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Does exercise reduce inflammation? Physical activity and C-reactive protein among U.S. adults.

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Abstract

BACKGROUND: Physical activity may lower the risk for coronary heart disease by mitigating inflammation, which plays a key role in the pathophysiology of atherosclerosis. The purpose of this study was to examine the association between physical activity and C-reactive protein concentration in a national sample of the U.S. population.

METHODS: The analytic sample included 13,748 participants ≥ 20 years of age in the National Health and Nutrition Examination Survey III (1988-1994) with complete data for the main study variables.

RESULTS: After adjusting for age, sex, ethnicity, education, work status, smoking status, cotinine concentration, hypertension, body mass index, waist-to-hip ratio, high-density lipoprotein cholesterol concentration, and aspirin use, the odds ratios for elevated C-reactive protein concentration (dichotomized at the ≥ 85 th percentile of the sex-specific distribution) were 0.98 (95% confidence interval = 0.78-1.23), 0.85 (0.70-1.02), and 0.53 (0.40-0.71) for participants who engaged in light, moderate, and vigorous physical activity, respectively, during the previous month compared with participants who did not engage in any leisure-time physical activity. In addition, leisure-time physical activity was positively associated with serum albumin concentration and inversely associated with both log-transformed plasma fibrinogen concentration and log-transformed white blood cell count.

CONCLUSIONS: These results add to mounting evidence that physical activity may reduce inflammation, which is a critical process in the pathogenesis of cardiovascular disease.

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MeSH Terms, Substances

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