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# Continuing Care and Self-Help in the Treatment of Obesity

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Behavioral weight-loss (BWL) treatment, focusing on lifestyle change, remains the most widely used approach to weight control (Wadden, Butryn, & Byrne, 2004). The nature of this treatment is described in Chapters 12 and 14 of this volume. The therapeutic efficacy of BWL has been shown to be consistent across different investigators and clinical research settings. The short-term effects are uniformly positive. A typical treatment of 24 weeks reliably results in an average weight loss of about 10% of body weight. Binge eating is reduced, if not eliminated; body image is improved, self-esteem enhanced, and depressed mood decreased. Blood pressure and cholesterol level tend to drop. Long-term effects, however, are another matter.

Relapse—weight regain following treatment—has proved to be a remarkably robust phenomenon (Jeffery et al., 2000). In a recent summary of the efficacy of BWL, Wadden et al. (2004) concluded that patients regain approximately “30% to 35% of their lost weight in the year after treatment. Weight regain slows after the first year, but by 5 years, 50% or more of patients are likely to have returned to their baseline weight” (p. 153S). For example, in the Diabetes Prevention Program (DPP; Diabetes Prevention Program Research Group, 2002), arguably one of the most sophisticated lifestyle interventions for obesity to date, participants gradually regained about one-third of the weight they had lost in treatment over the following 4 years. Moreover, this weight regain occurred despite an inten-

sive (and expensive) maintenance treatment program designed to preserve weight loss.

### TOWARD AN EXPLANATION OF WEIGHT REGAIN FOLLOWING TREATMENT

Several factors help explain the seemingly inevitable relapse following BWL. Probable biological contributors identified by Wadden et al. (2004) include reductions in resting energy and leptin and increases in the gut peptide ghrelin. Here we focus on the effects of what Brownell and Horgen (2003) have called the “toxic environment.”

#### The Toxic Environment

As has been extensively documented elsewhere (e.g., Brownell & Horgen, 2003), in the United States today we have easy access to excess when it comes to eating. The ready availability of enticing, calorically dense, varied, cheap, and aggressively marketed foods represents an unprecedented environmental challenge to healthy weight regulation. Portions have increased dramatically over the past two decades, as has obesity. People need to eat several times a day—hence they have multiple exposures to different primary reinforcers (varieties of food) that are particularly problematic for individuals who are genetically predisposed to favoring these reinforcers.

An evolutionary perspective suggests that people overeat because the presence, expectation, and even the thought of high positive-incentive value foods promotes hunger. The problem is that humans naturally suited to an environment of paucity now live in environments with the greatest possible variety and abundance of palatable foods (Pinel, Assanand, & Lehman, 2000). Given these conditions, a behavioral analysis suggests that relapse is predictable rather than unexpected. The self-regulatory strategies that BWL comprises are likely to be overwhelmed by environmental forces, especially in vulnerable individuals.

The “toxic environment” is not limited to the physical abundance and availability of food. Cultural influences undermine self-control. People have a quick-fix mentality—looking for the magic pill or diet—that works against the patience and perseverance required for lasting lifestyle change. People have unrealistic expectations of how much weight can be lost, so that even successful outcomes of current BWL might result in disappointment, a sense of failure, and lowered self-efficacy that undermines self-control (Cooper, Fairburn, & Hawker, 2003; Rothman, 2000). The contemporary United States, as someone once said, can be called a country that is too fat trying to be too thin too quickly.

### Costs of Weight Maintenance in the Toxic Environment

It is useful to analyze the poor maintenance of weight lost in terms of the response costs and benefits (Jeffery, Kelly, Rothman, Sherwood, & Boutelle, 2004). The costs of maintaining treatment-induced weight loss involve continual vigilance (including active self-regulation of eating) in the face of unremitting temptations and pressure to eat. We know a lot about the short-term benefits, as noted earlier. But in an innovative and provocative descriptive analysis, Jeffery et al. (2004) found that patient-perceived benefits decline over the first six months of treatment. A measure asking patients "to evaluate benefits of weight loss relative to the effort was favorable in the first three months and then dropped to near zero in the last three months" (p. 104). In view of these findings, it is hardly surprising that participants would not continue to invest time and effort in often challenging self-regulatory activities. Physiological factors, such as compensatory metabolic responses (e.g., reductions in energy expenditure and leptin, increases in ghrelin), may make it even more difficult to maintain lost weight (Wadden et al., 2004).

Other health behavior changes, such as smoking cessation, demand high initial cost and stress that diminish over time, with rewards that become increasingly apparent with time. Long-term weight loss, however, requires that the initial efforts, such as restriction, deprivation, exercise, planning, and monitoring food intake, be consistently applied (Jeffery, French, & Rothman, 1999). The efforts are often accompanied by large initial rewards; during active weight loss individuals may observe with pride (and receive favorable comments from others on) their steady weight reductions, changes in clothing size, improved facial appearance, physical stamina, and so forth. They may also perceive subtler changes in the responses of others, such as greater acceptance, less stigmatization, or more romantic or sexual attention. These changes may at first be reinforcing and satisfying enough to maintain motivation. However, individuals adapt to these improvements, which may remain in place but stop increasing, once maximal weight loss (the amount of which is often unsatisfactory) is achieved. Longer term benefits of weight maintenance include the amelioration of the severity of diseases such as non-insulin-dependent diabetes mellitus, osteoarthritis, and hypertension (Pi-Sunyer, 1996). In the DPP study described previously, although patients regained a third of their weight, they experienced a clinically significant reduction in their risk for developing diabetes (Diabetes Prevention Program Research Group, 2002). However, these health benefits are often not obvious to patients, and the cost and difficulty of maintaining weight loss remains high.

