Exercise can improve brain function in older adults

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Credit: Peter Griffin/Public Domain

New research conducted at the University of Kansas Medical Center indicates that older adults can improve brain function by raising their fitness level.

Jeffrey Burns, M.D., professor of neurology and co-director of the KU Alzheimer's Disease Center, led a six-month trial conducted with healthy

adults ages 65 and older who showed no signs of cognitive decline. The results of the study were published on July 9 in the journal *PLOS ONE*.

The randomized controlled trial attempted to determine the ideal amount of exercise necessary to achieve benefits to the brain. Trial participants were placed in a control group that did not have monitored exercise, or they were put into one of three other groups. One group moderately exercised for the recommended amount of 150 minutes per week, a second exercised for 75 minutes per week, and a third group exercised for 225 minutes per week.

All groups who exercised saw some benefit, and those who exercised more saw more benefits, particularly in improved visual-spatial processing - the ability to perceive where objects are in space and how far apart they are from each other. Participants who exercised also showed an increase in their overall attention levels and ability to focus.

"Basically, the more exercise you did, the more benefit to the brain you saw," Burns said. "Any aerobic exercise was good, and more is better."

The research indicated that the intensity of the exercise appeared to matter more than the duration.

"For improved brain function, the results suggest that it's not enough just to exercise more," said Eric Vidoni, PT, Ph.D., research associate professor of neurology at KU Medical Center and a lead author of the journal article. "You have to do it in a way that bumps up your overall fitness level."

Marjorie Troeh, of Independence, Mo., participated in the trial. Troeh, 80, was placed in the lowest level of exercise group. She said she signed up for the study in part to motivate herself to exercise more.

"I love exercising my mind, but I hate exercising my body," she said, adding that the findings about the exercise being linked to better brain function were new to her. "I knew about the evidence that said exercise was good for endurance and agility, but I really didn't make any connection with that and brain health."

Troeh, who lives an independent living facility, said she was glad to have the opportunity to contribute to the fight against Alzheimer's by participating in a trial, as she had a grandmother and an aunt who battled the disease.

"I'm surrounded by people who face memory problems," she said. "I'm really anxious to do anything I can to further knowledge in this area."

Scientists at the KU Alzheimer's Disease Center have focused on the relationship between exercise and brain metabolism for years and are conducting a number of research studies on how exercise may help prevent or delay the onset of Alzheimer's.

The results of the study can be read on the *PLOS ONE* website.

More information: *PLOS ONE*, journals.plos.org/plosone/arti … journal.pone.0131647

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