National Center for Complementary and Alternative Medicine
Tai Chi Boosts Immunity to Shingles Virus in Older Adults

This is the first rigorous clinical trial to suggest that a mind-body intervention, tai chi, alone or together with a vaccine, can help protect older adults from the varicella virus, which causes both chickenpox and shingles.

Lead Agency:

National Center for Complementary and Alternative Medicine (NCCAM)/
National Institutes of Health (NIH)

Agency Mission:

- Explore complementary and alternative healing practices in the context of rigorous science.
- Train complementary and alternative medicine researchers.
- Disseminate authoritative information to the public and professionals.

Principal Investigator:

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General Description:

Tai Chi Boosts Immunity to Shingles Virus in Older Adults
In a randomized, controlled clinical trial, NIH-supported researchers demonstrated that tai chi increases the immunity of older adults to the varicella zoster virus that causes both chickenpox and shingles and boosts their immune responses to the chickenpox vaccine. Tai chi, developed in China around the 12th century as a martial art, is a low-impact form of exercise and moving meditation that can improve physical condition, muscle strength, coordination, and flexibility.

One hundred twelve healthy adults, ages 59 to 86, took part in a 16-week program in which they received either a tai chi intervention or participated in a health education control group. After completing the program, both groups received a single injection of VARIVAX®, the chickenpox vaccine. Periodic blood tests determined levels of viral immunity during the program and nine weeks following vaccine administration. Prior to vaccination, tai chi was found to increase pre-existing immunity to varicella. Following vaccination, the level of immunity to varicella was significantly higher in the tai chi group, about a 40 percent increase, compared to the education group.

The researchers further showed that the tai chi group's rate of increase in immunity over the course of the study was double that of the control group. The tai chi group also reported significant improvements in physical functioning, body pain, vitality, and mental health.

Excellence: What makes this project exceptional?

Tai chi, a traditional Chinese form of exercise, may help older adults avoid getting shingles by increasing immunity to varicella-zoster virus (VZV) and boosting the immune response to varicella vaccine in older adults. This study is the first rigorous clinical trial to suggest that a behavioral intervention, alone or in combination with a vaccine, can help protect older adults from VZV, which causes both chickenpox and shingles.

Significance: How is this research relevant to older persons, populations and/or an aging society?

One in five people who have had chickenpox will get shingles later in life, usually after age 50, and the risk increases as people get older. More research is needed, but this study suggests that the tai chi intervention tested, in combination with immunization, may enhance protection of older adults from this painful condition.

Effectiveness: What is the impact and/or application of this research to older persons?

Tai chi, developed in China around the 12th century as a martial art, is a low-impact form of exercise and moving meditation that can improve physical condition, muscle strength, coordination, and flexibility. It is also said to improve balance, which may lower the risk of falls, especially in the elderly, and to ease pain and stiffness caused, for example, by arthritis. Tai chi is considered to be particularly suitable for older people because it is low-impact and can be modified easily to accommodate health limitations.

Innovativeness: Why is this research exciting or newsworthy?

This is the first rigorous clinical trial to suggest that a mind-body intervention, tai chi, alone or together with a vaccine, can help protect older adults from the varicella virus, which causes both chickenpox and shingles.