Whereas initial weight-loss efforts are motivated by a desire to reach a favorable goal state (being thin and all that it entails; Rothman, 2000), maintenance efforts may be motivated by a desire to avoid an unfavorable

goal state (going back to one's heaviest weight). Even when individuals are aware that maintenance requires special effort and possess the skills to make this effort (which may rarely be the case; Cooper et al., 2003), behaviors motivated by an approach-oriented process (e.g., initiation of weight loss) are thought to be far more likely to occur than avoidance-oriented behaviors (e.g., maintenance of weight loss; Rothman, 2000).

Cooper and Fairburn (2002) postulated that patients typically fail to maintain weight losses for two reasons. First, they have unrealistic expectations about weight loss. Patients overestimate not only the amount of weight they will lose but also the life changes that weight loss will bring about. Cooper and Fairburn (2002) suggested that treatment should help patients separately identify and address these "primary goals" as distinct from their "weight goals." (This cognitive-behavioral treatment has been described in greater detail by Cooper et al., 2003, but outcome data on this professionally led, individual treatment are not yet available.) Second, patients fail to learn active maintenance skills or to learn even the fact that maintaining weight loss requires skills that can be distinct from those initially used to lose weight. These two obstacles interact with and exacerbate each other. Because patients undervalue their initial weight losses, which they consider too small and too inconsequential in improving their quality of life, they may feel that it is hardly worth the effort to acquire and practice the behaviors needed to maintain these losses. Finch and colleagues (2005) found that patients with overly positive expectations early in treatment were less successful at maintaining their weight losses at 18 months after an 8-week behavioral treatment. On the other hand, the individuals who do maintain weight losses may be those who are more aware of the long-term benefits. People who successfully maintain long-term weight losses report improvements in energy, mobility, mood, health, and self-confidence (Klem, Wing, McGuire, Seagle, & Hill, 1997). Successful men and women both report better physical condition, and women also report less loneliness and greater life satisfaction (Sarlio-Lahteenkorva, Rissanen, & Kaprio, 2000).

#### CONTINUING CARE AND OVERCOMING THE OBSTACLES TO MAINTENANCE

The problems in maintaining weight loss have resulted in BWL programs that offer continuing maintenance or booster sessions after treatment (see Chapter 10, this volume, for a review). However, it is clear that participants in these studies fail to take advantage of this offer and are unwilling to attend regular clinic-based maintenance sessions. For example, attendance at meetings dropped from 89 to 77% in the first 26 weeks and the second 26 weeks of treatment, respectively (Wadden, Foster, & Letizia, 1994). Why?

Wadden et al. (2004) speculate that participants drop out because they are frustrated with the lack of sufficient weight loss or find the maintenance sessions too monotonous and demoralizing.

In contrast to these findings, data from a small number of long-term treatment studies have suggested that behavioral and nutritional treatments can produce long-term weight loss. Several professionally administered treatment programs, all outside the United States, have been examined. Bjorvell and Rossner (1985) treated 68 patients with initial very-low-calorie diet (VLCD) and behavior modification in an intensive, 6-week hospital-based program in Sweden. They continued treatment for a period of 4 years with weekly meetings, weigh-ins, advice from dietitians, and the opportunity to reenroll in the more intensive treatment if relapse began. Patients maintained substantial weight losses at 4 years (12.6 kg) and 10 years (10.5 kg; Bjorvell & Rossner, 1990) after treatment initiation. Attrition rates were surprisingly low compared with those usually seen in the United States (Jeffery et al., 2000), with 56 patients still participating after 4 years.

A German study found weight losses of 8.4% of initial weight (9.5 kg) and health improvements among patients given energy-controlled meal and snack replacements over a 3-month treatment and over a 48-month maintenance period. Interestingly, much smaller losses (3.2%; 4.1 kg) were achieved by patients given only dietary advice for the first 3 months and meal replacements for the final 48 months (Flechtner-Mors, Ditschuneit, Johnson, Suchard, & Adler, 2000).

Another Swedish study offered 2 years of treatment of dietary and behavioral counseling, with or without VLCD, to 113 patients (Lance, Peltonen, Agren, & Torgerson, 2003). The 87 patients who completed these first 2 years of treatment were offered another 2 years of further monthly counseling with a nurse or dietitian. Of the 70 who chose to participate in this second 2 years of continuing treatment, 55 completed it. Randomization to VLCD or no VLCD made no difference to outcomes, but completers of the 4-year continuing-care program lost more weight than noncompleters (7.0 vs. 5.4 kg). This group difference remained at a subsequent 8-year follow-up, when completers maintained a 3.3-kg weight loss and noncompleters had gained 3.2 kg. Of course, the completers in this study were a self-selected group, but the fact that nearly half (49%) of the originally randomized participants completed 4 years of treatment is encouraging.

