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A pilot trial of the effect of an exercise leader led cognitive behavioural based intervention with obese adolescents.

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Background – The NH&MRC recommends behaviourally-based interventions be included in any weight-management program for obese adolescents. Medical and health practitioners can successfully implement behaviourally-based interventions, specifically cognitive behaviour therapy (CBT), to address various health targets. No evidence exists concerning the effect of CBT-trained exercise leaders on obese adolescents.

Objective – This pilot study was designed to evaluate the efficacy and explore the impact of an exercise leader delivered CBT-based program on the body composition of obese adolescents and a supporting parent.

Design – Three obese adolescents (Means: BMI 32.2kg/m²; Age 15-years [2 M, 1 F]), attended, with a supporting parent, a 10-session CBT healthy lifestyle intervention delivered by exercise leaders at a YMCA facility. Exercise leaders completed a 3-day training program prior to intervention, and completed weekly supervision meetings led by a psychologist throughout the intervention. The CBT healthy lifestyle supported sustained improvements in healthy, eating and physical activity by addressing the physical, social, cognitive, and emotional barriers and supports to long-term behaviour change. Body composition was measured by trained anthropometrists using calibrated equipment and Dual-energy X-ray Absorptiometry (DEXA) during the period two-weeks prior and two-weeks post the intervention.

Outcomes – Improvements in body composition were revealed across multiple measures: BMI (M: 32.23kg/m², 32.16kg/m²), body weight (M: 100.7kg, 102.3kg), percent body fat (M: 40.4%, 38.3%), lean muscle mass (M: 57.0kg, 59.0kg), waist circumference (M: 99.26cm, 101.80cm) and hip circumference (M: 120.36cm, 115.5cm).

Conclusions – Pilot data suggest that exercise leaders may be able to deliver a CBT-based lifestyle program that effectively supports obese adolescents to achieve improved body composition.

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Physical activity and cardiovascular fitness in overweight and obese adolescents

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Background – Little is known about the physical activity behaviour and cardiovascular fitness of adolescents who are overweight or obese nor the relationship between these measures among this group.

Objective – The aim of this study was to investigate the frequency, duration and intensity of physical activity (PA) and its relationship with cardiovascular (CV) fitness in overweight and obese adolescents.

Design – Participants included 12- to 18-year-old adolescents ($n \approx 173$), drawn from three studies in the *CHOOSE HEALTH* research program. Study participants were instructed to wear an accelerometer during waking hours, for a minimum of 7 days. Accelerometer data inclusion criteria include having worn the device for at least 10 hours on a minimum of 4 weekdays and 1 weekend day. Following anthropometric analyses, CV fitness (VO_{2peak}) was assessed directly using an incremental cycle ergometer test to exhaustion.

Results – Of the 173 subjects recruited into the study, 51% were male and 49% female. Furthermore, 63% of subjects were aged 12 – 14 years, with the remaining 37% aged 15 – 18 years. Average participant age was 14 years, average height 1.67m, average body mass 88.3kg and average BMI 32 kg/m². Results of the CV fitness test show that average relative VO_{2peak} was 27.4 mL min⁻¹ kg⁻¹ and average peak power output 148W.

Conclusions – The findings of this research provide useful insight into adolescent PA behaviour and its relationship with CV fitness. Furthermore, this study shows the PA discrepancy which exists when comparing Saturday and Sunday PA participation and the importance of this factor in adolescent PA research.