Exercise Improves Brain

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fitness and compared flanker-task performance of those who fell above and below median fitness levels. Subjects who fell above the median on cardiovascular fitness showed significantly smaller amounts of interference by incongruent cues in the flanker task as measured by their reaction time, he said.

Functional magnetic resonance imaging (fMRI) scans of subjects engaged in this task demonstrated that the group with higher cardiovascular fitness had significantly greater activity in the medial frontal gyrus, the superior frontal gyrus, and the inferior parietal lobule, and significantly lower activity in the anterior cingulate cortex.

In the longitudinal study, 29 healthy adults with an average age of 66 years were randomly assigned to a 6-month exercise program that involved either aerobic training or stretching and toning. Participants in the aerobic group improved their reaction times on the flanker test by 11%, while those in the stretching and toning group improved by only 2%, a significant difference. Compared with the nonaerobic group, fMRI testing showed that subjects in the cardiovascular training group had significantly greater activity in the medial frontal gyrus, the superior frontal gyrus, and the inferior parietal lobule, and significantly lower activity in the anterior cingulate cortex.

In a third study that has not yet been published, investigators assessed verbal working memory in 38 older adults (aged 62-77 years) randomly assigned to aerobic or control exercise groups. After 6 months, participants in the exercise group had improved their performance by 22% and those in the control group improved by only 5%, a significant difference, Dr. Colcombe said. In a fourth study, also unpublished, researchers randomized 60 older adults (aged 55-78 years) to exercise or control groups and used voxel-based morphometry in high-resolution MRI images to measure brain volume. After 6 months, subjects in the exercise group showed significant volume increases in several brain regions of interest. ■

Seniors Receptive to Exercise Counseling

BY HEIDI SPLETE
Senior Writer

WASHINGTON — When doctors talk about exercise, older adults listen, Shaun Nelson said at the annual meeting of the Gerontological Society of America.

A caring, empathetic physician who counsels patients aged 60 and older about exercise will probably make an impression, even if the doctor is not a paragon of fitness, said Mr. Nelson, an MPH candidate at the University of Illinois, Chicago, who conducted focus group interviews of 28 adults aged 60-74 years. As one woman noted during the interviews, "You like a doctor that seems to be worried about your welfare. …I guess if they were [role models] it might be better. But to me, that really wouldn't be a factor."

Older adults are receptive to exercise counseling as a way to manage chronic pain and to avoid medication, Mr. Nelson said. One white male patient reported, "My cholesterol was up. And [the doctor] told me about it, and we set up a plan, again, to exercise more and to diet. Didn't even think of any type of drug—that wasn't even a consideration."

In general, women were more likely to view a doctor's persistence in exercise counseling as caring rather than nagging, were more likely to fit in exercise when they could, and were more encouraged by qualitative benefits, such as better-fitting clothes. Men were more likely to view a doctor's persistent exercise counseling as nagging, were more likely to have a fixed schedule for exercise, and were encouraged by quantitative benefits, such as a lower blood pressure.

Black patients were less likely to have a long visit with their doctors and were less likely to consider water exercise because of fear of water and not knowing how to swim; white patients were more likely to express concerns about repeated dressing and undressing, and having to find a place to park at a gym.

Mr. Nelson's work was part of a grant from the Robert Wood Johnson Foundation to study physicians' and older adults' experiences with exercise counseling during an office visit. The grant also supported studies of the physician perspective conducted by Daphne Schneider, M.D., of Cornell University, New York, and Karen Peters, Dr.P.H., of the University of Illinois, Rockford.

Dr. Schneider interviewed a convenience sample of 37 public and private sector physicians in urban and suburban areas about discussing exercise with older patients. Sixty-two percent of the physicians specialized in family medicine, 33% specialized in internal medicine, and 35% were board certified in geriatrics. Their mean age was 46 years, and they had completed medical studies between 1963 and 2003. Most of the doctors were white (70%), and 51% were women.

All the physicians reported that they counseled some older patients about exercise, and nearly a third of them said that they counseled all patients about exercise. However, the physicians' perceptions varied as to their roles as exercise advocates. While most saw themselves as coaches/teachers, some saw themselves as authority figures whose words carried real weight with patients, and others said that the implementation of exercise recommendations would be better handled by a nurse-practitioner or trainer.