These randomized trials included comparison groups and had high internal validity, but they tell us less about the effects of continuing care in its natural settings (external validity). In Italy, a naturalistic study examined 15 medical centers that used a variety of treatment procedures (dieting, cognitive-behavior therapy, medication) but provided continuing care by beginning with an intensive initial treatment (3–6 months) followed by contact every 2–4 months. Dalle Grave and colleagues (2005) found that 36

months after treatment began, the 15.7% of patients still in treatment had maintained greater weight losses than those who had dropped out (5.2% vs. 3.0% of initial weight). However, selected subgroups of dropouts who stopped treatment because they were satisfied with their results or had confidence (high self-efficacy) that they could lose weight on their own achieved even greater weight losses than treatment completers (9.6% and 6.5%, respectively). This suggests that not everyone may need continuing care, particularly individuals with the self-efficacy and self-determination to lose weight independently (e.g., Williams, Grow, Freedman, Ryan, & Deci, 1996; see also Chapter 1, this volume).

The Trevoze Behavior Modification Program (TBMP) in the United States, a lay-directed self-help program that provides continuing care, has achieved results that are similar to those of professionally administered continuing care. Weekly meetings in groups of 10 teach traditional behavior modification principles and provide social support. The program is highly disciplined, with strict rules mandating regular attendance, self-monitoring of food intake, and specific personalized weight-loss goals. Members who fail to meet these requirements are dismissed from the program, and individuals are permitted to join the group only once. Members who remained in the program (47% at 2 years and 22% at 5 years) had lost 19% (18 kg) of their initial weight at 2 years and 17% (16 kg) at 5 years (Latner et al., 2000). The proportion of people remaining in TBMP over the long term was similar to or higher than that found in large medication studies: At one year, 70% remained in TBMP, compared with 67% who remained in treatment with orlistat at 1 year (and lost 8.8 kg; Davidson et al., 1999) and 51% who remained in treatment at 1 year with the new obesity medication rimonabant (and lost 6.3 kg; Pi-Sunyer, Aronne, Heshmati, Devin, & Rosenstock, 2006).

The treatment approach used by TBMP appears to be portable, as it has been replicated with similar results in several different settings (Latner, Wilson, Stunkard, & Jackson, 2002). The treatment may produce weight loss even in those participants with frequent binge eating: Weight losses were similar in binge eaters and non-binge eaters (Delinsky, Latner, & Wilson, 2006). When asked what components of treatment they found to be most helpful and effective, members rated most highly the provision of continuing care and group support (Latner, Stunkard, Wilson, & Jackson, 2006).

A seeming exception to the positive results of continuing care comes from a study in Germany by Liebbrand and Fichter (2002). Ten weeks of inpatient treatment was followed up for 18 months with either monthly phone consultation with professional clinicians or no further professional treatment contact. Both groups maintained their weight losses, with a mean of 8.0 kg at 18 months, with no group differences. However, the authors suggested that the positive outcome, even in the control group receiving no

further treatment, may have resulted from three possible features: (1) the distribution of detailed written therapy manuals to support long-term behavior modification, (2) the ongoing professional contact through repeated assessments, and (3) the fact that several of the cohorts in the control group “developed stronger informal structures of mutual support or founded obesity self-help groups on the basis of the cognitive-behavioral principles they had learned during therapy. . . . Social support by their peer group may have influenced the treatment outcome of the subjects more than monthly contacts with the therapist” (Liebbrand & Fichter, 2002, p. 1287). This last development supports research suggesting that individuals trying to maintain lost weight both desire and appreciate continuing self-help support (DePue, Clark, Ruggiero, Medeiros, & Pera, 1995; Latner et al., 2006). The good maintenance of weight lost in this control group suggests that such continuing support works.

The Italian study discussed previously (Dalle Grave et al., 2005) found good weight maintenance in individuals who participated in a continuing-care treatment involving a relatively nonintensive maintenance period of contacts every 2–4 months (after an initial period of more intensive treatment). These results suggest that continuing care can be effective without intensive ongoing intervention, and a study comparing two intensity levels of long-term behavior modification and nutritional counseling tested this experimentally (Melin et al., 2003). Following a very-low-calorie diet, patients were randomized to more intensive (43 sessions) or less intensive (27 sessions) ongoing treatment spread over the course of the subsequent 2 years. Compliance, dropout rate, weight reduction, and weight maintenance at 2 years were similar between the groups (6.8 kg maintained in the more intensive group, and 8.6 kg in the less intensive group).

Though the evidence is still limited, the aforementioned studies suggest that continuing care may be effective even when therapeutic contacts take place less frequently or are administered by nonprofessionals. Given the high prevalence of obesity, it is likely that the only feasible way that continuing care can become available to the population on a large scale is through self-help (Latner, 2001). In the present epidemic of obesity, “any effort to reduce the cost of the treatment would free resources to tackle larger groups of patients” (Dalle Grave et al., 2005, p. 272).

In addition to the obvious practical implications of self-help in the provision of continuing care, self-help may have additional advantages, as well. Self-help creates a sense of empowerment, which in turn may enhance self-efficacy, self-esteem, and the belief that one’s efforts can cause positive change (Segal, Silverman, & Temkin, 1995). Taking responsibility for one’s own problems, with the help of supportive peers, is an empowering and essential characteristic of members of self-help groups (Borkman, 1990). Furnham and McDermott (1994) found that lay persons rated self-reliance as the most effective strategy for addressing obesity. Having an internal lo-

cus of control, or believing that one's own efforts determine one's control over weight, predicts greater maintenance of weight loss (Nir & Neumann, 1995; Williams et al., 1996).

