

How successful are commercial weight-loss programs?

Original article Truby H *et al.* (2006) Randomised controlled trial of four commercial weight loss programmes in the UK: initial findings of the BBC "diet trials". *BMJ* 332: 1309–1314

SYNOPSIS

KEYWORDS Atkins' diet, Rosemary Conley, Slim-Fast plan, weight-loss, Weight Watchers

BACKGROUND

A large number of commercial weight-loss programs are available to the general public; however, data from controlled trials that investigate their efficacy are lacking.

OBJECTIVE

To compare the effectiveness of four weight-loss programs—'Dr Atkins' New Diet Revolution'; 'Rosemary Conley's Eat Yourself Slim Diet and Fitness Plan'; 'The Slim-Fast Plan'; and 'Weight Watchers Pure Points Program'.

DESIGN AND INTERVENTION

This community-based, 6-month, unblinded, randomized, controlled trial was sponsored by the British Broadcasting Corporation (BBC). Eligible participants were aged 18–65 years, had a self-reported BMI 27–40 kg/m², and lived within 48 km (30 miles) of a study center. Exclusion criteria included diabetes, coronary heart disease, obesity caused by a medical condition (e.g. hypothyroidism), previous weight-loss surgery, eating disorders, and use of lipid-lowering, antihypertensive, or weight-loss medication. Participants assigned to Weight Watchers or the Rosemary Conley plan attended one class per week. Participants who followed the Slim-Fast plan were reimbursed for up to two meal replacements per day, whereas those in the Atkins' diet group received a copy of Dr Atkins' New Diet Revolution. The control group received no dietary intervention. Weight, height, waist circumference, blood pressure, and body fat were measured at baseline, and after 2 and 6 months.

OUTCOME MEASURES

The main outcome measures were changes in weight and body fat over the study period.

RESULTS

A total of 232 participants were assigned to dietary intervention, and 61 to the control group. Weight-loss following intervention was initially high, but slowed between months 2 and 6. After the first 4 weeks, the mean weight-loss was: Atkins', 4.40 kg; Rosemary Conley, 3.17 kg; Weight Watchers, 2.86 kg; and Slim-Fast, 2.68 kg. There was, however, no difference between the interventions at later time points. A similar trend was observed for body fat loss, and reduced waist circumference. The change in waist circumference correlated with total weight-loss ($r=0.81$) and body fat loss ($r=0.64$). Additionally, total weight-loss correlated with improvements in blood pressure; however, effects on fasting glucose and total cholesterol levels were variable. After 6 months, mean reductions in body weight were: Rosemary Conley 9.9%; Weight Watchers 9.0%; Atkins' 8.9%; and Slim-Fast 6.8% (differences not significant). For all interventions, compliance was high at 2 months, but diminished thereafter. By study end, 27% and 34% of participants in the intervention and control groups, respectively, had withdrawn. Follow-up data at 12 months were available for 158 participants, 58 of whom were still following their assigned program. Of those persisting with their original program, 40 were following Weight Watchers or the Rosemary Conley plan. Control group participants who switched to dietary intervention also preferred these two plans.

CONCLUSION

Commercial weight-loss programs can be beneficial, but require great motivation; group support programs might be most effective in the long term.

COMMENTARY

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The prevalence of obesity is increasing and is associated with a number of comorbidities. Modest weight reductions of 5–7%, coupled with increased physical activity, can prevent progression to type 2 diabetes. With vast sums of money spent annually on weight-loss methods, it is important to know which are effective. Few commercial programs have any published data from controlled studies.¹

Factors to be considered in any weight-loss program include dietary composition, exercise, and behavior modification. Truby *et al.* have assessed four weight-loss programs. Both Weight Watchers and the Rosemary Conley plan are organized programs that include group-support and feedback components. Although only the Rosemary Conley plan has a formal exercise component, Weight Watchers does include a fitness plan. Atkins' and Slim-Fast may be viewed as self-help programs. Slim-Fast, by virtue of meal substitution, partially taps the proven benefit of food provision as a weight-loss method; however, the meal substitution in the Slim-Fast plan does not provide for the entire day's food intake.

The macronutrient compositions of the four diets differ widely. Atkins' is a low-carbohydrate diet. The dangers of trans-fats are highlighted, but this diet makes no distinction between saturated and unsaturated fats. The Rosemary Conley plan is a low-fat diet, with an emphasis on fruit and vegetables. Weight Watchers uses a points formula that penalizes high-calorie or high-fat choices, and rewards high-fiber choices. Slim-Fast shakes provide about half their calories from carbohydrate and a quarter each from protein and fat, with about a third of the fat being saturated. There are about 5 g of fiber in each 180-calorie shake.

The diets in the BBC study were equally successful in achieving weight loss, and there was little difference in metabolic and cardiovascular risk factors between the diet groups and the control group. Only 27% of those randomly assigned to diet groups withdrew by 6 months. Participants in the Slim-Fast group lost slightly, albeit not significantly, less weight by the end of the study. By 6 months they were using an

average of only 8, rather than the recommended 14, meal replacements each week.

A similar study compared Atkins', Weight Watchers, the Zone diet, and the Ornish diet.² Weight-loss was similar among participants in these diets and they all decreased the LDL cholesterol to HDL cholesterol ratio. A meta-analysis found generally favorable changes in HDL cholesterol to triglyceride ratios, but elevations in LDL cholesterol, with low-carbohydrate versus low-fat diets.³ In one study, reducing carbohydrate calories by 10% and substituting protein or unsaturated (primarily monounsaturated) fat reduced cardiovascular risk factors.⁴

Behavior modification, a feature of the group programs, teaches participants to control their environment in relation to food. Lifestyle changes have demonstrated additive benefits for weight reduction in combination with both diet and pharmaceutical interventions.⁵ Furthermore, in the BBC trials, fewer participants dropped out of the organized programs compared with the self-help programs.

Clinicians are faced with advising patients which diet program is best. Each of the diets in the BBC trial produced clinically significant weight-loss after 12 months for those who stuck with the prescribed plan. This observation suggests that persistence clearly matters. Patient preference for a group program, such as Weight Watchers or the Rosemary Conley plan, or a self-help program, such as Atkins' or Slim-Fast, might direct the choice.

References

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Acknowledgments

The synopsis was written by Vicky Heath, Associate Editor, Nature Clinical Practice.

Competing interests

The author declared he has no competing interests.

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Received 9 August 2006

Accepted 29 August 2006

www.nature.com/clinicalpractice
doi:10.1038/ncpendmet0345

PRACTICE POINT

Although the nutrient composition of the most effective diet remains controversial, successful weight-loss is associated with persistence with a diet plan; group support programs have the best adherence