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ORIGINAL RESEARCH COMMUNICATION

Combining fish-oil supplements with regular aerobic exercise improves body composition and cardiovascular disease risk factors^{1,2,3}

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Background: Regular exercise and consuming long-chain n— 3 fatty acids (FAs) from fish or fish oil can independently improve cardiovascular and metabolic health, but combining these lifestyle modifications may be more effective than either treatment alone.

Objective: We examined the individual and combined effects of n-3 FA supplements and regular exercise on body composition and cardiovascular health.

Design: Overweight volunteers [body mass index (BMI; in kg/m²): >25] with high blood pressure, cholesterol, or triacylglycerols were randomly assigned to one of the following interventions: fish oil (F0), F0 and exercise (F0X), sunflower oil (S0; control), or S0 and exercise (S0X). Subjects consumed 6 g tuna F0/d (\approx 1.9 g n-3 FA) or

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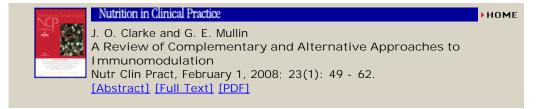
6 g SO/d. The exercise groups walked 3 d/wk for 45 min at 75% age-predicted maximal heart rate. Plasma lipids, blood pressure, and arterial function were assessed at 0, 6, and 12 wk. Body composition was assessed by dual-energy X-ray absorptiometry at 0 and 12 wk only.

Results: F0 supplementation lowered triacylglycerols, increased HDL cholesterol, and improved endothelium-dependent arterial vasodilation (P < 0.05). Exercise improved arterial compliance (P < 0.05). Both fish oil and exercise independently reduced body fat (P < 0.05).

Conclusions: F0 supplements and regular exercise both reduce body fat and improve cardiovascular and metabolic health. Increasing intake of n-3 FAs could be a useful adjunct to exercise programs aimed at improving body composition and decreasing cardiovascular disease risk.

Key Words: n— 3 Fatty acids • body fat • flow-mediated dilatation • lipids • dual-energy X-ray absorptiometry • DXA

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