

FEATURE

OBESITY IN CHILDREN

...Not just child's play...

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The dramatic increase in obesity for Australian children has alarmed our community with the notion that our children could potentially die of adult lifestyle diseases before we do.

In Australia, it is estimated that 20%-25% of children and adolescents are overweight or obese. Childhood and teenage obesity has been associated with a range of medical and psychological complications, predisposing these children to the increased risk of adult obesity as well as the cardiovascular disease (CVD) risk factors which include early onset type 2 diabetes, hypertension, and dyslipidaemia.

Identifying the etiology of obesity is more intricate than simply balancing energy input with energy output.

Causes of Childhood Obesity:

Complex feedback mechanisms at the cellular level are required for the control of (and interplay between) food intake, metabolism, and maintenance of body fat stores. Genetic defects may be involved but will generally result in severe obesity at a very early age and are very rarely encountered in the general community. ***The increased incidence of obesity in western culture is therefore best explained by other factors such as diet and exercise rather than changes to the gene pool.***

The negative effect of poor diet and lack of exercise almost certainly predisposes adolescents to accelerated cardiovascular risk factors in early adulthood.

Lifestyle factors:

Factors contributing to these lifestyle choices include family meal patterns, snacking, frequency of meals away from home, and the nutrient profile of meals. Participation in sports or leisure-time exercise may also have a cumulative impact upon body weight.

The Role of Nutrients:

The types of nutrients consumed will play a significant role in relation to lipids and lipoproteins in Australian school children and is an important point to consider when reviewing paediatric precursors of atherosclerosis. Australian studies involving adolescent children have demonstrated that a higher cardiovascular risk is associated with both dietary excesses (particularly in fat, cholesterol and sodium intake) and deficiencies of a number of minerals, vitamins and dietary fibre.



Poor dietary patterns such as low consumption of fruits and vegetables along with an excessive intake of refined sugar are important contributors to defining dietary energy profiles in Australian children, and are a contributing factor to the increasing incidence of obesity.

In a review of 30 papers (spanning almost 4 decades), researchers have (repeatedly) recommended strategies for reducing excessive soft drink intake to decrease the development of overweight in children.

Anecdotally, vegetarian diets seem to be growing in popularity among some teenagers in Australia. Unfortunately, the number of studies investigating the effect of a predominantly vegetarian diet on the health of adolescents worldwide are minimal. Caution must be taken however with children or teenagers who have commenced a vegetarian diet for the purposes of weight management as this could be masking an eating disorder.

Preventing Childhood Obesity: Beneficial Foods:

Emerging evidence highlights the importance of an adequate consumption of beneficial dietary factors in promoting health, including an abundance of fruits, vegetables, whole grains, legumes, soy protein and nuts.

Studies indicate that a high consumption of plant-based foods such as fruit, vegetables, nuts and whole grains is associated with a significantly lower risk of coronary artery disease and stroke in adults. Higher fruit and vegetable intake along with nut and soy food consumption feature prominently in vegetarian compared to non-vegetarian diets.

The complex interplay that food has within the social context also impacts on the physical and mental health of children. Parental obesity appears to predispose children to becoming overweight. Family meals provide an opportunity for parents to model positive eating behaviours as well as exposing children to a wider food variety. Family overweight intervention strategies have demonstrated that regular breakfast consumption helps to maintain a healthy body weight.



Strategies for prevention of overweight and obesity are urgently required...



Exercise:

Exercise patterns are known to impact favourably on CVD risk factors. Research published by Morley and associates in 1998 suggested that teenagers exercising at least once a day had significantly lower total serum cholesterol and low density lipoprotein (LDL) cholesterol levels than those exercising less frequently, even after adjustment for age, body mass index, gender and other dietary factors.



The Effect of Advertising:

What about the impact of TV advertising? Some researchers have suggested that the contribution of television to childhood overweight is more to do with inactivity than with advertising. Salmon and associates (2006) reported that Australian children who watch television for more than 2 hours daily appear to be at greater risk of poor diet and low physical activity levels. However, a large New Zealand study found that longer duration of television viewing (thus, more frequent exposure to advertising) influenced the frequency of consumption of soft drinks, some sweets and snacks, and some fast foods among children and young adolescents. Irrespective of the reasons, it is clear that efforts to curtail the amount of time children spend watching TV may result in better dietary habits and weight control for children and adolescents.

However, our study on 215 Australian teenage students found that exercise on it's own did not have a significant effect on metabolic risk factors, suggesting that diet may be more important in this age group.

Clearly, strategies for prevention of overweight and obesity are urgently required in school-aged children in order to stem the epidemic of overweight in the adult population. The magnitude of the problem necessitates interventions at every level – from families, community, schools, food industry, advertising and sponsorship and government policy. Successful strategies that offer some evidence base include family support, a developmentally appropriate approach, long-term behaviour modification, dietary change, increased physical activity and decreased sedentary behaviour.

(For copies of the complete article including references, please contact the ARI)

Staff Happenings

As the ARI continues to move forward, we've also had a number of changes to our staffing.



Farewell and many thanks to a key member, Mr Wayne Cooper. Wayne had been our Assistant Manager during the crucial developing stage of the Institute (2004-2006). We wish Wayne the very best in his new ventures.

Welcome to Angie Low, our Research Assistant. Angie has a Masters in Dietetics with experience in Food Science and Technology.



Renee Trotter has also joined us as Clinical Trials Co-ordinator. Renee is a registered nurse with training in Clinical Trials and many years experience in cardiology.



Continuing their involvement in one way or another include Rohani LeRossignol (art work and graphics) Corilda Grant, chief data entry (having entered over 20,000 surveys since the ARI commenced) and newsletter production.



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