

## NUTRITION INTERVENTIONS IN ELEVEN YEAR OLD PERTH SCHOOL CHILDREN

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In 1990, 1128 eleven year old children were randomly selected from Perth metropolitan schools to take part in an intervention study involving nutrition and physical fitness programs. The study population was divided into six groups receiving programs in either 1. physical fitness, 2. physical fitness and school nutrition, 3. school nutrition, 4. school and home nutrition, 5. home nutrition, or 6. no programs. The major aims of the study were to evaluate the practicality and effectiveness of these interventions in schools and to investigate the possible effects of these programs on the cardiovascular (CV) risk factors of the children. This paper will deal with the nutrition aspects of the study.

The school nutrition program contained 10 classroom lessons in nutrition, while the home nutrition program was based around comics with a nutrition message for children, together with dietary information for parents. Both programs focussed upon reducing fat, refined sugar and salt in the diet while increasing consumption of fibre rich foods. Forty eight hour diet records were used to measure dietary intake. Blood pressure, serum cholesterol, physical fitness and percent body fat (as established from skinfolds) were also measured to determine CV risk factors.

In terms of the objectives of the study, the nutrition programs did have positive effects upon children's consumption of sugar and fibre, but were unable to demonstrate reductions in fat consumption. The combined school and home nutrition programs were most successful in terms of reducing sugar intake and increasing fibre, but least successful in reducing fat consumption. It is possible that long sustained public health efforts to reduce sugar consumption in children (especially to maintain healthy teeth) may have provided a key focus for dietary change. Baseline dietary characteristics may account for lack of a positive change in fat intake. Within the combined nutrition group girls and boys responded to the intervention in similar ways although greater falls in sugar and increases in fat occurred among the boys. The nutrition programs may have been too short to have a greater impact upon dietary behaviour.

In terms of the effect of the nutrition programs on CV risk factor change, girls were much more likely to demonstrate positive outcomes. The combined effects of nutrition and physical fitness in girls, were most likely to lead to greater improvements in CV profiles, while the home nutrition program alone actually adversely affected CV profiles. Boys were less likely to demonstrate positive change, with all programs conferring similar benefits to controls. Future emphasis should be placed on combined fitness and nutrition programs for children of this age.

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