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WA Country Health Service
South West - Community Health

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(Inq into Obesity)
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House of Representatives
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Re: Inquiry into Obesity in Australia

The following information provided focuses on prevention and management of childhood obesity.

- Childhood overweight is a major Australian public health issue affecting more than 20% of Australian children.
- The Australian National Health and Medical Research Council has developed evidence based Clinical Practice Guidelines for the management of overweight and obesity in Children and Adolescents. The NHMRC recommends utilising all available treatment components: diet, activity, behaviour modification and family support; and highlights that treatment needs to be delivered in an age appropriate manner.
- It is important to address parental overweight or obesity, as it is a largest risk factor for childhood overweight. Addressing lifestyle change at the family level is important given the clustering of overweight in families and shared environmental factors such as food supply and eating habits. Food supply and the rising cost of fruits and vegetables also need to be addressed to ensure equitable access to all.
- Currently Dietitians view themselves to be the best-trained professionals in the area of childhood obesity and use many of the strategies detailed in the NHMRC clinical practice guidelines to manage overweight and obese clients. Many feel that their capacity to work effectively in this area is limited by inadequate resources, professional development opportunities such as time and funding, staffing and training in specialist-counselling skills. (Campbell K, Crawford D. Management of obesity: attitudes and practices of Australian dietitians, 2000).
- Acquiring expertise in parenting skills may provide dietitians with a useful age-appropriate child behaviour modification approach to address family lifestyle and weight-related behaviours.
- A recommendation is to look at employing/supporting Family focused weight management programs, incorporating parenting skills training with healthy lifestyle information to support behaviour modification (see supporting case study). This paper provides the use of an established and evaluated general parenting skills program as a behaviour modification component of a family-focused child weight management program.

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CASE STUDY

Family-focused weight management program for five- to nine-year-olds incorporating parenting skills training with healthy lifestyle information to support behaviour modification

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Abstract
This case study aims to describe how general parenting principles can be used as part of parent-led, family-focused child weight management that is in line with current Australian Clinical Practice Guidelines. A parent-led, family-focused child weight management program was designed for use by dietitians with parents of young children (five- to nine-year-olds). The program utilises the cornerstones of overweight treatment: diet, activity, behaviour modification and family support delivered in an age-appropriate, family-focused manner. Parents participate in 16 sessions (4 parenting-focused, 8 lifestyle-focused and 4 individual telephone support calls) conducted weekly, fortnightly then monthly over six months. This case study illustrates how a family used the program, resulting in reduced degree of overweight and stabilised waist circumference in the child over 12 months. In conclusion, linking parenting skills to healthy family lifestyle education provides an innovative approach to family-focused child weight management. It addresses key Australian Clinical Practice Guidelines, works at the family level, and provides a means for dietitians to easily adopt age-appropriate behaviour modification as part of their practice.

Key words: behaviour modification, child, parenting, weight management.

INTRODUCTION

Childhood overweight is a major Australian public health issue affecting more than 20% of Australian children.[1] From an early age, overweight impacts negatively on psychosocial development and the cardiovascular, endocrine, orthopaedic and respiratory systems.[2] The most significant long-term consequence of childhood overweight is its persistence into adulthood.[2] Effective, age-appropriate treatment approaches are required to address the immediate consequences of childhood obesity and prevent persistence into adulthood.

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The Australian National Health and Medical Research Council (NHMRC) has developed evidence-based 'Clinical Practice Guidelines for the Management of Overweight and Obesity in Children and Adolescents'.[2] The NHMRC recommends utilising all available treatment components: diet, activity, behaviour modification and family support; and highlights that treatment needs to be delivered in an age-appropriate manner.[2] For young children, this may be best focused on parent-led family-based, rather than child-centred, treatment.

An Israeli study of 50 children aged 6–11 years found that when parents, rather than the overweight child, were targeted as the 'agent of change' for managing child overweight, there were better child weight outcomes eight years later (10 ± 11% vs 19 ± 14% overweight, $P < 0.05$).[3] A parent-led, family-focused approach acknowledges that parents and families are the key food providers and influences on young children's eating behaviours.[2] Focusing on the family also addresses 'family overweight', important given that parental overweight is the largest risk factor for childhood overweight.[2] The developmental capacity of young children also

suggests that modifying children's eating and activity patterns is best considered within broader parenting and child behaviour.

