Group dialectical behavior therapy adapted for obese emotional eaters; a pilot study

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Abstract

Dialectical Behavior Therapy (DBT) has been shown to effectively target binge eating disorder (BED). This study pilots the effectiveness of group DBT for obese “emotional eaters” to reduce eating psychopathology and achieve weight maintenance. Thirty-five obese male and female emotional eaters receiving 20 group psychotherapy sessions of DBT adapted for emotional eating were assessed at end-of-treatment and 6 month follow-up for reductions in eating psychopathology and weight maintenance. DBT resulted in significant reductions in emotional eating and other markers of eating psychopathology at the end-of-treatment that were maintained at follow-up. The drop-out rate was very low, with only 1 participant dropping from treatment. Thirty-three (94%) of the sample provided data at every assessment point. Of these, 80% achieved either weight reduction or weight maintenance after treatment and throughout the follow-up period. The effect size for weight reduction was small. This pilot study demonstrates group DBT targeting emotional eating in the obese to be a highly acceptable and effective intervention for reducing eating related psychopathology at both at end-of-treatment and during follow-up. The ability of DBT to limit the upward trajectory of weight gain in obese patients with high degrees of emotional eating suggests that DBT may also help limit the increase or even prevent onset of obesity related morbidity in these patients.

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Key words: Dialectical behaviour therapy. Emotional eating. Weight maintenance. Psychopathology.
Introduction

Obesity, an increasingly prevalent disorder, is associated with severe and often life-threatening medical co-morbidities. Reduction of body weight can have a substantial positive impact, such as reversing the development of diabetes. However, obesity is well-known as being difficult to treat; calorie restricting diets, even when combined with behavioural techniques and exercise, seldom result in lasting weight loss. A meta-analysis on the long-term effectiveness of calorie restricting diets showed that between one third and two thirds of the dieters regain more weight than was initially lost on their diets. In view of this disheartening evidence, the World Health Organization (WHO) and others suggest clinicians advise their patients to aim for weight constancy as a means of preventing further development of obesity-related morbidity.

It is therefore important to investigate how weight constancy could be better achieved for people who fail to maintain weight loss. One factor may be that most current lifestyle or behavioral interventions, which tend to highly emphasize control of food stimuli within the obesogenic environment, may not be as effective for individuals whose overeating is predominantly triggered by negative emotions (emotional eating) rather than tempting food cues. Evidence is accumulating that the pathology associated with excessive external and emotional eating is essentially different. Very high levels of emotional eating have been demonstrated in at least 40% of obese community samples and are associated with poor interoceptive awareness, high alexithymia, depression and problems with affect regulation. Research also suggests that individuals with high degrees of emotional eating are especially poor at achieving weight loss maintenance eating.

Originally, Dialectical Behavior Therapy (DBT) was developed for borderline personality disorder, and was successfully modified to target binge eating disorder (BED). According to this affect regulation model, binge eating is a behavioral attempt to influence, change, or control painful emotional states.

Binge eating, particularly in obese individuals, is highly associated with emotional eating. This pilot treatment included obese individuals who showed high levels of emotional eating but did not meet criteria for BED. The aim of the present study was to pilot a DBT intervention focusing on “emotional eating” rather than binge eating for obese individuals with high emotional eating scores.

In keeping with the WHO recommendations, this study aimed to achieve weight maintenance, defined as a weight change of < 3% of baseline body weight. It was hypothesized that DBT would successfully reduce eating psychopathology and that over time improvement in eating psychopathology would be associated with weight stabilization.
of eating are not given special attention in DBT for eating disorders, participants were given a brochure of the National Nutrition Centre (available upon request to the authors) to use as a reference.

Briefly, the focus of the twenty DBT group sessions was to teach adaptive emotion regulation skills through the use of three modules (Mindfulness, Emotion Regulation, and Distress Tolerance), with two final sessions devoted to review and relapse prevention. Mindfulness skills include the ability to observe and describe moment-to-moment emotional experiences, thoughts, and action urges and respond non-judgmentally. Emotion regulation skills encourage understanding of how emotions function, decreasing vulnerability to negative emotions, increasing positive emotions, and changing specific emotional states (e.g., fear and anxiety) by acting opposite to one’s current emotion. Distress-tolerance skills teach adaptive and effective means for tolerating life’s unavoidable stresses and pain without turning to emotional eating, thereby facilitating acceptance of the current moment’s realities.

Measures

The Dutch Eating Behaviour Questionnaire (DEBQ) was used to measure Emotional, External and Restrained eating. Response categories range from 1 (“never”) to 5 (“very often”). The scales display good internal consistency and factorial validity in addition to adequate predictive validity for food consumption. The Revised Eating Disorder Inventory (EDI-II) was used to measure eating psychopathology. The EDI-II is a self-report measure of attitudes and behaviours concerning eating, weight and shape, and psychological traits clinically relevant to eating disorders. For the present study, 5 subscales were used: body dissatisfaction, drive for thinness, bulimia (i.e., the tendency to binge and purge), poor interoceptive awareness (i.e., difficulties adequately identifying emotions and sensations of hunger or satiety) and impulsivity (i.e., tendencies toward substance abuse, recklessness, hostility, self-destructiveness). Possible responses ranged from 1 (“never”) to 6 (“very often”). In contrast with the EDI-manual, in which a transformation of responses into a 4-point scale is advocated, the present study utilised untransformed responses, as scale transformation was found to damage the validity of the EDI among non-clinical populations. The depression subscale of the validated version of the Hopkins Symptom Checklist-90 (SCL-90) was used as a measure of depressive symptoms. Body weight was assessed on a balance beam scale by a trained research assistant, with the participant being in lightweight clothing and having shoes removed. Height was measured with a stadiometer. Body Mass Index (BMI) was calculated as weight (in kilograms) divided by the square of height (in meters).