Giving recipients of help the chance to be providers of help (or turning "helpees" into "helpers") may also have particular benefits to the helper: greater feelings of independence, social usefulness, charitableness, control, and status (Riessman, 1990). Several aspects of self-help groups work to increase self-efficacy and self-reliance, such as receiving emotional support and positive reinforcement, taking on leadership responsibilities, and role modeling (Katz, 1993). Self-efficacy and coping skills, in turn, may be important predictors of weight-loss maintenance (Byrne, 2002). A recent review of the role of social support in weight-control interventions concluded that the evidence thus far suggests beneficial effects on long-term health-behavior change (Verheijden, Bakx, van Weel, Koelen, & van Staveren, 2005; see also Chapter 10, this volume). Finally, many of the principles of obesity treatment are straightforward, lending themselves well to "translation" (e.g., see Chapter 12, this volume) into lay language and adaptation across a wide range of people.

#### ANATOMY OF A SELF-HELP CONTINUING CARE PROGRAM

To better address the obstacles to continued motivation, it may be valuable to examine the components of a continuing-care program that has shown success at producing long-term weight loss. Several strategies used by TBMP specifically address some of the obstacles discussed here and may be useful in making other self-help and professionally run treatment programs more effective. In addition, an analysis of this specific continuing-care program may reveal ways in which it might be improved.

##### Screening Procedures

In addition to providing continuing care, TBMP uses a screening procedure to identify potential successful members. Screening procedures can involve complex ethical and practical issues, such as the risk of excluding some patients who would succeed or those who are most in need of treatment (Brownell, Marlatt, Lichtenstein, and Wilson, 1986). However, although few reliable predictors of success in weight-loss programs have been identified thus far, a screening procedure may make it possible to focus treatment on members most likely to succeed (Brownell & Jeffery, 1987). TBMP's first screening device is the stipulation that program applicants must be between 20 and 100 pounds above normal weight, thus including primarily individuals with mild to moderate obesity. The second is a requirement that



candidates fulfill certain essential program requirements in the first 5 weeks. (A comparable “screening phase” prior to treatment has been described by Brownell and colleagues, 1986.) Regarding the first screening tool, there is evidence that lower initial body weight is a correlate of successful weight loss (Jeffery, Wing, & Stunkard, 1978) and maintenance (Stuart & Guire, 1978). Individuals with a high percentage of body fat have been identified as high-risk patients (Dubbert & Wilson, 1983). Other variables that predict weight loss and maintenance are program attendance, early weight loss, and self-monitoring (Wilson, 1995). Full membership is earned after the 5-week screening phase only if three requirements are met: consistent attendance, weight loss, and self-monitoring. Most applicants succeed at meeting the requirements: only 10–15% do not pass the screening phase (Latner et al., 2000, 2002). In the remaining participants, the early reinforcement of these necessary behaviors may facilitate later weight loss and maintenance.

The screening phase may also identify those individuals who are “overly zealous” initiators of treatment, who overestimate the benefits and underestimate the costs of weight loss and maintenance. (For those who pass the screening phase, TBMP addresses this problem partly by adding more benefits than are usually present and by changing the individual’s environment, as discussed later.) There may be some individuals who readily and frequently join weight-loss programs without realizing the effort required. For example, individuals with a history of frequent dieting are less successful at weight maintenance (Pasman, Saris, & Westerterp-Plantenga, 1999). The use of a waiting list may also help to weed out unmotivated individuals, who may lack patience and decide not to enroll when they find out about the long list.

One of the screening requirements is that a specific amount of weight be lost at the start of treatment, and specific monthly weight-loss goals are assigned thereafter during treatment. The initial weight-loss requirement has historically been 15% of the total weight-loss goal in the first 5 weeks of treatment, a substantial loss considering that a member’s total goal must place him or her within the range of normal weight, according to insurance company standards of height and weight (Metropolitan Life Insurance Company, 1983). As a result, this requirement has recently been reduced for those with a total goal of 55 or more pounds to a standard total goal of 8 pounds in the first 5 weeks of treatment. Such large initial weight losses may be helpful in sustaining weight loss over longer periods of time (Wadden & Frey, 1997).

### Group Support

Generic features of group support are even more helpful when they are available on a consistent basis. New TBMP members are matched with ex-

perienced members, who serve as “mentors” and contact them to give support between meetings. Meetings end with each individual announcing a positive consequence of his or her weight loss (e.g., “I no longer need to take blood pressure medication,” or “I can cross my legs again”). This simple strategy may help prevent individuals from taking for granted some of the benefits of weight loss; it might also encourage them to try to identify and remember additional benefits over time. In joining, members make a public commitment to lose and maintain their weight. In addition, members often develop close friendships with other group members. These factors are likely to increase social pressure on members to continue to attend meetings and to make the effort necessary to achieve their goals.

Specific features of TBMP, such as its local reputation and atmosphere, may be important motivating factors as well. According to members’ reports and media reports on the program, the group is well known in the Philadelphia area as the one weight-loss program that is most effective. The program also has a reputation of being exclusive and selective. There is a long waiting list. It is free of charge and offers long-term care, a quality that weight-loss maintainers consider essential for maintenance programs (DePue et al., 1995). Membership in the program is therefore often seen as extremely desirable, which makes individuals more willing to work hard to enter and remain in such a program.