Dietitians view weight management as an important professional role; however, they identify a range of barriers to working in this area.[4] Surveys conducted with Australian dietitians in 1997 and 2002 highlighted that many do not feel well prepared to manage overweight and obese clients, particularly children.[4,5] Many feel that their capacity to work effectively in this area is limited by inadequate resources and professional development opportunities, such as time, funding, staffing and training in specialist counselling skills.[5] In addition, limited use of available practice guidelines[2] and a lack of paediatric-specific dietetic practice guidelines may also be barriers to evidence-based child weight management. Further, papers detailing the interventions evaluated in studies are scarce—another barrier to effective practice in this area.[6]

Acquiring expertise in parenting skills may provide dietitians with a useful age-appropriate child behaviour modification approach to address family lifestyle and weight-related behaviours. This paper describes the novel adaptation and use of an established and evaluated general parenting skills program, for which materials and facilitator training are commercially available, as the behaviour modification component of a family-focused child weight management program. The paper aims to provide a detailed program description, including a case study, to facilitate application of a parent-led, family-focused approach to child weight management service delivery—an area of clear need in which dietitians report limited capacity.

PROGRAM DESCRIPTION

Program overview

The program provides positive parenting skills training coupled with healthy lifestyle education. The program is underpinned by a theoretical framework that aims to facilitate and support parental capacity to initiate and maintain healthy family eating and activity behaviours conducive to changing energy balance (Table 1). Parents are defined as the 'agent of change', responsible for attending program sessions and implementing lifestyle change at the family level. Children are not directly involved in the education or program implementation process.

The program, facilitated by a dietitian, consists of 12 group sessions for parents only (12–14 parents per group; 4 parenting-focused and 8 lifestyle-focused) (Table 2). The education approach used is process-focused to promote self-management. Significant time is spent reviewing homework tasks and peer problem-solving barriers identified by parents prior to the delivery of new content. Four additional telephone sessions provide an opportunity for parents to focus on their family. These are conducted using a series of standard prompts which guide the parent, not the facilitator, to problem-solve issues.

Table 1 Parenting and lifestyle principles underpinning a parent-led, family-focused child weight management program

Principles for parenting sessions [7]	*Principles for healthy lifestyle sessions*
• Ensure a safe, interesting environment	• Work as a family for children's health
• Create a positive learning environment	• Use the Australian Guide to Healthy Eating to buy, prepare and serve family meals and snacks
• Use assertive discipline	• Be active often in a variety of ways
• Have realistic expectations	• Make healthy food choices easy choices
• Take care of oneself as a parent	• Set good eating and activity examples as children learn habits from adults

Parenting component

The Positive Parenting Program (Triple P, Sanders *et al.*, Brisbane, Qld, Australia) is an established and evaluated general parenting program based on social learning principles and child development theory.[7] Triple P aims to promote parental competence to facilitate appropriate child behaviour by providing parents with the skills to plan, implement and maintain behaviour change.[7,8] Self-management is fostered through self-evaluation and problem solving. Standardised Triple P facilitator training is available in most states and is designed for use by a range of health professionals (http://www.triplep.net). Although the program is widely used in Australia for general child behaviour management, there are no publications of it being combined with family-focused dietary and active lifestyle components for management of childhood overweight.

Having undertaken a three-day, Level 4 Group Triple P Professional Training (http://www.triplep.net), dietitians can facilitate the standard group Triple P program with strategies modified to focus on dietary and activity weight-related behaviours (Tables 1,2), for example: *developing positive relationships* (Table 2, week 3) by using quality time to promote play; *encouraging desirable behaviours* (Table 2, week 3) through praise, role modelling healthy lifestyle habits and behaviour charts; and *managing behaviour change* (Table 2, week 4) by setting ground rules about TV viewing time, providing clear instructions about between-meal access to the fridge.

