

**Standing Committee on Health and Ageing  
Inquiry into Obesity in Australia Submission****Associate Professor Jeff Walkley****RMIT University Institute for Sustainable Health & Wellbeing & School of Medical Sciences  
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Many individuals have contributed substantially to the work upon which this submission is based. In respect to this, the author wishes to acknowledge the leading contribution of Dr Leah Brennan, as well as Professor Neil Mann, Dr Steve Fraser, Ms Kate Greenway, Professor Ken Greenwood, Professor Stephen Bird, Ms Sarah Lukeis, Ms Anica Ristekis and Mr Richard Mallows; all of whom are associated with RMIT University. Acknowledgement is also extended to colleagues from the University of South Australia (Ms Margarita Tsiros, Dr Natalie Sinn, Associate Professor Jon Buckley, Professor Peter Howe and Dr Alison Coates).

**Summary**

1. Lifestyle-focussed age appropriate interventions targeted at individuals who are already overweight or obese are few, and in Australia, those targeting adolescents are almost non-existent.
2. Adolescents who are overweight or obese experience negative physical, biological, psychological and social consequences of excess weight during adolescence, which often persist into adulthood.
3. Emerging evidence suggests interventions that incorporate parent-support, coupled with an adolescent behavioural focus on self-regulated lifestyle choices, will likely offer sustainable and cost-effective health gains. Yet, despite the emerging evidence as to the potential long-term benefits of this approach, funding to develop, evaluate and disseminate such programs has rarely been forthcoming, and may even be considered to have been neglected.
4. Despite the apparent and immediate need, few health professionals receive training in lifestyle-focussed age appropriate interventions targeted at individuals who are already overweight or obese.
5. This situation constitutes a missing component in a comprehensive health care system in Australia.

**Recommendation**

1. To meet the growing need to provide effective treatment to reduce current and future adverse health outcomes among overweight and obese adolescents, there is urgency associated with the development of effective interventions delivered by a range of health professionals, including for example psychologists, exercise leaders, dietitians, nutritionists, nurses, and physiotherapists.

**Consequences of Adolescent Overweight and Obesity**

Overweight and obesity is likely to continue to increase; likely more so in certain cultural and low-resourced communities than in others. The presence of obesity during childhood and adolescence increases the risk of numerous physical complications independently of adult obesity. Additionally, the longer the individual is overweight or obese, the more serious these physical complications. Overweight and obesity also increase the risk of a variety of psychological problems including body image disturbance, low self-esteem, disordered eating and depression and social difficulties such as teasing, exclusion and discrimination. Combined these physical and psychosocial consequences result in considerable direct and indirect costs of adolescent overweight and obesity.

While there is a need for effective treatment of overweight and obesity in all age groups, the adolescent population is particularly in need of effective evidence based interventions. The tracking of obesity from adolescence to adulthood, combined with the treatment resistant nature of adult obesity, suggest that targeting overweight and obese adolescents may be an effective and efficient way to prevent adult

obesity. Concomitantly, the high prevalence of adolescent overweight and obesity, and the increased biopsychosocial and economic impacts of being overweight at a younger age, and being overweight for a longer period of time, highlights the importance of targeting this at risk population immediately.

### **Interventions Targeted Toward Adolescents who are Overweight or Obesity**

The National Health and Medical Research Council (NHMRC) identified the need for efficacious, evidence-based lifestyle interventions for the treatment of adolescent overweight and obesity. The NHMRC recommends that more conventional treatment strategies, namely eating and physical activity changes, family support and behaviourally focussed interventions be implemented prior to attempting more intrusive treatment techniques (e.g. very low calorie diets, pharmacotherapy and surgery). Despite the identified need for treatment few treatment options are available for adolescents and they are in danger of falling in the 'gap' between paediatric services and adult services. The relative neglect of adolescent obesity may be due to the complexities associated with supporting and studying this population. The lack of research in this area means practitioners working with adolescents have a limited evidence upon which to base their practice and thus evidence-based interventions are not available to overweight and obese adolescents. A very recent review highlights the limitations of research in adolescent obesity, and concludes that available evidence supports the use of diet and physical activity approaches combined with behavioural and cognitive behavioural interventions.

While the findings of research exploring overweight and obesity in children and adults are informative, adolescents are neither large children nor small adults. Developmental factors must be considered when applying research findings derived from children and adult to adolescents. The unique psychosocial characteristics of adolescence must also be considered in the design of intervention approaches. While living at home adolescents are largely dependent on parents for access to food and physical activity opportunities therefore the involvement of parents is crucial in the treatment of adolescents. This highlights the importance of family support for behaviour changes and family involvement in treatment. Adolescent are also increasingly responsible for their own decisions so interventions must also address adolescent knowledge and motivation regarding making healthy eating and activity choices. Thus both adolescents and parents must be involved in treatment.

