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Outcomes of a Field Trial to Improve Children's Dietary Patterns and Physical Activity

The Child and Adolescent Trial for Cardiovascular Health (CATCH)

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Abstract

Objective. —To assess the outcomes of health behavior interventions, focusing on the elementary school environment, classroom curricula, and home programs, for the primary prevention of cardiovascular disease.

Design. —A randomized, controlled field trial at four sites with 56 intervention and 40 control elementary schools. Outcomes were assessed using prerandomization measures (fall 1991) and follow-up measures (spring 1994).

Participants. —A total of 5106 initially third-grade students from ethnically diverse backgrounds in public schools located in California, Louisiana, Minnesota, and Texas.

Intervention. —Twenty-eight schools participated in a third-grade through fifth-grade intervention including school food service modifications, enhanced physical education (PE), and classroom health curricula. Twenty-eight additional schools received these components plus family education.

Main Outcome Measures. —At the school level, the two primary end points were changes in the fat content of food service lunch offerings and the amount of moderate-to-vigorous physical activity in the PE programs. At the level of the individual student, serum cholesterol change was the primary end point and was used for power calculations for the study. Individual level secondary end points included psychosocial factors, recall measures of

Results. –In intervention school lunches, the percentage of energy intake from fat fell significantly more (from 38.7% to 31.9%) than in control lunches (from 38.9% to 36.2%)($P<.001$). The intensity of physical activity in PE classes during the Child and Adolescent Trial for Cardiovascular Health (CATCH) intervention increased significantly in the intervention schools compared with the control schools ($P<.02$). Self-reported daily energy intake from fat among students in the intervention schools was significantly reduced (from 32.7% to 30.3%) compared with that among students in the control schools (from 32.6% to 32.2%) ($P<.001$). Intervention students reported significantly more daily vigorous activity than controls (58.6 minutes vs 46.5 minutes; $P<.003$). Blood pressure, body size, and cholesterol measures did not differ significantly between treatment groups. No evidence of deleterious effects of this intervention on growth or development was observed.

Conclusion. –The CATCH intervention was able to modify the fat content of school lunches, increase moderate-to-vigorous physical activity in PE, and improve eating and physical activity behaviors in children during 3 school years.(*JAMA*. 1996;275:768-776)

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