

Effects of Exercise on Cholesterol and Hormone Levels of Premenopausal and Perimenopausal Women

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The purpose of this study was to compare the effects of regular moderate exercise on cholesterol and hormone (cortisol, growth hormone, and estrogen) levels in premenopausal and perimenopausal women. Little has been published about the effects of exercise on the levels of these analytes in perimenopausal women. These hormones typically diminish with age, but exercise may promote increased secretion. Fifteen premenopausal women (ages 20 to 30 years) and 11 perimenopausal women (ages 40 to 50 years) participated in a 4-week, 3-times-per-week exercise program. Once a week for 6 weeks, blood samples were collected from each participant, preexercise, during exercise, and postexercise. Data indicated that all analyte concentrations of the premenopausal women remained stable throughout the program. In contrast, there was a significant ($p < 0.5$) decrease in cholesterol levels of the perimenopausal women when comparing week 0 to week 4, but not when comparing week 0 to week 5, suggesting that exercise lowers cholesterol in perimenopausal women, but the effect was sustained only if exercise was continued. There were no significant differences in the cortisol values of the perimenopausal women, suggesting that the exercise did not activate inflammatory responses to a significant extent. The investigators concluded that the exercise program was safe for use in a similar study involving older women (ages 60 to 75 years). Growth hormone and estrogen values are currently being analyzed.