### **Emerging Evidence Supporting a Healthy Lifestyle Program for Adolescents**

The CHOOSE HEALTH Program is an Australian program designed specifically to meet the increasing unmet need for effective interventions for overweight and obese adolescents. This 10-session treatment program aims to support overweight and obese adolescents to develop healthy eating and activity habits and to improve their physical, biological, psychological and social wellness. The program uses cognitive behavioural strategies to promote the initiation and maintenance of long term behavioural changes. Treatment focuses on making changes to eating and activity habits and identifying and addressing the physical, social, organisation, cognitive and emotional barriers to long-term behaviour change. Intervention is conducted with individual families to promote strengthening of the parent and adolescent relationship, and so the program can be tailored to the individual needs of families. A group approach is not used so as to minimise adolescent embarrassment and discomfort. Feedback from adolescents and their parents support this approach and indicate that an alternative group-based approach would impact negatively on attendance. Treatment is followed by a 6-month maintenance program which consists of fortnightly and then monthly phone call sessions and 3-monthly booster sessions designed to promote the maintenance of behavioural changes. Throughout both the treatment and maintenance phase of the intervention practitioners assist adolescents and parents to achieve independent yet complementary goals aimed at improving adolescent outcomes.

### **Evaluation of a Lifestyle Approach to Adolescent Overweight and Obesity (the CHOOSE HEALTH Program)**

Original Study: The program was first evaluated in a randomised-controlled trial conducted by RMIT University in 2003 to 2005 as part of the Dr Leah Brennan's post-graduate research. The original program was developed and delivered by a psychologist with specialist weight management knowledge and expertise in the delivery of cognitive behavioural interventions to adolescents and parents. Sixty three overweight or obese adolescents (28 male, 35 female) aged 12 to 18 years ( $M = 14.4$ ,  $SD = 1.9$ ) participated in the study. Treatment resulted in improved body composition at post treatment, after

controlling for pre-treatment differences, adolescents in the treatment condition had a 0.2kg/m<sup>2</sup> lower BMI-for-age z-score, 5.1kg less body fat, and 2.4% lower percentage body fat compared to the control group. These results were sustained or improved following a six month maintenance period. These outcomes are impressive relative to other studies in this area. Treatment also resulted in a reduction in fat consumption, reduced saturated fat intake, and reduced time spent in sedentary activities. Adolescents receiving treatment reported improvements in disordered eating, and greater social support from family and friends relative to those in the control condition. Results of this trial demonstrated the efficacy of the approach when delivered by a psychologist with expertise in weight management and adolescent and family interventions. Uniquely, improvements were seen in biopsychosocial wellness, and effects were sustained or further improved during the maintenance period.

Replication Study: These results have since been substantiated by an independent research group at the University of South Australia. A research psychologist with no specialist weight management knowledge, and no previous experience in the delivery of cognitive behavioural interventions, was trained to deliver the program. Thirty overweight or obese adolescents (10 male, 20 female) aged 12 to 18 years ( $M = 14.2$ ,  $SD = 1.5$ ) participated in the study. Treatment resulted in improved body composition at post treatment and further improvements in body composition following a ten-week maintenance period. After controlling for pre-treatment differences, at the end of the maintenance period adolescents in the treatment condition weighed 5.65 kg less, had 1.6kg/m<sup>2</sup> lower BMI, and 3.8kg less fat mass compared to the control group. Again, these results are impressive relative to other published adolescent obesity interventions. Results of this trial demonstrated the efficacy of the program when delivered by a health professional without obesity and/or clinical expertise, suggesting that other health professionals could be trained to effectively deliver this program. This independent evaluation of the approach offers some insight into the robustness and transferability of the program.

Current Study: A larger trial of the program is currently being conducted by RMIT University. This study involves the training of Masters of Psychology students to deliver the program. While these students have extensive knowledge of psychological theory they have no specialist weight management knowledge and very limited experience in the delivery of cognitive behavioural interventions. The trial involves 110 adolescents and their parents randomly allocated to the program or to an information only comparison condition. The assessment process has been refined to include more specific measures of the biological, physical, psychological and social impacts of treatment. While initial results will not be available until late 2008, available data indicates similar results to those presented above.

Combined these studies demonstrate early evidence as to the efficacy of a lifestyle-based parent supported adolescent focussed approach in improving eating and activity habits and body composition. Results also suggest that this intervention results in improved psychological and social functioning in overweight and obese adolescents.

