

## Effects of New Fitness Qigong on Body Composition and Immune System in Older Adults: A Pilot Study

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### ABSTRACT

The immune capacity of the elderly decreases with age. More and more studies have also confirmed that exercise can improve immune ability, but it can also be seen that intense and long time fitness and the body's immune ability is negatively correlated. This study will serve as a pilot study to explore whether the new fitness Qigong (KKUQG), which meets the characteristics of Chinese traditional fitness Qigong and integrates into Thailand's representative exercise program, can improve the immune capacity and level of the elderly in Thailand.

A randomized, controlled, parallel study was conducted to recruit 28 elderly people (aged 60-75 years) from communities around Khon Kaen. However, 4 subjects who did not meet the criteria were excluded due to limitations. The subjects were divided into experimental group (n=12) and control group (n=12) by single arm single blind method. Experimental group by a practicing qigong instructor lead more than two years qigong intervention for 12 weeks, three times a week, every 60 minutes (10 minutes before the warm-up, 40 minutes to practice the new qigong, among the final 10 minutes to relax), control group does not change the original way, reach the laboratory within the given time reading, reading the newspaper or read the book of songs.

After 12 weeks of new fitness Qigong intervention, the body composition of the experimental group was changed, BMI, fat content and body fat were decreased, but there was no significant difference in the control group. The number of lymphocytes in the experimental group and the control group was not statistically significant, but the number of white blood cells, neutrophils and red blood cells in the experimental group were significantly increased ( $P < 0.05$ ). There was no significant difference in control group. Compared with the immune indexes, the levels of C3 and C4 complement in the experimental group were significantly higher than those in the control group, with statistically significant difference ( $P < 0.05$ ), while the levels of IgG, IgA and IgM had no significant effect.

Through the 12 weeks of the new health QiGong intervention can effectively improve the elderly's body composition index, lower fat percentage, maintain a healthy body has a positive role in promoting, at the same time to the improvement of the immune index has significant effect, can increase and increase the number of cells, promote the body's immune ability. At the same time, it can also be seen that KKUQG is an aerobic, regular and moderate intensity exercise program, which has a more significant effect on the improvement of the immune ability of the elderly. The elderly can choose suitable exercise programs or forms according to their own conditions, so as to improve their autoimmune function.

**Keywords:** New fitness qigong; Older adults; Body composition; The immune system

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