Finally, the atmosphere within the group is encouraging and motivating. Each group usually has several members present who have achieved normal weight, providing visual incentive for new or struggling members. In addition, only successful members (who attend regularly and meet their weight-loss goals) are permitted to continue in the program. So although group members may at times be struggling, there are never members present who have given up entirely or have ceased to lose or maintain their weight. In joining, members are thus identifying themselves with a group of winners. These role models may give new members a tremendous confidence in the potential success of the program and greater faith in their own self-efficacy. That the leadership works without salary or any other financial incentive and that membership itself is free of charge may be strong guarantees of the leaders’ good faith when they represent themselves as successful program graduates for new members to emulate.

### Behavior Modification

During weekly sessions, program members meet in groups of approximately 10 and learn skills such as self-monitoring of food and calorie intake, making healthy food choices, and developing regular exercise habits. Group leaders are experienced members who meet monthly with the program director and annually for a day-long workshop to receive training in leadership skills and behavior modification techniques.

The behavior modification techniques taught and reviewed in weekly meetings at TBMP are based on the same strategies that have been used in weight-loss programs since the early 1970s, based on the original manual by Stuart and Davis (1968). These techniques were reported to be effective, at least in the short term, in a review by Albert Stunkard in 1972 (Penick & Stunkard, 1972), just 1 year before he helped the program's founder, David Zelitch, implement them at Trevoise. They include careful description and monitoring of those behaviors to be controlled (i.e., caloric intake, exercise), modification and control of the discriminatory stimuli governing eating (i.e., learning to eat in one place), development of techniques to control the act of eating (i.e., eating more slowly), and prompt reinforcement of behaviors that delay or control eating (i.e., points on monitoring sheet, pleasurable activities).

#### Strategies to Address Maintenance and Waning Motivation

Behavior modification techniques appear to be effective as long as they are used. TBMP places strong emphasis on the importance of maintenance behaviors, and it teaches members that maintenance requires lifelong effort. (In other treatments, this emphasis is often neglected, Cooper & Fairburn, 2002.) Individuals do not usually have sufficient incentive to continue using these techniques after they are no longer participating in a structured program. As the reinforcers for using behavioral techniques during weight loss level off or their salience fades, the costs remain constant or increase.

The major antidote to this problem is to provide regular continuing treatment. Continuing contact gives patients the chance to boost their morale and motivation in a joint effort with concerned leaders and fellow members (Perri, 1998). Maintaining a high level of motivation is a common discussion topic at weekly meetings, and it is often addressed through problem solving, modeling by experienced members, and behavioral strategies. The program's monthly newsletter ("The Modifier") also frequently deals with the topic of boosting motivation.

In addition, the Trevoise program provides a number of additional contingencies, both reinforcing and punishing, that may result in continued participation and use of the behavioral techniques. Right at the beginning of membership, members learn about these contingencies, and it is emphasized that they are strictly implemented throughout membership. First, reinforcement is given at every stage in the program for successful weight loss and maintenance. Successful members regularly graduate to higher levels of membership, maintenance, and, eventually, leadership positions. These continued incentives may counteract the usual process of declining motivation during maintenance (the period when treatment and social support are typically discontinued). The first reinforcement comes from passing the 5-week screening phase. This entitles applicants to graduate to full mem-

bership. Subsequently, four distinct levels of maintenance can be achieved when weight loss has been maintained for specific periods of time, culminating in "independence level," the attainment of which is considered a high honor in the program. At each graduation, members receive a letter praising them for their achievement. Attaining maintenance-level status permits members to participate as staff, assistant leaders, or leaders in the program, and, if they wish, to start their own groups in their communities. Maintenance levels confer additional advantages, such as second chances to meet weight-loss goals. These lessen the threat of immediate dismissal from the program.

At independence level, members are not required to regularly attend meetings, but they are encouraged to participate as group leaders or volunteers in other capacities. They are also strongly encouraged to begin attending regularly again if a weight regain occurs. This strategy was tested and failed to improve maintenance following a 6-month treatment program (Wing et al., 1996), but it may have been useful as a component of the very effective long-term Swedish program (Bjorvell & Rossner, 1985).

The addition of tangible positive reinforcements in return for continued participation sets up an approach-oriented process in which behaviors are motivated by the desire to attain positive goals. Rothman (2000) describes approach-oriented behaviors as more likely to occur than behaviors driven by an avoidance-oriented process, as discussed previously. In most programs maintenance typically is driven merely by the desire to avoid negative consequences, which is insufficient.

Members are also confronted with the threat of immediate and permanent dismissal from the program (withdrawal of both present reinforcement and the possibility of future reinforcement) if their assigned goals for weight loss and attendance are not met. Individuals are permitted to join the group only once. According to members' reports, this "fear-based" incentive is a powerful motivator early in membership, and later on in membership the positive reinforcements are viewed as the more powerful motivating force (if so, this would represent a reversal of the Rothman, 2000, model). The possibility of dismissal makes it clear to members that the only way to achieve access to the group and its benefits are through the requisite behaviors of behavior modification and weight loss. They cannot pay money to obtain access nor enter under a different name (although according to leaders' reports, this has been occasionally attempted).

