

Effects of Regular Exercise on Blood Components and Serum Lipids in Elderly with Low Cognitive Function

Nan Hee, L¹, Chung Moo, L², and Sukho, L¹

¹Department of Counseling, Health, and Kinesiology; Texas A&M University; San-Antonio, Texas

²Department of Physical Education; Sookmyung Women's University; Youngsan-gu, Seoul

Category: Professional-in-Training

Advisor / Mentor: Sukho, Lee (slee@tamusa.tamus.edu) / Chung Moo, Lee (chung@sm.ac.kr)

ABSTRACT

Exercise is known as an effective method to reduce morbidity related to the cognitive impairment in the elderly. It has been reported that combined exercise including aerobic exercise and resistance training promotes cardiovascular function to facilitate volumetric oxygen transfer into brain and body tissues. The purpose of the present study was to determine the changes of blood components (RBC, WBC, HCT, Hb, MCV, MCH, Platelet) and serum lipids (TC, TG, HDL-c, LDL-c) by regular combined exercise in elderly with low cognitive function. 18 elderly women out of 23 completed all study requirements in this study. Following a baseline screening session that included a measurement of body composition (BIA) and mental status examination (MMSE-K and MoCA-K), subjects were randomly divided into two groups as the exercise group (N=10) and the control group (N=8). The exercise group participated in combined exercise program that was composed of aerobic and resistance exercises (50-60 min, 3 times/week, 12 weeks). Blood components and serum lipids were measured pre and post assessments. Data were statistically analyzed using independent t-test and paired t-test by SPSS 12.0 program. Significance was set a $P < 0.05$. According to analysis, RBC, Hb, and HDL-c in exercise group were significantly increased compared to the control group while TG was significantly decreased in exercise group. Interpretation of these findings suggests that regular exercise improves cognitive function resulting from enhancement of ability to carry oxygen and regulate blood lipids in elderly women.