

## Treatment Options for Obesity

### Do Commercial Weight Loss Programs Have a Role?

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With the rapid rise in the prevalence of obesity, there has been increased effort to develop ways to prevent weight gain. However, there is also a critical need to identify effective treatment approaches for the 68% of US adults who are currently overweight (body mass index [BMI] >25) or obese (BMI >30).<sup>1</sup> Despite the proliferation of numerous commercial products, diets, services, and programs marketed and promoted as achieving significant weight loss, to date, few rigorous studies have evaluated commercial weight loss programs. Consequently, little is known about the results that the average overweight or obese participant can expect to achieve in these programs. In 1995, the Institute of Medicine encouraged consumers to consider the safety of the weight loss program, the match between their needs and the program, and the outcomes achieved in the program.<sup>2</sup> However, consumers have few reliable data to use in making decisions about these services and programs.

In this issue of *JAMA*, Rock and colleagues<sup>3</sup> report the results of a randomized controlled trial evaluating the outcomes of weight loss interventions based on a well-known commercially available structured weight loss program. The investigators randomly assigned 442 overweight or obese women to receive the structured weight loss program in 1 of the 2 intervention groups (center-based or telephone-based) or to receive usual care (control group). Strengths of their study include the use of random assignment, excellent retention rates, and the fact that weight changes were examined over a period of 2 years.

All aspects of the weight loss program were provided free of charge to study participants, including one-on-one weekly contact; recommendations for a nutritionally sound, reduced calorie diet with 20% to 30% of calories from fat and 30 minutes of physical activity on at least 5 days in the week; and counseling to help participants achieve and maintain behavioral changes. Each of these components has been shown to improve weight loss outcomes.<sup>4</sup> A key component of the structured weight loss program is the provision of prepackaged prepared foods to help participants achieve the dietary goals of the program. Prior studies have shown that providing participants with the foods they should consume or the use of meal replacement products (eg, liquid formula meals) significantly increases the weight losses that are achieved.<sup>5-7</sup> This component is likely a critical factor in the results of the study reported by Rock et al.<sup>3</sup> In contrast to the groups that received this intensive structured commercial weight loss program, the usual care group was seen by a dietetics professional only at baseline and 6 months and followed up monthly via e-mail or telephone contacts.

The main finding in this study was mean weight loss at 2 years of 7.4 kg (95% confidence interval [CI], 6.1-8.7 kg) for the center-based group, 6.2 kg (95% CI, 4.9-7.6 kg) for the telephone-based group, and 2.0 kg (95% CI, 0.6-3.3 kg) for the usual care control group. These results are similar to those achieved in several large research trials of lifestyle intervention<sup>8-9</sup> and exceed those from other studies of commercial weight loss programs.<sup>10-11</sup> Confidence in the reported findings is increased because 92% of the participants who entered the study were retained through the end of the 2-year follow-up period and intention-to-treat analyses were used. At the end of the study, 62% of those in the center-based program, 56% in the telephone-based program, and 29% in the usual care group had maintained a 5% weight loss, which is a level of weight loss that has been shown to improve cardiovascular risk factors.<sup>12-13</sup> Other health benefits, including reduction in C-reactive protein levels and improvement in leptin levels, were greater in the intervention groups than in the usual care group. However, there were no significant intervention effects at 24 months on cardiopulmonary fitness, cholesterol levels, physical or mental quality of life, or depression.

An important question is whether an obese individual enrolling in this or a similar structured commercial weight loss program will achieve similar results. Most likely, the answer is no. In a previous cohort study involving 60 164 enrollees in this commercial weight loss program during 2001-2002, Finley et al<sup>14</sup> reported that 73% of the enrollees completed 4 weeks of the structured program, whereas only 22% of enrollees completed 26 weeks and 7% completed 52 weeks. Participants who dropped out during the first 4 weeks lost on average only

1.0 kg of body weight, those who dropped out between weeks 14 and 26 lost 6.6 kg, and the small group that completed 40 to 52 weeks lost 11.5 kg. Thus if participants adhered to the program long term they did well, but very few demonstrated the necessary long-term adherence.

Adherence to weight loss prescriptions has consistently been shown to relate to better outcomes.<sup>15-16</sup> Two important differences between the randomized controlled trial reported by Rock et al<sup>3</sup> and the cohort study reported by Finley et al<sup>14</sup> may have contributed to atypically high levels of adherence in the trial. First, Rock et al<sup>3</sup> studied a group of participants who were willing to join a clinical trial. There is no information provided about baseline screening of these participants or efforts the investigators expended to retain individuals in the trial; however, the high retention rate suggests that such efforts may have occurred. Second, participants in this trial were provided with all treatment components of the structured program free of charge. The fact that participants received both the food and counseling without incurring any cost and received reimbursement for completed follow-up visits may have increased their length of stay in the program and affected the results achieved.

Additional findings of this trial suggest directions for future studies. As is typically seen in lifestyle interventions,<sup>4</sup> average weight losses in the trial by Rock et al<sup>3</sup> were greater at the end of 1 year than at 2 years.<sup>4</sup> Although on average participants retained 73% of their initial weight loss over the second year, efforts are needed to develop more effective approaches to weight loss maintenance. Moreover, the mean weight losses achieved by participants randomized to the telephone-based intervention group were similar to those in the center-based intervention group, a finding confirmed by other researchers.<sup>17-18</sup> The use of telephone contact could allow for easier dissemination of treatment programs and thus could increase the number of overweight or obese individuals who might participate.

The findings of this trial by Rock et al<sup>3</sup> raise the possibility that if structured commercial weight loss programs could be provided free of charge to participants, both retention and average weight loss outcomes might be far better than when participants must pay for these programs. Currently, insurance companies will often cover the cost of bariatric surgery for obesity (estimated at \$19 000-\$29 000 per patient from insurance reimbursement data<sup>19</sup>) but do not cover the cost of commercial weight loss programs (such as that evaluated in this study, with estimated costs of approximately \$1600 for 12 weeks of the program and for food). Providing commercial weight loss programs free of charge to participants might be a worthwhile health care investment.

Given the epidemic of obesity and the availability of commercial weight loss programs, cost-effectiveness studies should be conducted to evaluate the costs relative to the benefits in terms of improvements in patient health and quality of life, reductions in the need for medications, and prevention of obesity-related illnesses. Moreover, these studies should directly compare different commercial weight loss programs with each other (not with usual care control groups) and examine the cost-effectiveness of including specific intervention components in the program, such as food provision. Such studies should be conducted by researchers who have no financial ties to any company and no conflict of interest.

In conclusion, the results of the trial reported by Rock et al<sup>3</sup> probably represent a best-case scenario. Given the potential of commercial weight loss programs to reach large numbers of overweight or obese individuals, it is time to directly compare the outcomes achieved in a variety of different commercial weight loss programs and to examine whether providing these programs free of charge to participants would be a cost-effective approach.

## AUTHOR INFORMATION

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