A sound mind in a healthy body? Combating Alzheimer's with exercise

By ACSH Staff — July 17, 2012

A spate of new findings on Alzheimer's disease is making news at the Alzheimer's Association International Conference this week in Vancouver. And while last week, breakthrough research on the neurological underpinnings of the disease made news\(^1\), this week a series of findings on preventive measures are generating headlines. Four studies\(^2\) presented at the conference have demonstrated how different kinds of exercise can improve mental functioning and reduce the risk, or at least the rate of progression, of cognitive impairment and dementia.

The studies follow up on previous research suggesting that physical activity can reduce the risk of Alzheimer's disease. However, while earlier research has suggested that aerobic exercise, such as walking, is conducive to improving cognitive health, the latest studies suggest that resistance training, such as weight lifting, may be at least as beneficial, if not more so.

For instance, one research team from the University of British Columbia and Vancouver Coastal Health Research Institute, compared the effects of twice-weekly weight training with twice-weekly bouts of walking and twice-weekly balance and toning exercises in women aged 70 to 80 with probable mild cognitive impairment (MCI). Following the six-month randomized control trial, the weight-training group significantly improved their performance on a test of selective attention and conflict resolution, as well as on a memory task. These results were in marked contrast to the other two groups.

The findings were bolstered by those of another study from the same group, which compared the effects of resistance training with balance and tone training in a 12-month randomized, controlled trial. Here, too, the women (aged 65 to 75 years old) in the resistance training group were more likely to improve or maintain their scores on a test of selective attention and conflict resolution.

Meanwhile, there is still evidence to suggest that aerobic exercise can also help prevent dementia. A randomized study from the University of Pittsburgh focused on previously sedentary older adults without dementia. The researchers concluded that those who took up moderate intensity walking for one year, versus those who focused on stretching and toning, were more likely to show improvement on both cognitive tests and biological measurements associated with neural growth and memory. Most promisingly, these researchers concluded that the aging brain remains modifiable and that sedentary adults can indeed benefit from starting a moderate walking regime.

If you're now uncertain whether your aging brain will be best served by walking or weight training, another study advises a little of both. Researchers from the National Center for Geriatrics and
Gerontology in Japan found that a combination of aerobic, strength, and balance training could improve memory in older adults with MCI. In this randomized trial, a twelve-month exercise program consisting of aerobic exercise, muscle strength training, and postural balance retraining resulted in improved performance on tests of memory, when compared to a control group.

And as long as we're talking about walking, several studies [3] presented at the conference found a strong connection [4] between an older person's gait and her cognitive health. The new research shows that even mild abnormalities in walking, while still unknown to the patient and physician, may be a valuable tool in early diagnosis of Alzheimer's disease, in that such abnormalities of gait typically are apparent before standard neuropsychological tests reveal any signs of cognitive impairment. The researchers reported that specific neurocognitive deficits were reflected in impairments in gait rhythm, and that relatively slow average walking speeds were associated with the smaller hippocampal volume suggestive of memory impairment.

However, such tests for assessing how a person walks require a level of specificity that too many clinicians are unaware of. A doctor needs to be able to evaluate both variability in gait and diminished ability to walk steadily while performing a second task, such as counting backwards. If done properly, researchers suggest, such evaluations could help a physician identify neurocognitive deficits much earlier.

This plethora of new information about earlier diagnosis and earlier intervention to counter the onslaught of Alzheimer's dementia is certainly important, given the dire predictions of the oncoming Alzheimer's epidemic, says ACSH's Dr. Gilbert Ross. While these studies may empower seniors at a higher risk for the disease, such as those with mild cognitive impairment, the benefits are not immense. Still, the response rate seems superior to the generally useless medications on the market now.

And ACSH's Dr. Ruth Kava adds: Although these studies are still preliminary, not having been peer-reviewed or published yet, if they are supported by future research they suggest that people have the ability to help safeguard their cognitive abilities as they age.