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Tongkat Ali as a potential herbal supplement for physically active male and female seniors--a pilot study

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Abstract

Tongkat Ali (*Eurycoma longifolia*; TA) is known to increase testosterone levels and alleviate aging males' symptoms. This study aimed at investigating TA as an ergogenic supplement for elderly people. Thirteen physically active male and 12 physically active female seniors (57-72 years) were supplemented with 400-mg TA extract daily for 5 weeks. Standard hematological parameters were taken. In addition, the concentrations of total and free testosterone, dihydroepiandrosterone, cortisol, insulin-like growth factor-1, and sex hormone-binding globulin were analyzed. As additional biochemical parameters, blood urea nitrogen and creatine kinase as parameters of kidney function and muscle damage, respectively, as well as the muscle strength by a simple handgrip test were determined. After treatment, hemoglobin, testosterone, and dihydroepiandrosterone concentrations, and the ratio of total testosterone/cortisol and muscle force remained significantly lower in female seniors than in male seniors. Hematocrit and erythrocyte count in male seniors increased slightly but were significantly higher than in female seniors. Treatment resulted in significant increases in total and free testosterone concentrations and muscular force in men and women. The increase in free testosterone in women is thought to be due to the significant decline in sex hormone-binding globulin concentrations. The study affirms the ergogenic benefit of TA through enhanced muscle strength.

Keywords: *Eurycoma longifolia*; adaptogen; elderly individuals; ergogenic benefits; increased muscle strength; testosterone.

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