state, in particular among those who use walking sticks, crutches, Zimmer frames

or other aids.

After three months, the study showed a significant improvement in most of the physical variables, including strength, walking speed and balance in the people who were doing physical exercise. By contrast, the people in the control group saw a reduction in their physical capabilities.

The results obtained in the Short Physical Performance Battery (SPPB) were particularly significant. These tests are used to measure the degree of frailty and may predict the risk of falls, hospital admittances, dependence or death. Doing physical exercise generated a two-point increase in the SPPB while the result for the [control group](#) fell by one point.

"A difference of a single point on this scale is already regarded as significant; three points has clinically high significance, which points to the effectiveness of the programme. In addition, it is remarkable that those individuals with a worse functional status benefited from the programme even more. So we can say that the programme is appropriate for anyone as long as they enjoy a degree of cognitive capacity and autonomy allowing them to participate in it," said Prof Jon Irazusta.

The results have been published in the journals *BMC Geriatrics*, *Maturitas* and *Experimental Gerontology*. The research group has also designed a methodology whereby any centre for the elderly can set up an exercise programme developed with the guidelines set out in its research. The group is hoping that the programme will be extended to improve the life quality of [elderly people](#) who are in [residential care](#). At the same time, they believe that their methodology could also be of use in improving the status of other people, such as those who have recently spent time in hospital, who suffer dementia or other neurological problems and the main carers of dependent people.

**More information:** Haritz Arrieta et al, Physical activity and fitness are associated with verbal memory, quality of life and depression among nursing home residents: preliminary data of a randomized controlled trial, *BMC Geriatrics* (2018). [DOI: 10.1186/s12877-018-0770-y](https://doi.org/10.1186/s12877-018-0770-y)

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