Long-term weight loss maintenance after inpatient psychotherapy of severely obese patients based on a randomized study: Predictors and maintaining factors of health behavior

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Abstract

Objective: The objective of this study was to identify predictors of long-term weight loss after inpatient psychodynamic or behavioral psychotherapy of severely obese patients. Methods: In a longitudinal study, obese patients [body mass index (BMI) ≥ 35 kg/m²] were randomly assigned to behavioral or psychodynamic inpatient treatment. The average treatment duration was 7 weeks. Two hundred sixty-seven obese patients, mostly female (85%), with psychiatric and somatic comorbidity (age, 20–64 years; BMI = 35–74 kg/m²) were examined with standardized self-report scales at intake, discharge, 1-year follow-up, and 3-year follow-up. Results: Overall, 3 years after inpatient psychotherapy, irrespective of treatment setting, we found an average weight loss of about 1 BMI unit (2% or 3 kg). Effect size for weight loss was small (ES = 0.26); changes in body image were stronger (ES = 0.56). About 32% of patients achieved a long-term weight loss of > 5%. In multiple regressions, weight loss was predicted by the attribution of overweight to eating habits, low dominance (Inventory of Interpersonal Problems), low life satisfaction, higher initial weight loss, and higher self-efficacy. Weight loss maintenance was predicted by cognitive control and current physical activity on follow-up. Conclusion: In the long run, one third of patients could maintain or improve weight loss by inpatient psychotherapy. Lasting beneficial changes in body image and distress could also be found. The predictors of weight loss and weight loss maintenance identified in this study may be helpful for future modifications of psychotherapeutic intervention strategies.

Keywords: Behavioral; Inpatient treatment; Obesity; Prediction; Psychodynamic; Weight loss

Introduction

Obesity is one of the major health problems in Western societies. This chronic disorder predisposes not only to debilitating diseases (e.g., hypertension, diabetes, musculoskeletal disease, and coronary heart disease) but also to serious impairments in quality of life [1] and increased rates of psychiatric and psychosomatic disorders (e.g., Refs. [2–6]). Therefore, there is a special need for effective treatment programs. Long-term weight loss following weight reduction, however, has been usually modest [7]. Most patients regain lost weight after treatment.

In order to better understand why weight loss maintenance is so difficult, factors associated with weight loss maintenance need to be identified. The identification of such predictors has two major implications: (a) improvement of existing strategies for weight reduction, and (b) assignment of patients with a reasonable chance for long-term success to specific obesity treatments.
Predictors of long-term success have not been clearly identified yet. Recently, Elfhag and Rossner [8] have comprehensively reviewed the literature between 1980 and August 2004 for potential factors associated with weight loss and weight regain over a period of at least 6 months after treatment, with a mean follow-up duration of about 2 years. They identified the following predictors of lasting weight reduction: attitudes toward weight and eating (e.g., regular meal rhythm, internal motivation to lose weight, and cognitive control, especially flexible control of eating behavior, low disinhibited eating, and hunger), personality (e.g., better coping strategies and self-efficacy), initial weight loss [9], physically active lifestyle, social support, and no history of weight cycling.

In another recent review, only pretreatment variables were taken into account. Few previous weight loss attempts and an autonomous, self-motivated, cognitive style were the best prospective predictors of successful weight reduction [10].

Predictors of a positive outcome following behavioral treatment were as follows: longer duration of treatment, greater experience of therapist, frequency of patient-therapist contacts, physical exercise, involvement of family [11], and improvement of psychiatric symptoms and eating behavior in the posttreatment period [12]. Based on these and related findings [13], there is a two-way relationship between obesity and psychiatric disorders: obesity stigmatization leads to psychiatric disorders, and eating disorders underlying obesity are part of psychiatric disorders. Therefore, besides weight reduction, self-representation [14], body image [15], and distress [16] are discussed as goals of obesity treatment.

In recent studies, changes in body image were not related with changes in weight [16], or only several aspects of body image changed in the same manner as weight [17]. In a study with 30 obese patients with stable weight reduction after bariatric surgery, normalization of body dissatisfaction, feelings of fatness, and physical attractiveness could be observed. Body disparagement and salience of shape improved but did not reach the levels of controls [17]. These findings suggest that some aspects of body image are substantially accounted for by overweight. Other aspects seem to reflect inner feelings and self-esteem, which are less dependent on weight.

So far, there has been a dearth of psychotherapy intervention studies that systematically analyze the impact of patient and treatment characteristics on the prediction of weight loss maintenance in the long run. While psychodynamic treatments are still prevailing in Germany and other countries, to date, studies have usually been limited to behavioral treatments (e.g., Carels et al. [18]). Therefore, it seems timely to compare psychodynamic and behavioral treatments of obese patients. In this paper, we report the results of a randomized prospective study [19,20] focusing on the long-term effects of inpatient treatment on weight loss (behavioral and psychodynamic) and on the prediction of weight loss and weight loss maintenance by patient characteristics. Besides weight reduction, we were interested in the long-term effects of inpatient treatment on cognitive variables (especially body image) and psychological distress.

Based on previous findings, we expected to explain a substantial amount of variance in weight loss and weight loss maintenance by the following predictors: less comorbidity.

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**Fig. 1.** Study design and sample sizes. (1) Excluded were patients with a BMI \( \geq 35 \) kg/m\(^2\) at intake and with lack of German language competence. (2) General practitioners were contacted when patients had given their written consent. (3) Percentages based on respondents at 1-year follow-up. (4) Percentages based on respondents at discharge.
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