Tangible incentives have been offered in previous studies in order to enhance adherence to behavioral weight-loss programs, and they have met with little success. For example, Jeffery and colleagues (1993) attempted to modify the consequences of participants' weight loss by paying them up to \$25 each week to lose weight. These incentives did not improve weight loss or maintenance compared with standard behavioral treatment. As concluded by Jeffery and colleagues (1993), these results do not necessarily im-

ply that monetary or other tangible incentives are not effective; they suggest that incentives of the type and magnitude used in their study were not sufficiently useful. However, it is possible that the incentives offered for successful participation in TBMP are of greater magnitude, more personally meaningful, or longer lasting.

### A Salutary Environment

It is possible that TBMP creates a miniature environment, its own community and culture, which counteracts or protects people from the broader toxic environment. This salutary environment implements a different system of values, rewards, and incentives for a certain healthy set of behaviors. These behaviors are different from the ones conditioned by the toxic environment.

## CONCLUSIONS AND FUTURE DIRECTIONS

Several obstacles present challenges to the long-term implementation of self-help continuing care, and research is needed on ways to address these. As discussed earlier, attendance in treatment, both professional and self-help, often wanes after approximately 6 months (Jeffery et al., 2000). The challenge of how to retain people in treatment is a difficult one. Some individuals who drop out of treatment do so because they are satisfied with treatment's results or have the self-efficacy to continue on their own (Dalle Grave et al., 2005). These individuals may not need continuing care. However, many individuals drop out for logistical reasons (e.g., 51% in Dalle Grave et al., 2005), such as living far from treatment, financial problems, or work conflicts. Self-help programs may be more equipped to resolve these logistical problems than professional treatments. For example, most or all group members may agree that evenings or weekends are the most convenient time to convene, whereas many professionals are not as readily available during evening or weekend hours. Financial difficulties in paying for treatment are also much more easily resolved in volunteer-led support groups that meet in public locations or community organizations, where contributions to support overheads (if any) are small and up to the individual.

Another challenge to self-help continuing care is that studies examining the naturalistic administration of self-help may sacrifice internal validity (randomization, control groups) for external validity (generalizability and clinical representativeness). Therefore, it is difficult to draw causal inferences from studies of continuing care in its natural settings (e.g., Latner et al., 2000; Dalle Grave et al., 2005). On the other hand, studies with tight controls and randomization into treatment groups sacrifice real-world applicability, making it difficult to draw practical conclusions about the effec-

tiveness of treatment for actual patients (e.g., Leibbrand & Fichter, 2002; Flechtner-Mors et al., 2000).

In addition, the few randomized controlled studies of continuing care, as well as those studies that evaluate the extended length of treatment (see Chapter 10, this volume) have examined only professional contact, reducing the feasibility of large-scale implementation and application of their results. Controlled trials of continuing care administered in a self-help format are needed. These could be implemented by randomizing participants into either a standard time-limited or continuing-treatment condition. At the beginning of treatment, groups might need to be professionally led, but very early in treatment, one to two volunteers would be recruited from each group and trained in the principles of group facilitation and behavior modification. Gradually these facilitators (or their successors, over time) could take charge of the group and lead its ongoing maintenance, so that the continuing-treatment condition would receive maintenance support in the form of self-help.

Another challenge to implementing self-help continuing-care treatment is the applicability to individuals from different cultural and ethnic backgrounds. Although the studies of continuing care are few in number, most of them come from different countries: Sweden, Germany, Italy, and the United States. The weight maintenance achieved across these geographically diverse studies (which also used diverse treatment methods) suggests that the utility of continuing care may be generalizable across cultures. However, research is needed among different cultural groups and communities to examine the effectiveness of self-help as a venue for continuing support. It is possible, for example, that in more individualistic Western societies, self-reliance and internal locus of control are helpful strategies, consistent with the value systems commonly promoted by self-help groups. On the other hand, individuals from cultures with a more collectivist orientation may have different expectations about the extent to which they should rely on professional versus peer guidance. How individuals from collectivist cultures feel about and respond to self-help treatment for obesity remains an important empirical question. Other issues in treatment research with ethnic minorities, such as interdependence, spirituality, and discrimination (Hall, 2001), may also be relevant in the self-help treatment of obesity. An essential part of testing the portability of a self-help, continuing-care model of obesity treatment will involve examining its effectiveness across diverse cultures.

## REFERENCES

- Bjorvell, H., & Rossner, S. (1985). Long-term treatment of severe obesity: Four-year follow-up of results of combined behavioural modification programme. *British Medical Journal*, *291*, 379-382.
- Bjorvell, H., & Rossner, S. (1990). A ten-year follow-up of weight change in severely obese