The 'Planned Activities Routine' (PAR) introduced in week 5 is an integral part of the program (Table 3). It provides the framework for promoting lifestyle behaviour modification and is the interface between the acquisition of parenting skills and lifestyle knowledge.[7] The PAR provides a problem-solving framework to manage situations that could jeopardise achievement of goals or rules, termed 'high risk

Table 2 Sequence and content of a parent-led, family-focused child weight management program utilising general parenting skills training and healthy lifestyle education

	Session topic and content	
Week	*Parent-only sessions*	*Child activity sessions*
1	Introductory session—a family approach to child weight management	Supervised, fun, skills-based physical activity sessions
	• Group rules	• Helicopter (jumping skills)
	• Factors influencing weight gain	• Eggs from basket and tops/tails (ball handling)
	• Pros and cons of being a healthy weight	
Parenting component (two-hour sessions, parents-only)[7]		
2	Positive parenting	Nil
	• Program overview	
	• Positive parenting principles	Parenting sessions conducted in the evening to facilitate ease of child care
	• Influences on child behaviour	
	• Goal setting	
	• Monitoring behaviour	
3	Promoting children's development	
	• Developing positive relationships with children	
	• Encouraging desirable behaviours	
	• Teaching new skills and behaviours	
4	Managing behaviour change	
	• Behaviour management strategies	
	• Compliance and behaviour correction routines	
	• Behaviour charts	
5	Planning ahead	
	• Family survival tips	
	• High-risk situations	
	• Planned Activities Routine	
Healthy lifestyle component (90-minute sessions)		
6	The Australian Guide to Healthy Eating (AGHE)	Parents watch last 15 minutes of the activity session. Children demonstrate sessions games and adaptation for use at home is highlighted
	• Food groups and serve sizes	
	• Nutrition recommendations	
	• Monitoring food intake	
8	Nutrition skills	Session focused on ball handling and throwing skills
	• Label reading and shopping tips	• Accuracy throw
	• Snack and lunchbox ideas	• Throwing stations
	• Recipe modification	• Run–throw–run
9	Phone support session (20 minutes)—content parent-directed facilitated by standard prompts	
10	Being active in a variety of ways	• Parents are provided a handout of each activity session
	• Physical activity recommendations	
	• Overcoming obstacles to being active	
	• How to limit physical inactivity	
12	Family food tasks and managing appetites	Session focused on aerobic fitness, ball skills, team play
	• Encouraging healthy eating habits	• French cricket/hungry birds
	• Responsibilities around food and eating	• Away–away
		• Hand tennis
14	Phone support session (20 minutes)	
16	Recipe modification/eating on the run	Parents are encouraged to set activity goals using games and active family leisure time
	• Healthy eating-out choices	
	• Healthy eating for busy families	
	• Food and special occasions	

Table 2 *Continued*

	Session topic and content	
Week	*Parent-only sessions*	*Child activity sessions*
18	Phone support session (20 minutes)	
20	Self-esteem and teasing • Promoting self-esteem and body image	Session focused on aerobic fitness, ball skills, kicking, coordination • Hand tennis • Knock out • Shark and Islands • Hot balloon
22	Phone support session (20 minutes)	
24	Progress review • Review of progress and future planning	• Program ends with a parent-versus-children soccer match

Table 3 An example of the application of the Planned Activities Routine[7] to a situation that could jeopardise achievement of family healthy lifestyle goals

Identify the high-risk situation
- Visiting the show or holiday theme park

List any advance planning and preparation needed
- Have lunch/dinner before going to the show or theme park
- Take own healthy snacks and water from home
- Children to choose two show bags only from guide beforehand

Decide on rules or goals
- Buy show bags that were selected prior to attending
- Eat snacks brought from home
- Talk in a pleasant voice and stay happy
- Stay close to mum/dad
- Ensure appropriately occupied using non-food activities (e.g. visiting the pet zoo)

List rewards for new behaviours or habits
- Praise the child using specific, descriptive phrases (e.g. 'I am really pleased with the way you are staying close to me while we walk')
- Give the child positive attention (e.g. a pat on the back, a wink, the thumbs up)

List strategies to manage old behaviours or habits
- Remind child of the rules—used when the child forgets rule (involves getting the child's attention, stating the problem, explaining why it is a problem, and getting the child to recall rule)
- Planned ignoring (e.g. not reacting to the child's repeated requests for food show bags)
- Immediate consequences for disobeying rules (e.g. not being able to go on a certain ride)

Hold follow-up discussions and note any new goals
- Praise the child for following the rules and adjust rule to choosing non-food show bags

situations' (e.g. school holidays, birthday parties, after-school snacking). The PAR highlights the importance of identifying and preparing for potential high-risk situations, setting positive rules and limits, and having backups or consequences for times of misbehaviour. It aims to promote behaviour change by emphasising preparedness and forward thinking and reinforcing positive behaviour.

