APPLE study puts the bite on childhood weight gains

A demonstration project, offering combined lifestyle and exercise interventions to hundreds of Otago primary school children, has succeeded in reducing their rate of weight gain.

Known as APPLE - A Pilot Programme of Lifestyle and Exercise - the two-year University of Otago study used community-based initiatives to encourage physical activity and provide simple dietary advice. The programme involved 250 children each year with another 250 in a non-intervention control group.

One of the lead researchers, Dr Rachael Taylor from the University’s Department of Human Nutrition, says when the programme was first conceived in 2000 it was becoming clear that while nutrition education has a role, just telling people what to eat and do isn't enough to make an impact.

They talked to the country communities involved about what they saw as the barriers and promoters of physical activity and healthier eating for primary school children in their area. Local activity co-ordinators were then employed to develop and co-ordinate programmes for the four intervention schools.

They also developed a “snacktivity” resource for teachers so they could have small bites of activity in class. They could have a short five-minute burst of activity, sometimes led by older children, and then go back to whatever subject they were teaching.

Nutrition interventions were mostly nutrition education targeting sugary drinks and promoting fruit and vegetables. ENZA supplied free apples for six months and filtered, chilled water systems were also installed in each school.

Dr Taylor says they reduced the rate of weight gain by between 0.5 and 0.7 of a BMI unit, which translates to a few kilos.

“That doesn't sound much in an individual child but at a population level you are talking about saving hundreds or even thousands of BMI units.”

They found, however, that they didn't change the prevalence of overweight in children, meaning the same proportion of children were overweight in the intervention and controls.

“We also found that we reduced the rate of weight gain in the normal weight kids but not in the overweight kids,” says Dr Taylor.

“What it suggests to us is that children who are already overweight might need more personal assistance to actually help them reduce their relative weight to a greater degree.”

The findings of the APPLE study are published in the American Journal of Clinical Nutrition (Sept 2007).

This research is funded by the Health Research Council of New Zealand, the National Heart Foundation, the Community Trust of Otago, the University of Otago, and the Otago Diabetes Research Trust.