



Obesity in men: are professional football clubs onside?



Obesity is a major public health issue with substantial direct and indirect health-care costs.¹ The global prevalence of obesity has doubled in the past 30 years, from 4.8% to 9.8% in men and from 7.9% to 13.8% in women.² Although rates of obesity in men are increasing, men are less likely to consider themselves overweight³ or to volunteer for weight loss studies.⁴ Indeed, the importance of designing innovative weight loss programmes that appeal to men has been noted in the scientific literature.⁵

In *The Lancet*, Kate Hunt and colleagues⁶ report findings from the Football Fans in Training (FFIT) trial, a group-based weight loss and healthy living programme for overweight men in which 374 men were randomly allocated to both intervention and comparison groups. The novel intervention was delivered by community coaching staff from 13 Scottish professional football (soccer) clubs and included 12 weekly sessions of 90 minutes. Participants were taught behaviour-change techniques (eg, self-monitoring, goal setting, implementation intentions, and feedback on behaviour) and participated in pitch-side and in-stadium training on the club football pitch—a very appealing experience for avid football fans! The 12-week face-to-face component was supplemented with a weight loss maintenance phase, which included six after-programme emails and a group reunion at the club. The intervention was designed to be culturally sensitive for men, with both surface and deep structure components as recommended by Resnicow and colleagues.⁷ Surface components were the use of professional football clubs to deliver the FFIT programme and branding of intervention materials with club insignias. At a deeper level, the programme embraced ideas of masculinity, used banter to engage men, and included simplified content to clarify weight loss.

The authors report an adjusted mean difference in weight loss between groups, after 12 months, of 4.94 kg (95% CI 3.95–5.94). More men in the intervention group (130 [39%]) than the control group (40 [11%]) achieved clinically significant weight loss of at least 5%.⁸ Additionally, investigators recorded significant intervention effects for body fat (%), key dietary behaviours, and indicators of mental health. These findings are a testament to the success of the programme, but perhaps underestimate the full

effect of the intervention. Notably, participants were randomly assigned at the individual level, whereas the intervention was delivered at all 13 football clubs. This process of random assignment can lead to treatment diffusion because participants from the same football club (ie, those allocated to different groups) might have shared information to support positive behavioural change. This possibility is supported by the small but significant weight loss (0.58 kg, 95% CI 0.04–1.12) and reduction in waist circumference (2.04 cm, 1.46–2.63) reported in the control group. Although the investigators provide alternate explanations for the weight loss seen in the comparison group, they cannot discount the possibility of treatment diffusion.

The weight loss seen in the FFIT trial was slightly smaller than the average weight loss reported in male-only weight loss trials, as identified in a recent meta-analysis⁵ (weighted mean difference 5.66 kg, 4.97–6.35). However, most interventions included in the meta-analysis were assessed during a short time (<6 months) and did not include a weight loss maintenance phase. The effect of behavioural weight loss interventions over longer periods of time (>12 months) needs to be assessed to establish whether weight loss is maintained or regained. The inclusion of longer-term follow-up assessments and the high participant retention at 12 months (92%) seen in the trial are encouraging and provide researchers working in this field with benchmarks for future studies.

Football is a very popular sport in many European countries, and the use of professional football clubs to deliver a health behaviour intervention for overweight men is highly innovative. The intervention was successful in recruiting men from diverse socioeconomic backgrounds, but attracted few men from ethnic minorities, which might limit the generalisability of the findings. However, this shortcoming could be indicative of the Scottish population rather than the limited appeal of the programme. The intensive group-based nature of the FFIT programme might have been a barrier to participation for some men. Evidence suggests that men are reluctant to participate in group-based weight loss programmes and instead want flexible and individually designed programmes.^{9–11} However, the group-based sessions and the team bonding might have contributed to the success of the programme, especially

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the improvements in mental health. Less intensive targeted weight loss interventions with fewer sessions have shown similar results in men.¹²⁻¹⁴ Reduction of the number of face-to-face sessions could improve the cost-effectiveness of the programme and increase the appeal of the programme to busy men.

In summary, Hunt and colleagues have designed an innovative intervention that has strong potential for dissemination. Professional sporting organisations provide convenient access to many overweight men, and the findings from the FFIT study could encourage researchers and health professionals to use this strategy in other sports (eg, rugby union, American football, and basketball) to combat the global obesity epidemic.

David Lubans

Priority Research Centre in Physical Activity and Nutrition,
University of Newcastle, Newcastle, NSW 2308, Australia
David.Lubans@newcastle.edu.au

I declare that I have no conflicts of interest.

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Anorexia nervosa in adolescents: challenges remain

Characterised by a relentless pursuit of thinness and rigidly held beliefs about body shape and weight,¹ anorexia nervosa is associated with high rates of morbidity and mortality, and remains a challenging illness to treat.^{2,3} Traditional methods for the development and assessment of treatments present particular challenges in anorexia nervosa because the illness is rare, because patients' complex behaviours require multi-faceted, lengthy, and expensive treatments, and because patients are often reluctant to accept weight restoration as a treatment goal.

In *The Lancet*, Beate Herpertz-Dahlmann and colleagues present findings from an important study, the ANDI trial,⁴ which compares inpatient treatment for adolescents with anorexia nervosa with a stepped-care approach that transitions patients to day treatment after an initial 3-week inpatient stay. The investigators assessed non-inferiority of the stepped-care approach compared with traditional hospital-based treatment. The study is the first published randomised controlled trial that compares

two commonly used, highly intensive, and expensive treatments for acute management of anorexia nervosa in adolescents. The study's strengths include its large size and controlled, multi-site design, with 172 female patients being randomly allocated to the two study treatments following a first-time admission for anorexia nervosa treatment to one of six hospitals in Germany.

The study results lend support to the non-inferiority of the less intensive treatment (8 h per day, 5 days per week programme), with change in body-mass index (BMI) from admission until 12-month follow-up assessment not different among participants whose treatment was delivered in the hospital setting only (mean difference 0.46 kg/m² in favour of stepped care, 95% CI -0.11 to 1.02; $p_{\text{non-inferiority}} < 0.0001$). Although duration of treatment needed to reach identical goals was 2 weeks longer on average for those receiving stepped care than for those receiving inpatient treatment, the investigators noted that patients in day treatment maintained family and



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