### **Improving Accessibility of Efficacious Lifestyle-based Programs**

To meet the growing need to provide effective interventions to the increasing population of obese adolescents there is a need for effective programs delivered by a range of health professionals. Research has shown that, with appropriate training and supervision, non-psychologists such as dietitians, physiotherapists and nurses can effectively deliver cognitive behavioural interventions.

Professional training of health practitioners to work successfully with adolescents desiring to adjust their lifestyle habits and accrue health benefits appears to be lacking in Australia. Exploratory work that has reviewed the training of exercise leaders has revealed that current Australian University and TAFE programs may not be providing training that reflects evidence-based best practice in regards to supporting individuals to instigate lifestyle behaviour change that would likely result in the achievement of more appropriate weight. A preliminary curricular review of exercise leader training programs has recently been undertaken by RMIT University. Every Australian University and TAFE institution that provides training in courses linked to the training of exercise leaders (eg. University human movement, exercise science or sport science degrees [but excluding physical education degrees] and TAFE certificate in fitness courses) was included in the analysis. The process uncovered 17 university degree programs representing all Australian States and Territories and 8 units of competency from the TAFE

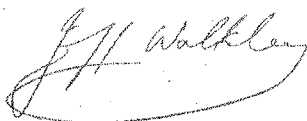
Certificate 3 and 4 in Fitness courses. Information available through online links, including program descriptions, subject guides and units of competency explanations were obtained to create an electronic 'database' document of approximately 16,550 words. This document was searched for key words commonly associated with descriptions of evidence-based interventions targeting overweight and obesity. Words indicative of more traditional approaches to treating overweight and obesity, *but approaches that are now known to be less efficacious when implemented in isolation of a behavioural approach to lifestyle change*, linked to interventions targeting overweight and obesity were most prevalent ['Exercise' (387 occasions), sport (216), activity (126), fitness (103)]. Disappointingly, words or word pairs descriptive of approaches currently thought to provide the most promising approach to effective interventions were notably scarce, with examples including healthy lifestyle (5 occasions) behaviour change (4), active lifestyle (2), and counselling (2). While these findings remain exploratory, and the methodology under development, some cause for concern emerges as to whether current exercise leader programs have appropriately focused their training packages.

Recognising the potential of health professionals in the delivery of lifestyle based programs, a pilot study is currently underway at RMIT University to explore the training of Exercise Leaders to deliver a lifestyle based program to overweight and obese adolescents. Early indicators are that Exercise Leaders can be trained to effectively deliver a program which has a beneficial effect. A follow-up trial will be required to evaluate both the training of Exercise Leaders in the delivery of the program, and the outcomes for overweight and obese adolescents treated by Exercise Leaders. Should results prove favourable; this approach will form the foundation for training of health professionals in the delivery of a healthy lifestyle program to adolescents.

Uptake and sustainability of innovative effective interventions are maximised when disseminated through existing services. Unfortunately, with the exception of hospital clinics offering treatment to a small number of morbidly obese and medically compromised adolescents, there are no existing services responsible for the treatment of overweight and obesity in adolescents. Consequently there are no existing services through which innovative effective interventions for the treatment of obesity can be easily disseminated. However, a number of health professionals may be able to offer treatment to overweight and obese in adolescents as part of their existing role. The program was designed with ease of dissemination in mind. While it was developed by a multidisciplinary team it is designed to be delivered by a single practitioner, thus delivery does not require a multidisciplinary team be available to treat each adolescent. If coupled with the introduction of the so called 'Super Clinics' being introduced across Australia, this approach may provide a cost-effective and sustainable approach to treating adolescent overweight and obesity.

A range of professionals such as nurses, dietitians, nutritionists, physiotherapists working in medical or community centres, and exercise leaders working in fitness centres, medical centres and community centres, have the potential to work with overweight and obese adolescents. These professionals may provide a successful way to disseminate lifestyle based interventions and provide effective support to a larger number of overweight and obese adolescents in the community. Research is required prior to dissemination (1) to determine whether these professionals can be trained to successfully deliver lifestyle-based approaches, and (2) to evaluate the effectiveness of lifestyle-based approaches when delivered by these health professionals in community settings.

In summary, there is a need for effective interventions delivered by a range of health professionals to meet the growing need for treatment of adolescent overweight and obesity. A lifestyle-focussed program has been shown to improve eating and activity habits, body composition and psychological and social wellbeing in overweight and obese adolescents when delivered by psychologically trained practitioners under research conditions. Research is required to assess the effectiveness of the program when delivered by a range of health professionals in community settings. If such a program is found to be effective when delivered under these conditions results will provide justification for broader dissemination of an effective evidence-based program that promotes physical, psychological and social wellness in overweight and obese adolescents.



Signed by Jeff Walkley on this 16 day of June, 2008