Healthy lifestyle component—nutrition focus

The Australian Guide to Healthy Eating (AGHE) is the national food selection guide, promoting eating in line with national dietary guidelines.[9] It provides information on the type and quantity of foods to eat, with population modelling indicating that the AGHE can be used to meet the nutrient and energy requirements of children and adults.[9] Dietary modelling undertaken in the development of the weight management program demonstrated that an eating pattern consistent with the AGHE and linked to a series of food-based recommendations resulted in a reduction in the amount of saturated fat and energy in Australian children's diets (Table 4).[10] Therefore, the AGHE is an appropriate framework for use in the active treatment phase of a whole-of-family child weight management program.

Parents are encouraged to compare current eating patterns of each family member with age-appropriate AGHE food group serve recommendations.[9] Based on their findings and family eating patterns and habits, modifications required to meet AGHE recommendations are individually identified and goals for change are set. Gradual 'whole family' changes are promoted.

Healthy lifestyle component—physical activity focus

While parents attend the healthy lifestyle sessions, children participate in supervised physical activity sessions, providing both a child-minding facility and the opportunity for the development of fundamental movement skills in a non-threatening environment with children of similar ability. These sessions were developed by physical activity experts, and were designed to be supervised by staff or students with a physical activity or education background. The sessions

Table 4 Recommendations used throughout the program to promote healthy eating and activity behaviours

Nutrition recommendations[9,10]
• Encourage lunch box and snack choices from breads and cereals, vegetable, fruit and dairy food groups
Use cereal-based 'extras' sparingly (e.g. muesli bars, cakes, muffins)
• Encourage water as primary fluid
Switch to low-joule beverages if high-sugar fluids are present in diet
Limit juice to 150 mL per day
• Ensure 2–3 serves dairy per day to maintain calcium intake
Promote 1–2% fat products
Limit ice cream/cheese to 1–2 serves per week and use reduced-fat varieties
Physical activity recommendations
• Limit total 'screen time' to 7–10 hour per week
• Be active in a variety of ways (e.g. play, transport, during chores, family activities)
• Aim for 30-minute physical activity per day

consist of noncompetitive and fun games, aiming to improve children's movement skills and increase their confidence to participate in physical activity. Sessions require minimal space and equipment, and are easily applicable to the home environment.

Parents observe the final minutes of the children's acitivity sessions and remain responsible for setting activity goals at home, supported by a booklet outlining the activities undertaken during each session. The activity recommendations aim to address both physical and sedentary behaviours to gradually increase child and family activity levels (Table 4). Parents consider child and family barriers to being active and plan ways to overcome these.

Program implementation

A case study illustrating implementation of the program by a family is provided in Table 5.

DISCUSSION

This weight management program for five- to nine-year-olds sits within the continuum of treatment and prevention required to address the childhood obesity epidemic. It takes an innovative family-focused approach that utilises the cornerstones of overweight treatment: diet, activity, behaviour modification and family support as recommended by Australian Clinical Practice Guidelines.[2]

Addressing lifestyle change at the family level is important given the clustering of overweight in families and shared environmental factors, such as the food supply and eating habits. Additionally, at early school age it is developmentally appropriate that parents, as the 'agents of change', have the responsibility for managing their child's health.[3] The novelty of this program is the addition of parenting strategies to traditional nutrition and lifestyle messages to support parents' capacity to initiate and maintain behaviour modification to achieve healthy family lifestyle choices. The program illustrates one approach to translate the scientific evidence within the Australian health-care context.

