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Does Zumba Improve Cognition in Healthy APOE4 Epsilon4 Carriers and Noncarriers?

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Several types of research studies have concluded that physical exercise can improve cognitive function in healthy elderly persons, and potentially reduce the risk of developing cognitive impairment. Some evidence also suggests that exercise may be even more important for individuals at high risk for Alzheimer's disease, such as those who carry the gene variant known as APOE epsilon4. The APOE epsilon4 gene is the most prevalent genetic risk factor for Alzheimer's disease.

Zumba is a popular type of aerobic dance exercise that requires concentration and working memory. Because of these requirements, Zumba has been suggested as an especially good physical exercise for helping elderly persons maintain cognitive function. Cynthia Stonnington, M.D. and colleagues are planning to test this concept in a group of healthy, cognitively normal women aged 55 to 80 years. Included in this particular group are many individuals who carry the APOE epsilon4 gene.

The researchers plan to measure cognitive function in participants before and after conducting twice-weekly Zumba sessions for six months. They will compare changes in cognitive function in this group with another group of comparable individuals who did not participate in the exercise program. Using results of these tests, Dr. Stonnington and colleagues will determine whether the exercise group obtained significant benefit from the exercise sessions, and whether carriers of the APOE epsilon4 gene benefitted more or less than noncarriers. This study will help to further define the benefits of exercise for preserving cognitive function in elderly persons, including carriers of the APOE epsilon4 gene.