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**Does Exercise Training Alter Dietary Choice among Prepubertal Boys?**

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It is becoming increasingly clear that patterns of physical activity and diet during childhood can profoundly impact health later in life, particularly with reference to obesity, osteoporosis, and atherosclerosis. Despite this mechanism, knowledge about how exercise influences diet under natural conditions in healthy, nonobese children is limited. To examine this, 33 prepubertal boys (8 to 10 years of age; controls, n=13) consented to participate in a 5-week, prospective aerobic, endurance-type training protocol. Prior to the intervention, groups of 3-5 boys (with at least one parent present) attended a 1½ hour training the day before keeping 3-day food records (Thursday, Friday and Saturday). A detailed protocol was used for consistent instruction at pre (T1) and post-intervention (T2) food record collections. A 30-minute private appointment was held on Friday to review records for completeness and answer any questions. Records were returned on Monday, reviewed for completeness and analyzed on the Food Processor nutrient analysis system. At the beginning of the study, a significant association was noted for mean energy intake (kcal/day) and: 1)  $\text{VO}_2\text{max}$  (L/min) ( $r = 0.57, p < 0.01$ ); 2) body weight (kg) ( $r = 0.66, p < 0.01$ ); and 3) estimated (from skinfolds) lean body mass (kg) ( $r = 0.59, p < 0.01$ ). No significant changes were noted for the control group from T1 to T2 for either dietary components or body weight; likewise, significant Pearson product moment correlations showed stability for dietary protein, fat, saturated fat, fiber, vitamin C, Vitamin D, and per cent energy from fat. Subjects in the training group increased fitness but without any change in body weight or total caloric intake (T1, 2070 kcal/day; T2, 1788 kcal/day, NS). However, significant changes in dietary choices did occur from T1 to T2: percent energy from fat increased (T1,  $27.9 \pm 6.2$  to T2,  $32.1 \pm 5.4, p < 0.01$ ), and both total carbohydrate and per cent energy from carbohydrate (CHO) decreased (T1,  $80 \pm 29$  g CHO to T2  $68 \pm 22$  g,  $p < 0.05$ ; T1, 57.0% to T2, 52.7%,  $p < 0.05$ ). Total protein, per cent energy from protein, vitamin D and calcium were stable as verified by significant, positive Pearson product moment correlations from T1 to T2,  $p < 0.05$ . Using a similar training intervention protocol but with adolescent females, we noted remarkably similar effects of exercise training, namely, a reduction in %CHO and increase in % fat (Ambler et al., *Int J Obes* 22:354,1998). Increased levels of physical activity lead to naturally occurring changes in dietary choices in prepubertal boys. A decrease in CHO intake is balanced by an increase in fat with no change in protein. The extent to which these changes in diet are related to hormonal effects of exercise training (e.g., increased circulating cytokines) remains unknown. This work is supported by NICHD 26939.