FAMILY-FOCUSED MANAGEMENT OF OVERWEIGHT IN PRE-PUBERTAL CHILDREN – A RANDOMISED CONTROLLED TRIAL

The Healthy Eating and Lifestyle through Positive Parenting (HELPP) study

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VOLUME 1

Thesis Summary

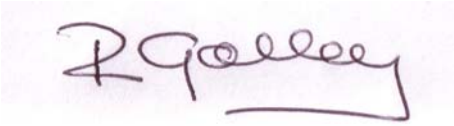
Over a quarter of children and two thirds of adults in Australia are overweight, with these estimates reflecting global trends. The literature review in Chapter 1 highlights that treatment of childhood overweight is an important part of the public health approach required to address the obesity epidemic. Energy moderation, behaviour modification and family support are the cornerstones of treatment of childhood overweight. However the evidence to guide best practice is limited, with a call being made for well designed studies to inform age-appropriate effective, long term child weight management. Studies are needed in a range of populations and to assess a range of health outcomes. This thesis tested the hypothesis that, pre-pubertal children whose parents participate in a parent-led, family-focused child weight management intervention comprising parent skills training and intensive lifestyle education will have adiposity, metabolic profiles and indicators of physical and psychosocial functioning after 12 months that are a) improved compared to children wait listed for intervention and b) no different to children whose parents participate in parenting skills training alone (without intensive lifestyle education).

Methods of the randomised controlled trial undertaken with 111 overweight, pre-pubertal 6-9 year olds to test this hypothesis are detailed in Chapter 2. Parents were defined as the agents of change, responsible for attending intervention sessions and implementing family-focused lifestyle change to support child weight management. Two interventions, both utilising parenting skills training, but differing in the presence or absence of intensive lifestyle eduction were compared to a group waitlisted for intervention with a brief pamphlet. Program effectiveness was defined in terms of adiposity together with broader health and evaluation outcomes.

Chapter 3 describes the study population, their flow through the study, the primary outcome BMI z score and waist circumference z score. With parenting plus intensive lifestyle eduction there was a 10% reduction in BMI z score over 12 months. However this was not statistically different to the 5% reduction observed with parenting alone or intervention waitlisting. There was a significant reduction in waist circumference between baseline and 12 months with parenting alone and parenting plus lifestyle education, but not waitlisting. There was a group, time and gender interaction, with boys receiving intervention having greater reductions in adiposity. In determining intervention effectiveness, growth, metabolic profile and psychosocial outcomes are presented in Chapter 4. While there were limited improvements in metabolic profile and body dissatisfaction, significant improvements were observed in parent-perceived HR-QOL relating to psychosocial and family functioning. Improvements were confined to the intervention groups, parenting plus lifestyle education more than parenting alone. Chapter 5 presents the study process and impact evaluation. Parents were satisfied with the program and reported that it provided the type of help they wanted. Personal, rather than program factors such as work and family commitments limited intervention attendance to 60%. Child health behaviours and parental weight status show positive change in all groups, but favour intervention. Chapter 6 highlights key findings, study strengths/limitations and areas for further research. In conclusion, a parent-led family-focused intervention utilising parenting skills training and healthy family lifestyle is a promising intervention for young overweight children.

Declaration

'I certify that this thesis does not incorporate without acknowledgment any material previously submitted for a degree or diploma in any university; and that to the best of my knowledge and belief it does not contain any material previously published or written by another person except where due reference is made in the text.'



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The conception and design of the RCT reported in the thesis was undertaken before I commenced my PhD candidature, as part of a funding proposal for a multi-site RCT. Partial funding was secured from the Australian Health Management Group Assistance to Health and Medical Research Fund which enabled the RCT to be undertaken in Adelaide only as a PhD project. I adapted the study design to delivery at one site, developed the nutrition component of the study interventions, adapted the parenting component of the study interventions, assisted with obtaining ethical approval, developed study protocols and procedures, recruited subjects, co-ordinated subject eligibility screening, delivered the study interventions (apart from physical activity component) and co-ordinated outcome measurements by a blinded assessor. In consultation with my supervisors and a statistician I developed the study analysis plan and I performed the data entry and analysis. I designed and performed the secondary analysis of the National Nutrition Survey data and developed the evidence-based food-based recommendations underpinning the study interventions (chapter 2, appendix 6). I designed and performed the baseline analysis for the purposes of Metabolic Syndrome definition comparison (chapter 2, appendix 6). I took a leadership role in the preparation of all manuscripts arising from the study. The thesis study (HELPP) also formed the pilot work for a successful National Heath and Medical Research Council grant for a multi-site study (PEACH) undertaken in Sydney and Adelaide from 2003.'

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Last but not least, to the 111 'HELPP' families, without whom none of this could have been possible. Credit must be given for your dedication to your child's health and willingness to try a new family-focused approach and participate in research. Many thanks for your early morning attendance to measurement sessions and children's braveness in providing a blood sample. I wish you all the best in the years ahead.

Abbreviations

AGHE	Australian Guide to Healthy Eating
BF	Body fat
BM	Body mass
BMI	Body mass index
BT	Behaviour therapy (behaviour modification)
BW	Body weight
C	Child
CBIS	Child body image scale
CHQ	Child health questionnaire
CI	Confidence interval
CONSORT	CONsolidated Statement Of Reporting Trials
CVD	Cardiovascular disease
EGIR	European Group for the Study of Insulin Resistance
FFM	Fat free mass
FMC	Flinders Medical Centre
FMS	Fundamental Movement skills
GI	Glycaemic index
HDL-C	High density lipoprotein cholesterol
HELPP	Health Eating and Lifestyle through Positive Parenting
HR-QOL	Health related quality of life
HT	Hypertension
IOTF	International obesity task force
LCD	Low calorie diet
LDL-C	Low density lipoprotein cholesterol
LFD	Low fat diet
MS	Metabolic Syndrome
NCEP	National Cholesterol Education Program
NHANES	National Health, Nutrition and Exercise Survey
NHMRC	National Health and Medical Research Council
NR	Non-restricted
NS	Not statistically significant

OR	Odds ratio
P	Parent
P+DA	Parenting skills training plus intensive lifestyle education
P	Parenting skills training alone
PAR™	Planned activities routine
PS	Problem solving
PSMF	Protein sparing modified fast
PSOC	Parents sense of competency
R	Restricted
RCT	Randomised controlled trial
S/D-BP	Systolic/Diastolic blood pressure
SD	Standard deviation
SEIFA	Socio-Economic Index for Areas
SES	Socioeconomic status
SPSS	Statistical Package for the Social Sciences
TC	Total cholesterol
TG	Triglycerides
TLD	Traffic light diet
Triple P©	Positive Parenting Program©
UK	United Kingdom
US	United States of America
VLCD	Very low calorie diet
WCH	Women's and Children's Hospital
WHO	World Health Organisation
WLC	12 month wait listed control
%O'WT	Percent overweight

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