



Weighty matters

An approach to childhood overweight in general practice

BACKGROUND In Australia, childhood obesity now rivals asthma as the most prevalent chronic child health condition. The past 2 decades have shown a rapidly rising prevalence of childhood overweight and obesity with no sign that this trajectory will plateau. Primary care is increasingly recognised as a forum in which to address this growing public health issue.

OBJECTIVE This article discusses the epidemiology of childhood overweight and obesity in Australia and their associated physical and psychosocial morbidities. It discusses the current evidence base and resources for the definition, investigation and management of childhood obesity and outlines an approach in the primary care setting. It also reports a recently developed general practitioner delivered intervention to reduce overweight in primary school aged children – the Live, Eat and Play (LEAP) project.

DISCUSSION Clear clinical practice guidelines for the assessment and management of overweight and obesity in childhood in primary care now exist. The feasibility of these guidelines, and the availability of resources required to deliver them, is not yet clear. The LEAP project proposes an effective intervention delivered by general practitioners to address this vital and complex issue.

Children have become more obese in the past 20 years, posing an unprecedented risk to their health. The 2003 National Health and Medical Research Council (NHMRC) *Clinical practice guidelines for the management of overweight and obesity in children and adolescents* note that childhood obesity is associated with cardiovascular morbidity (eg. hypertension and dyslipidaemia), insulin resistance and diabetes, a range of other associated medical morbidities (eg. respiratory and orthopaedic problems), disordered eating, and psychosocial morbidity.¹ Overweight and obese Victorian children aged 8–12 years have poorer quality of life, and the higher the body mass index (BMI), the lower the quality of life.² Overweight/obesity in the early primary school years precedes a marked fall in self esteem by late primary school.³ Most importantly, overweight children are likely to become overweight or obese adults.⁴ Globally, adult obesity already accounts for more than 15 million disability adjusted life years and 1–1.5 million years of life lost per annum.⁵ As most currently obese adults were not overweight/obese as children, the burden is likely to worsen for tomorrow's adults once today's years of childhood overweight are factored in.

Aetiology

- Genetics: obesity is a polygenic disorder. At least five single gene defects have been found, but these are extremely rare and associated with severe and very early onset obesity, which should prompt referral for further assessment
- Environment: the dramatic rise in prevalence of overweight over the past 3 decades indicates that the environment is a key. Sedentary behaviour, physical inactivity, increased consumption of high fat foods, sugar sweetened drinks, and children's food advertising all contribute



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- Underlying medical conditions: (very rarely) secondary obesity may occur due to hypothyroidism, hypercortisolism, growth hormone deficiency and hypothalamic damage
- Drugs: steroids, antipsychotic drugs (risperidone) and some antiepileptic medications
- Other risk factors: early infant feeding of solids, parental obesity, parental encouragement of children to eat, and lower socioeconomic status.

Consequences of childhood overweight

- Obese children have a much greater risk of adult obesity; a 5 year old who is obese has an 8 times increased risk of adult obesity⁴
- Psychosocial morbidity (bullying, teasing, lower self esteem, poorer socioeconomic prospects)⁶
- A range of physical morbidities: type 2 diabetes, hypertension, dyslipidaemia, nonalcoholic steatohepatitis, orthopaedic disease, obstructive sleep apnoea, and infertility.⁷

Definition of overweight and obesity

Body mass index (BMI related to reference standards for age and sex) is recommended as a practical measure of overweight and obesity in children.¹ Rapid changes in BMI occur in normal growth and BMI varies with age and sex. Body mass index rises in the first year of life, then falls during the preschool years before rising again into adolescence. The point at which BMI starts to rise again (4–6 years) is called 'adiposity rebound'. Thus, calculated BMI values need to be compared with age and sex reference standards. In Australia, the recommended BMI charts are the BMI for age percentile charts developed by the US Centre for Disease Control (see *Resources*). A BMI >85th percentile suggests overweight, and a BMI >95th percentile suggests obesity.

Assessment and management

The 2003 NHMRC guidelines¹ and the *Medical Journal of Australia* article by Batch and Baur⁸ provide an excellent basis for the assessment and management of the obese child or adolescent (see *Resources*).

An opportunistic approach in primary care

For many clinicians, the issue often stops once the child has been noted as being overweight (particularly in the busy acute care setting). Outlined below is an approach that enables this important health concern

to be addressed opportunistically.

- First, do no harm! Approach with respect
- Resolve to address the issue
- Assess the child and parent's perceptions of the issue (do they even see it as a concern?)
- Highlight the issue of weight in the context of health – show the growth chart to the family and explain what the healthiest weight for their child would be; explain they are still growing in height, so probably do not need to actually lose weight – they need to 'grow into their weight'
- Ask what they think they could do and possibly suggest some behaviour change ideas
- Arrange follow up.

Approximately 50% of parents of obese children do not perceive that their child is overweight.⁹ It is therefore useful to gauge their opinion and experience of this issue as this can shape the ensuing discussion: eg. 'What do you think about Sarah's weight?' **A)** They (and Sarah) might respond that they are aware and concerned about the issue. This is when you can discuss specific behaviour changes and arrange referral. **B)** They may state that they think her growth is fine. Then your goal is to raise their awareness, not necessarily to solve the problem.