- subjects treated in a behavioural modification-like program. *International Journal of Obesity*, 14(Suppl. 2), 88.
- Borkman, T. J. (1990). Experiential, professional, and lay frames of reference. In T. J. Powell (Ed.), *Working with self-help* (pp. 3–30). Silver Spring, MD: NASW Press.
- Brownell, K. D., & Horgen, K. B. (2004). *Food fight: The inside story of the food industry, America's obesity crisis, and what we can do about it*. New York: McGraw-Hill.
- Brownell, K. D., & Jeffery, R. W. (1987). Improving long-term weight loss: Pushing the limits of treatment. *Behavior Therapy*, 18, 353–374.
- Brownell, K. D., Marlatt, G. A., Lichtenstein, E., & Wilson, G. T. (1986). Understanding and preventing relapse. *American Psychologist*, 7, 765–782.
- Byrne, S. M. (2002). Psychological aspects of weight maintenance and relapse in obesity. *Journal of Psychosomatic Research*, 53, 1029–1036.
- Cooper, Z., & Fairburn, C. G. (2002). A new cognitive-behavioral approach to the treatment of obesity. In T. A. Wadden & A. J. Stunkard (Eds.), *Obesity: Theory and therapy* (3rd ed.). New York: Guilford Press.
- Cooper, Z., Fairburn, C. G., & Hawker, D. M. (2003). *Cognitive-behavioral treatment of obesity: A clinician's guide*. New York: Guilford Press.
- Dalle Grave, R., Melchionda, N., Calugi, S., Centis, E., Tufano, A., Fatati, G., et al. (2005). Continuous care in the treatment of obesity: An observational multicenter study. *Journal of Internal Medicine*, 258, 265–273.
- Davidson, M. H., Hauptman, J., DiGiralamo, M., Foreyt, J. P., Halsted, C. H., Heber, D., et al. (1999). Weight control and risk factor reduction in obese subjects treated for 2 years with Orlistat: A randomized controlled trial. *Journal of the American Medical Association*, 281, 235–242.
- Delinsky, S. S., Latner, J. D., & Wilson, G. T. (2006). Binge eating and weight loss in a self-help behavior modification program. *Obesity Research*, 14, 1244–1249.
- DePue, J. D., Clark, M. M., Ruggiero, L., Medeiros, M. L., & Pera, V. (1995). Maintenance of weight loss: A needs assessment. *Obesity Research*, 3, 241–248.
- Diabetes Prevention Program Research Group. (2002). Reduction in the incidence of type 2 diabetes with lifestyle intervention or metformin. *New England Journal of Medicine*, 346, 393–403.
- Dubbert, P. M., & Wilson, G. T. (1983). Failures in behavior therapy for obesity: Causes, correlates, and consequences. In E. B. Foa & P. M. Emmelkamp (Eds.), *Failures in behavior therapy* (pp. 263–288). New York: Wiley.
- Finch, E. A., Linde, J. A., Jeffery, R. W., Rothman, A. J., King, C. M., & Levy, R. L. (2005). The effects of outcome expectations and satisfaction on weight loss and maintenance: Correlational and experimental analyses—a randomized trial. *Health Psychology*, 24, 608–616.
- Flechtner-Mors, M., Ditschuneit, H. H., Johnson, T. D., Suchard, M. A., & Adler, G. (2000). Metabolic and weight loss effects of long-term dietary intervention in obese patients: Four-year results. *Obesity Research*, 8, 399–402.
- Furnham, A., & McDermott, M. R. (1994). Lay beliefs about the efficacy of self-reliance, seeking help and external control as strategies for overcoming obesity, drug addiction, marital problems, stuttering and insomnia. *Psychology and Health*, 9, 397–406.
- Hall, G. C. N. (2001). Psychotherapy research with ethnic minorities: Empirical, ethical, and conceptual issues. *Journal of Consulting and Clinical Psychology*, 69, 502–510.
- Jeffery, R. W., Drewnowski, A., Epstein, L. H., Stunkard A. J., Wilson, G. T., Wing, R. R., et al. (2000). Long-term maintenance of weight loss: Current status. *Health Psychology*, 19(Suppl.), 5–16.
- Jeffery, R. W., French, S. A., & Rothman, A. J. (1999). Stage of change as a predictor of success in weight control in adult women. *Health Psychology*, 18, 543–546.
- Jeffery, R. W., Kelly, K. M., Rothman, A. J., Sherwood, N. E., & Boutelle, K. N. (2004). The

