Results: Eight-weeks of both exercise training interventions induced significant reductions in VAT ($-159 \pm 195\,cm^3$, $p < 0.001$) and SAT ($-331 \pm 756\,cm^3$, $p = 0.003$), with no significant changes in weight ($-0.9 \pm 2.2\,kg$, $p = 0.07$), subjective appetite sensations, plasma ghrelin, PYY or energy intake ($p > 0.05$ for all).

Conclusions: In the absence of explicit dietary restrictions in adults with overweight/obesity, neither type of exercise training, which effectively reduces body fat without weight loss, affects fasting subjective sensations of appetite, or fasting plasma levels of ghrelin or PYY. Exercise-induced changes in body composition appear not to be influenced by changes in gut hormones.

Supported by Diabetes Australia Research Trust.

https://doi.org/10.1016/j.orcp.2016.10.080

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Tertiary level management of severe paediatric obesity — Interventions must focus on younger children and address attrition rates

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The prevalence of severe obesity in Australian children continues to increase thus it is imperative we determine optimum weight management interventions. Data from tertiary level treatment programs helps inform patient and service characteristics most likely to yield successful outcomes.

As part of ongoing service improvement we evaluated data from our NSW tertiary paediatric multi-disciplinary weight management clinic, CHOOSe Health, to determine potential identifiable criteria predictive of greater weight loss results.

CHOOSe Health clinic has clearly defined referral criteria and clinical pathways with a mixture of parent workshops and individual tailored sessions with the team's health professionals over 6 months. Clinic visits measure weight, height and waist circumference (WC) and BMI, BMI z-score and waist-to-height ratios (WHtR) are calculated.

Data from 249 families (children aged 18 months to 14 years) attending from 2012—2015 were analysed. (56% male). Mean baseline BMI z-score and WHtR were 2.8 (range 1.2—6.4) and 0.68 (range 0.49—1.0) respectively. >93% had a WC >80 cm. Younger patients (≤6 yrs) had higher baseline BMI z-scores. Only 43% of families attended the initial (triage) appointment whereas 33% of families attended at least 5 appointments. There were no significant differences between those attending triage only compared with multiple attenders. For multiple attenders, there was a significant ($p < 0.0001$) mean change in BMI z-score from visit 2 to last visit being greatest in those ≤6 years of age. Regression analysis indicates significant ($p < 0.0001$) decreases in mean BMI z-score over visits 1—5.

Interventions in the real-life setting are effective for management of severe paediatric obesity and resources should focus on younger age groups where greatest changes in weight parameters are achieved. More research is needed into reducing attrition rates which remain high and distinguishing between attenders and non-attenders cannot be determined using baseline anthropometry alone.

https://doi.org/10.1016/j.orcp.2016.10.081

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Metabolic and nutrition-related effects of a duodenal-jejunal bypass sleeve in patients with obesity and Type II diabetes: Preliminary results of a pilot study

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Background: Effective and safe treatments for obesity and type 2 diabetes are urgently needed. The endoscopically placed duodenal-jejunal bypass sleeve (DJBS) (Endobarrier®) proposes to impair digestion and absorption of macronutrients, thus inducing weight loss. Absorption of micronutrients may therefore also be impaired.

Aim: To assess the safety, efficacy, and mechanisms of the DJBS in 4 pilot patients with obesity and type 2 diabetes who had failed all previous conservative interventions.

Methods: The DJBS was placed endoscopically and left in situ for 48 weeks. Subjects received medical and dietetic support throughout. Metabolic, functional, psychological and dietary intake investigations were performed at baseline, and monthly or bi-monthly thereafter.

Results: All patients completed the 48 week period with devices in place. No device-related events were observed. The median weight loss was 27.85 kg (21.5—32.4), or 23.17% (19.76—26.51) of body weight. During the study period, mean daily energy intake was reduced as compared to baseline (baseline mean 6737 kJ (range 5156—7750) as compared to week 48: 3845 kJ (range 3442—5871)). Liver function tests substantially improved (median alanine transaminase baseline 37 U/L (15.5—73.5) as compared to week 48: 17 U/L (12.5—22.5); median aspartate transaminase baseline 25.5 U/L (21.5—51.5) as compared to week 48: 18 U/L (15—22)). In parallel, median glycated haemoglobin decreased from 6.8% (range 5.9—7.9) to 5.8% (range 5.7—6.0)) at week 48. No significant decrease in circulating micronutrient concentrations was observed. Dietary quality did not change.

Conclusion: Weight loss during treatment with a DJBS in the setting of a multi professional team approach is clinically meaningful and appears to be largely explained by decreased energy intake. The small pilot study did not provide evidence for malabsorption of micronutrients.

https://doi.org/10.1016/j.orcp.2016.10.082

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Do making habits or breaking habits influence weight loss and weight loss maintenance? A randomised controlled trial

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Background: Despite the significance placed on lifestyle interventions for obesity management, around 40% of weight loss is regained over the first year following treatment, and much of the rest over the next three years. Two psychological concepts (habitual behaviour and automaticity) have been suggested as the most plausible explanation of this overwhelming lack of long-term weight loss success.

Method: We evaluated the efficacy of two interventions that explore these theories: Ten Top Tips (10TT) and Do Something Different (DSD). 10TT promotes automaticity; this is the ability to perform tasks without awareness or deliberation. Therefore, diet and exercise related behaviours become automatic or habitual. Conversely DSD promotes behavioural flexibility. This program disrupts daily routines by assigning an individual with unstructured tasks to perform. Behavioural flexibility therefore has an inverse relationship with automaticity and is defined as the measure of an individual's range of mindful behaviours. In previous studies, both interventions have achieved significant weight loss with results suggesting potential for maintenance of the weight lost. The research however is limited and long-term (12 month) results are yet to be explored. Men and women ($n = 75$), aged 51 + 6 (s.d.) years with body mass index 34.5 + 4.1 kg/m^2 were randomised to 12-week 10TT, DSD or no treatment control. Active intervention participants underwent 12 weeks of the program with 12-months follow-up.

Results: We collected data for weight, BMI, waist circumference as well as habitual behaviour and wellbeing. After 12 weeks intervention, weight loss averaged 4.6 kg in the 10TT group, 4.1 kg in the DSD group and 1.3 kg in the control group. There was significant improvement in wellbeing in the 10TT and DSD groups.

Significance of research: Results from this RCT have the potential to help in understanding the mechanisms relating to weight loss maintenance.

https://doi.org/10.1016/j.orcp.2016.10.083

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How many Australian women will be obese in twenty years' time?

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Successive generations of Australians are becoming fatter. The prediction of future trends in obesity is necessary in order to plan for future health service needs to manage the medical consequences of obesity, such as type II diabetes.