It is helpful to frame the discussion of overweight in terms of health – talk about 'the healthiest weight for Sarah'. You could respond: 'Let's take a look at where Sarah should be on the weight for height chart and I can explain why I am concerned. At 5 years of age, Sarah is the weight of an average 8 year old. This has implications for her future health. We need to slow the rate at which Sarah is putting on weight, and help her grow into her weight. You are right, she does not need to lose weight'.

Behaviour change ideas you can discuss with families

Physical activity – any increase is an improvement

- Aim for 'lifestyle' exercise: using the stairs, walking to school, walking the dog
- Involve the entire family (everyone can benefit, regardless of weight)
- Use after school time to get outdoors and be active
- Decrease screen based activities (eg. television, computer)
- Have bikes, helmets and balls ready to go – by the door!

Nutrition – don't forget drinks!

- Water is the best drink for children: omit cordial and soft drinks
- Better to eat fruit than drink fruit juice
- Low fat (2%) milk (<500 mL/day) is preferred for children over 2 years of age
- Underline the importance of breakfast, regular meals and healthy snacks
- Basic food label reading and awareness of the 'traps', ie. 'no fat' might mean lots of sugar and therefore the same number of calories
- Serving sizes (does the 5 year old get served as much as mum or dad?)
- Plan ahead, avoiding the need for take-away foods.

The difference that GPs can make

Universal prevention and tertiary management approaches have yet to halt the rising prevalence of childhood overweight/obesity. Thus the primary care sector is an increasingly important forum for secondary prevention of obesity. Tackling childhood overweight in this sector seems an unlikely issue to debate: surely this is something we should just be doing? A primary care approach has been advocated in recent papers,^{10,11} and (enthusiastically) in the NHMRC guidelines.¹ Yet research demonstrating efficacy of child weight management in primary care is only beginning to occur.¹²

The Live, Eat and Play (LEAP) trial

In 2002–2004, a randomised controlled trial (RCT) of a brief general practice secondary prevention intervention delivered by GPs to reduce overweight in Victorian primary school children was conducted.¹³ It was funded by the Australian Health Ministers Advisory Council Priority Driven Research Program.

At the time LEAP was conducted there were no other trials to indicate whether a primary care approach in this area would be viable. It was unknown whether GPs would be willing to do it, whether families would engage in the intervention, or whether a weighing and measuring survey would be feasible in the general practice setting. Despite these uncertainties, we found that: 29 practices and 163 families across the socioeconomic spectrum were willing to participate in the RCT; GPs were interested in tackling childhood overweight and willing to learn behaviour change techniques suitable for use within the standard consultation framework; parents of overweight/obese children were willing to engage

with GPs on the issue; and there was a favourable trend toward improvement in BMI trajectory in the intervention compared to the control group.

The current LEAP project will involve 4500 children aged 5–9 years being weighed and measured when they attend the medical practices of 60 participating Melbourne GPs between 2005 and 2007. As in the first LEAP study, GPs will undergo training in healthy family lifestyle counselling, using brief solution focussed therapy. Families will receive a set of purpose designed materials to support this.

Four hundred and forty families with children found to be overweight/mildly obese in the height and weight survey will be invited to participate in this study. Families in the 'intervention' group will receive four GP consultations over a 3 month period to discuss healthy lifestyle changes. Families in the control group will not receive these consultations. Both groups will be followed up by the research team at 6 and 12 months after the intervention period. In addition to completing study questionnaires and having their height and weight re-measured, children will be fitted with pedometers.

The NHMRC has funded LEAP2 in the belief that it has the potential to make an original and significant contribution to the health of Australian children. We anticipate 6 month follow up results will be available in December 2006.

Resources

- BMI for age percentile charts: www.cdc.gov/growthcharts
- Girls: www.cdc.gov/nchs/data/nhanes/growthcharts/set1clinical/cj411024.pdf
- Boys: www.cdc.gov/nchs/data/nhanes/growthcharts/set1clinical/cj411023.pdf
- Batch J, Baur L. Management and prevention of obesity and its complications in children and adolescents. *Med J Aust* 2005;183:130–4
- Ebbeling CB, Pawlak DB, Ludwig DS. Childhood obesity: public health crisis, common sense cure. *Lancet* 2002;360:473–82

Websites for professionals

- Royal Children's Hospital Department of General Medicine. BMI calculator and normal curves: www.rch.org.au/genmed/clinical.cfm?doc_id=2603
- Rick Kausman, Australian GP pioneer of the nondieting approach to healthy weight management: www.ifnotdieting.com.au
- NHMRC *Clinical practice guidelines for the management of overweight and obesity in children and adolescents*: www.obesityguidelines.gov.au

Websites for family information

- Ideas to increase levels of physical activity and healthy

eating: www.goforyourlife.vic.gov.au

- Body image issues: www.completelygorgeous.com.au
- Dieticians Association of Australia. Nutrition information, recipes, questions and answers: www.daa.asn.au

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