For older adults, exercise can be a way to avoid medication.

Physicians cited discussion of a patient's chronic condition, diagnosis of a chronic illness, or the possible need to start a new medication, as the best opportunities for exercise counseling. One physician told a diabetic woman that she might not need to use insulin if she could watch her diet and motivate herself to exercise. "She came back 3 months later and her hemoglobin A_{1C} was less than 7. She had been swimming every day, sometimes she rode a bicycle, and she was saying how she felt much better, and her sugars were better, and she was happy," the physician said.

Barriers to exercise counseling during an office visit included lack of training, lack of time, and lack of a reimbursement mechanism. As one physician noted, the complicated medical histories of geriatric patients often push exercise counseling to the bottom of a list of issues to be addressed in an office visit. From a financial perspective, "taking more time and doing exercise counseling looks like an unaffordable luxury," the physician recounted.

Physicians who treat older patients in rural areas have issues similar to their suburban counterparts regarding exercise counseling for seniors. Dr. Peters analyzed results of a mail-in survey returned by 11 family physicians and one nurse-practitioner aged 31-54 years from her ongoing study of exercise counseling in rural Illinois counties. All the physicians in the rural study said that exercise was relevant to their older patients, and 75% said they recommended exercise in the context of chronic disease management; 58% said they recommended exercise in the context of weight loss and in the context of a routine health and physical exam.

Half of the rural physicians viewed their roles as educational in terms of exercise counseling. In addition, 42% saw themselves in a support/advocate role. The physicians noted that 75% of their older patients cited lack of time as a perceived barrier to exercise, and 42% cited joint pain as a barrier.

Physicians should know that older adults are receptive to exercise counseling if it is presented in a caring and empathetic way, with attention to racial and gender preferences, according to the presenters. ■

Home Visits, Phone Calls Help Ease Depression

FORT MYERS, FLA. — Home visits and follow-up telephone calls improved elderly depression in a program that used existing community services for seniors in Seattle, according to a presentation at the annual meeting of the Academy of Psychosomatic Medicine.

Rates of depression are higher in older adults who are socially isolated, have high medication comorbidity, or are homebound. About one-fifth to one-sixth of elderly individuals in the United States have clinically significant depression. They are more likely to have minor depression or dysthymia, compared with their younger counterparts.

A 12-month, randomized, controlled trial showed the Program to Encourage Active, Rewarding Lives for Seniors (PEARLS) effectively improved depression among older adults at higher risk, specifically those who are physically impaired, socially isolated, and/or of lower socioeconomic status.

"It is home based, so in a way it is a systematized, stylized way to do house calls, but a postmodern version done by social workers, not doctors," Paul Ciechanowski, M.D., explained. "It's amazing how much extra information you get by observing and visiting patients in their own homes," said Dr. Ciechanowski of the University of Washington, Seattle. The university runs PEARLS in collaboration with Senior Services Seattle/King County, Aging and Disability Services, and Public Health Seattle King County. The study was funded by the Centers for Disease Control and Prevention.

There were 138 participants, 99 referred from agencies and 39 who were self-referred. About half were diagnosed with dysthymia, the other half with minor depression. The mean age was 73 years, 79% were female, and the majority had a mean annual income of less than $10,000. At baseline, 35% were taking antidepressants. People were excluded if they had major depression or another psychiatric disorder, substance abuse, or a cognitive disorder.

After randomization, there were 66 patients in a routine care group and 72 in an intervention group. Routine care included referral and communication between the patient's primary care physician, the community agency social worker, and University of Washington researchers.

The intervention included a mean of 6.6 1-hour problem-solving treatment (PST) sessions in the home over 19 weeks. PST is effective, nonpsychiatric, and consistent with other modern self-management strategies in medical disease, Dr. Ciechanowski said.

"We define and break down problems, establish realistic goals, and take small, incremental steps. They begin to feel empowered."

The intervention also included one or more of the following: problem-solving counseling sessions, social activation, physical activity, and/or prescription of antidepressants.

—Damian McNamara