The program was developed for delivery by dietitians, who play a key role in supporting families to manage children's weight. It addresses barriers identified by dietitians to working in this area, by enhancing behaviour modification skills. Use of a generic parenting skills training program in conjunction with dietary advice can equip dietitians with transferable family intervention skills appropriate for the management of obesity or other common food management issues, such as fussy eating. Dietitians wishing to apply this approach but without access to Triple P are encouraged to access programs with similar strategies and theoretical underpinnings.[8]

The parenting skills training is linked to lifestyle material designed to facilitate implementation and monitoring at the family level. The program is flexible and can be tailored to meet individual family needs, appropriate for all family members. The skills potentially allow management beyond the life of the intervention and can account for changing family circumstances as the child develops, permitting use in the treatment and long-term maintenance of child weight management.

The program described increases the treatment options that dietitians can offer clients by combining standard healthy lifestyle information with parenting skills training to maximise support provided to parents to manage their child's weight. Complete 12-month data from two randomised controlled trials being conducted in Adelaide and Sydney will be available from July 2007 to determine whether the program presented here is an effective approach to child weight management.

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Table 5 Case study presenting how a mother of a six-year-old girl used the family-focused child weight management program and the anthropometric and lifestyle results 12 months after commencing the program

	Goals set by mother	*Achievements and progress since last phone call*	*New goals set by mother for the week/month ahead*
Week 5	Reduce TV time, cease ice cream after swimming lesson.	Family discussion of goals. TV reduction PAR[a] developed. Used TV guide to plan and enforce TV time. Healthy snack taken to swimming. Facilitated consistency by reminding children of the new TV rules.	Extend TV PAR to apply to weekends, role model ↓TV viewing. Dad to take children to swimming as a reward. Develop PAR to change type of after-school snacks.
Week 6	↓TV time, ↓food rewards, healthy after-school snacks and ↓ after-school grazing.	No requests made for ice cream after swimming. Using TV guide to plan viewing is still working. Snacking PAR developed.	Address attitudes to amount of parental TV viewing, consistently enforce TV rules on weekends and with friends, implement after-school snacking PAR.
Week 7	↓TV time, and change type and amount of after-school snacks.	Children eating at the dinner table after school leading to less grazing. Family role modelling ↓TV by switching TV off during dinner.	Develop school holiday PAR. Be consistent with ↓TV time. Continue to implement after-school snacks PAR.
Week 8	Weekend TV viewing, after-school snacking, preparing for the school holidays, reviewing eight-week progress.	Feels that set goals are being achieved, supported by children accepting rules and family planning changes. Notes decreased dependence on TV and more independent play in children. Notes after-school snacks are healthier and no grazing.	Eat a wider variety of healthy foods, parental consistency with ↓ TV time.
Week 12	Have only one choice for family dinners.	Planning meals appropriate for all family. Dinner rules discussed. Using star chart. Consistently enforcing 'same dinner' rule despite tantrums. Answering child's questions about 'healthy eating'.	Continue implementing dinner PAR.
Week 16	Family dinners. Christmas events PAR.	Christmas event PAR worked to limit 'extras' at Santa visit. Updated school holidays PAR for summer and long break.	Implement school holiday PAR.
Week 20	All the family eating the same dinner. Reviewing progress made in the last six months.	Active Christmas gifts. Enforcing dinner rules. Ensuring child eats one item on dinner plate. Achieving exposure to a variety of foods and family modelling. Proud of achievements and consistency over six months. PAR to plan and evaluate progress was invaluable.	Maintain new eating habits. Start child in a structured sport and parental role modelling of active lifestyle. Use PAR as new situations arise.

Changes in anthropometrics and lifestyle behaviours 12 months after commencing the program

Increases in height (121–130 cm) and weight (34.3–37.5 kg) over 12 months. Body mass index (BMI) decreased from 23.4 kg/m^2 (4.4 kg/m^2 above the 95th percentile for BMI-for-age) to 22.3 kg/m^2(2.5 kg/m^2 above the 95th percentile for BMI-for-age), using the Centres for Disease Control and Prevention BMI percentile charts. There was no increase in waist circumference over 12 months (74 cm).

Screen time reduced from 220 to 64 minutes/day, and the number of AGHE 'extras' reduced from 6 to 2 per day.

Screen time assessed using parent-reported 20-item Child Activity Inventory. 'Extras' intake assessed using parent-reported 54-item Child Food Intake Questionnaire. Tools available from authors.

[a] Planned Activities Routine (PAR)—see Table 3 for detailed example.

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