- weight loss experience: A descriptive analysis. *Annals of Behavioral Medicine*, 27, 100–106.
- Jeffery, R. W., Wing, R. R., & Stunkard, A. J. (1978). Behavioral treatment of obesity: The state of the art. *Behavior Therapy*, 9, 189–199.
- Jeffery, R. W., Wing, R. R., Thorson, C., Burton, L. R., Raether, C., Harvey, J., et al. (1993). Strengthening behavioral interventions for weight loss: A randomized trial of food provision and monetary incentives. *Journal of Consulting and Clinical Psychology*, 61, 1038–1045.
- Katz, A. H. (1993). *Self-help in America: A social movement perspective*. New York: Twayne.
- Klem, M. L., Wing, R. R., McGuire, M. T., Seagle, H. M., & Hill, J. O. (1997). A descriptive study of individuals successful at long-term maintenance of substantial weight loss. *American Journal of Clinical Nutrition*, 66, 239–246.
- Lance, H., Peltonen, M., Agren, L., & Torgerson, J. S. (2003). A dietary and behavioural program for the treatment of obesity: A 4-year clinical trial and a long-term posttreatment follow-up. *Journal of Internal Medicine*, 254, 272–279.
- Latner, J. D. (2001). Self-help in the long-term treatment of obesity. *Obesity Reviews*, 2, 87–97.
- Latner, J. D., Stunkard, A. J., Wilson, G. T., & Jackson, M. L. (2006). The perceived effectiveness of continuing care and group support in the long-term self-help treatment of obesity. *Obesity Research*, 14, 464–471.
- Latner, J. D., Stunkard, A. J., Wilson, G. T., Jackson, M. L., Zelitch, D. S., & Labouvie, E. (2000). Effective long-term treatment of obesity: A continuing care model. *International Journal of Obesity*, 24, 893–898.
- Latner, J. D., Wilson, G. T., Stunkard, A. J., & Jackson, M. L. (2002). Self-help and long-term behavior therapy for obesity. *Behaviour Research and Therapy*, 40, 805–812.
- Liebrand, R., & Fichter, M. M. (2002). Maintenance of weight loss after obesity treatment: Is continuous support necessary? *Behaviour Research and Therapy*, 40, 1275–1289.
- Melin, I., Karlstrom, B., Lappalainen, R., Berglund, L., Mohsen, R., & Vessby, B. (2003). A programme of behaviour modification and nutrition counselling in the treatment of obesity: A randomised 2-year clinical trial. *International Journal of Obesity and Related Metabolic Disorders*, 27, 1127–1135.
- Metropolitan Life Insurance Company. (1983). 1983 Metropolitan height and weight tables. *Statistical Bulletin of the Metropolitan Life Foundation*, 64, 3–9.
- Nir, Z., & Neumann, L. (1995). Relationship among self-esteem, internal–external locus of control, and weight change after participation in a weight reduction program. *Journal of Clinical Psychology*, 51, 482–490.
- Pasman, W., Saris, W. H. M., & Westerterp-Plantenga, M. S. (1999). Predictors of weight maintenance. *Obesity Research*, 7, 43–50.
- Penick, S. B., & Stunkard, A. J. (1972). The treatment of obesity. *Advances in Psychosomatic Medicine*, 7, 217–228.
- Perri, M. G. (1998). The maintenance of treatment effects in the long-term management of obesity. *Clinical Psychology: Science and Practice*, 5, 526–543.
- Pinel, J. P. J., Assanand, S., & Lehman, D. R. (2000). Hunger, eating, and ill health. *American Psychologist*, 55, 1105–1116.
- Pi-Sunyer, F. X. (1996). A review of long-term studies evaluating the efficacy of weight loss in ameliorating disorders associated with obesity. *Clinical Therapeutics*, 18, 1006–1035.
- Pi-Sunyer, F. X., Aronne, L. J., Heshmati, H. M., Devin, J., & Rosenstock, J. (2006). Effect of rimonabant, a cannabinoid-1 receptor blocker, on weight and cardiometabolic risk factors in overweight or obese patients. *Journal of the American Medical Association*, 295, 761–775.



- Riessman, F. (1990). Restructuring help: A human services paradigm for the 1990s. *American Journal of Community Psychology, 18*, 221–230.
- Rothman, A. J. (2000). Toward a theory-based analysis of behavioral maintenance. *Health Psychology, 19*(Suppl.), 64–69.
- Sarlio-Lahteenkorva, S., Rissanen, A., & Kaprio, J. (2000). A descriptive study of weight loss maintenance: 6- and 15-year follow-up of initially overweight adults. *International Journal of Obesity, 24*, 116–125.
- Segal, S. P., Silverman, C., & Temkin, T. (1995). Measuring empowerment in client-run self-help agencies. *Community Mental Health Journal, 31*, 215–227.
- Stuart, R. B., & Davis, B. (1968). *Slim chance in a fat world: Behavioral control of obesity*. Champaign, IL: Research Press.
- Stuart, R. B., & Guire, K. (1978). Some correlates of the maintenance of weight lost through behavior modification. *International Journal of Obesity, 2*, 225–235.
- Verheijden, M. W., Bakx, J. C., van Weel, C., Koelen, M. A., & van Staveren, W. A. (2005). Role of social support in lifestyle-focused weight management interventions. *European Journal of Clinical Nutrition, 59*(Suppl.), S179–S186.
- Wadden, T. A., Butryn, M. L., & Byrne, K. J. (2004). Efficacy of lifestyle modification for long-term weight control. *Obesity Research, 12* (Suppl.), 151S–162S.
- Wadden, T. A., Foster, G. D., & Letizia, K. A. (1994). One-year behavioral treatment of obesity: Comparison of moderate and severe caloric restriction and the effects of weight maintenance therapy. *Journal of Consulting and Clinical Psychology, 62*, 165–171.
- Wadden, T. A., & Frey, D. L. (1997). A multicenter evaluation of a proprietary weight loss program for the treatment of marked obesity: A five-year follow up. *International Journal of Eating Disorders, 22*, 203–212.
- Williams, G. C., Grow, V. M., Freedman, Z. R., Ryan, R. M., & Deci, E. L. (1996). Motivational predictors of weight loss and weight-loss maintenance. *Journal of Personality and Social Psychology, 70*, 115–126.
- Wilson, G. T. (1995). Behavioral and psychological predictors of treatment outcome in obesity. In D. B. Allison & F. X. Pi-Sunyer (Eds.), *Obesity treatment* (pp. 183–189). New York: Plenum Press.
- Wing, R. R., Jeffery, R. W., Burton, L. R., Thorson, C., Sperber-Nissinoff, K., & Baxter, J. E. (1996). Food provision vs. structured meal plans in the behavioral treatment of obesity. *International Journal of Obesity, 20*, 56–62.

