

Randomised controlled trial

Sustained reduction in body mass index and other cardiovascular risk markers a year after a 12-month intensive family-based lifestyle intervention for obese children; but follow-up of participants low

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Commentary on: **Savoye M, Nowicka P, Shaw M, et al.** Long-term results of an obesity program in an ethnically diverse pediatric population. *Pediatrics* 2011;**127**:402–10.

Context

The prevalence of childhood obesity continues to rise, especially among ethnic minorities and low-income subgroups.¹ Overweight children more often suffer physical health consequences, have lower self-esteem, higher rates of anxiety disorders and more depression than normal-weight counterparts.^{2–5} Though less well understood, evidence suggests an association between improvements in weight measures and better academic performance.⁶ Recommendations for assessment/treatment of childhood obesity call for clinicians to be at the centre of obesity efforts.^{7,8}

Methods

Savoye *et al* conducted a clinician-led, weight-management intervention whereby ethnic, obese children (body mass index (BMI) >95th percentile) aged 8–16 years were randomised to either a 12-month family-based intervention (exercise, nutrition, behaviour modification) or counselling every 6 months (control). Outcome measures collected at baseline and two follow-ups (12, 24 months) included weight, height, BMI, percentage body fat, total body fat, blood pressure, lipid profile, fasting plasma glucose, fasting insulin and homeostasis model assessment of insulin resistance (HOMA-IR).

Findings

Significant improvements in BMI (–2.8 kg/m² (95% CI –4.0 to –1.6 kg/m²)), BMI z score (–0.16 (95% CI –0.23 to –0.09)), percentage body fat (–4.2% (95% CI –6.4% to –2.0%)), total body fat mass (–5.8 kg (95% CI –9.1 to –2.6 kg)), total cholesterol (–13.0 mg/dl (95% CI –21.7 to –4.2 mg/dl)), low-density lipoprotein cholesterol (–10.4 mg/dl (95% CI –18.3 to –2.4 mg/dl)), fasting insulin (–9.2 (95% CI –11.0 to –7.5)) and HOMA-IR (–2.05 (95% CI –2.48 to –1.75)) were noted at both follow-ups among intervention children as compared to controls.

Commentary

While the results of the intervention show sustained, significant improvements among a small group of children, questions remain. How was the location for sessions determined? Many clinicians do not have space for group sessions. Knowing how locations for sessions were

determined (proximity to homes, school, etc) would help others who may want to replicate the model.

Although the retention rate for intervention children (60%) was acceptable (considering challenges inherent in community, family-based settings over 24 months), it still means that the intervention even if effective is likely to have limited reach. In addition, one wonders how many children/adults, attended *each* session. Although baseline data were given for dropouts, were there differences in outcomes between groups including individuals who attended all, 80%, 50%, or fewer sessions? Such data highlight the importance of dosage – perhaps those who attended all sessions drove the significant improvements, and thus the ‘aim’ to reduce dosage may reduce efficacy.

Data regarding behaviour changes leading to improvements were not presented. Food diaries and physical activity records were not required and no other qualitative data were noted, all of which could inform intervention modifications to focus on components that drove improvements.

Knowing the cost of implementing successful programmes is critical. Cost-effectiveness analyses were conducted, but not publicly available. Because childhood obesity is a major public health problem with a complex network of aetiological factors and associated comorbidities, a multi-level, multisectoral, community-wide approach, such as the Chronic Care Model for Childhood Obesity,⁹ may be most efficacious. The authors are moving this way by engaging nutritionists and social workers outside the clinic, but do not appear to engage a community-wide approach. This approach includes community intervention partners/providers to spread activities across arenas that care for children (schools, childcare, YMCAs, churches and other community organisations), resulting in increased dosage, while reducing challenging logistics (eg, transportation by parents vs school buses, sessions not be feasible if parents work two or more jobs). A shift in the current clinical paradigms is required as clinicians strategically engage community partners (eg, schools, nutritionists, public health agencies, groceries). Much attention and funding are moving in this direction in the USA and Canada.

Clinicians and community-based partners have important roles in integrated, multi-sector care for obesity treatment. The value of such collaborations cannot be discounted.

Competing interests None.

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