Results

Pre-treatment characteristics

The DBT group consisted of 35 patients (30 females (86%) and 5 males (4%)) with a mean age of 39.20 (SD = 11.02) years. The mean BMI was 35.42 kg/m2 (SD = 2.62). The average DEBQ Emotional Eating Score was 3.85 (SD = 0.66). The other DEBQ subscales were: External Eating 3.58 (SD = 0.58), and Restrained Eating 3.02 (SD = 0.59). The 5 EDI-II subscales were: Body Dissatisfaction 47.10 (SD = 0.54), Bulimia 23.94 (SD = 5.94), the 5 EDI-II subscales were reported as: Body Dissatisfaction 47.10 (SD = 0.54), Bulimia 23.94 (SD = 5.94), Drive for Thinness 29.74 (SD = 5.94), Bulimia 23.94 (SD = 5.94), Poor Interoceptive Awareness 32.99 (SD = 7.24), and Impulsivity 25.89 (SD = 5.69). The average depression subscale score from the SCL-90 was 2.04 (SD = 0.77) (table I).

Drop-outs from treatment and/or assessment

One patient dropped out of treatment (3%), stating that learning the mindfulness skills was sufficient for her. One patient (3%) did not provide a follow-up assessment. Complete data for all 3 assessment points were available for n = 33 (94%) of the sample.

Eating style, eating psychopathology and depressive symptoms

DBT resulted in significant post-treatment reductions in the DEBQ Emotional Eating scale (3.85 ± 0.66
Table I
Results of the intention-to treat sample (n = 35) before and after treatment and at the 6 month follow-up

<table>
<thead>
<tr>
<th>Measure</th>
<th>Pre-treatment (n = 35)</th>
<th>Post-treatment (n = 35)</th>
<th>Follow-up (n = 35)</th>
<th>Cohens d</th>
<th>Treatment effectiveness</th>
<th>Maintenance</th>
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<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td>Pre-Post</td>
<td>Pre-F(1,35)</td>
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<tr>
<td>BMI</td>
<td>35.42</td>
<td>2.62</td>
<td>34.82</td>
<td>3.33</td>
<td>34.56</td>
<td>3.80</td>
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<td>Emotional eating</td>
<td>3.85</td>
<td>0.66</td>
<td>2.75</td>
<td>0.49</td>
<td>2.81</td>
<td>0.62</td>
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<tr>
<td>External eating</td>
<td>3.58</td>
<td>0.58</td>
<td>2.66</td>
<td>0.50</td>
<td>2.76</td>
<td>0.54</td>
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<tr>
<td>Restrained eating</td>
<td>3.02</td>
<td>0.59</td>
<td>3.26</td>
<td>0.57</td>
<td>3.12</td>
<td>0.50</td>
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<tr>
<td>Body dissatisfaction</td>
<td>47.10</td>
<td>7.44</td>
<td>43.30</td>
<td>8.84</td>
<td>44.03</td>
<td>8.94</td>
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<tr>
<td>Drive for thinness</td>
<td>29.74</td>
<td>5.94</td>
<td>24.28</td>
<td>6.84</td>
<td>24.23</td>
<td>6.78</td>
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<tr>
<td>Bulimia</td>
<td>23.94</td>
<td>6.05</td>
<td>14.73</td>
<td>4.43</td>
<td>15.94</td>
<td>4.66</td>
</tr>
<tr>
<td>Poor interceptive awareness</td>
<td>32.99</td>
<td>7.24</td>
<td>26.23</td>
<td>6.24</td>
<td>25.46</td>
<td>5.89</td>
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<tr>
<td>Impulsivity</td>
<td>25.89</td>
<td>5.69</td>
<td>23.92</td>
<td>5.34</td>
<td>23.47</td>
<td>4.72</td>
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<tr>
<td>Depression</td>
<td>2.04</td>
<td>0.77</td>
<td>1.68</td>
<td>0.65</td>
<td>1.61</td>
<td>0.49</td>
</tr>
</tbody>
</table>

*p < 0.05; **p < 0.01; ***p < 0.001
Treatment for obese emotional eaters


To our knowledge, DBT has not yet been investigated specifically for the treatment of emotional eating in people with obesity. Given very high levels of emotional eating have been demonstrated in at least 40% of obese community samples and that those with high emotional eating scores appear specifically poor at achieving weight loss maintenance eating, emotional eating may be an especially important and under-explored target for participants in weight loss and weight maintenance interventions.

The findings from the present pilot study suggest that 20 sessions of DBT group therapy targeting emotional eating among obese individuals was successful in reducing emotional eating and other markers of eating psychopathology and was associated with constancy or even reduction of body weight at post-treatment and at the 6 month follow-up. It was expected that DBT-treatment would be successful in reducing eating psychopathology both in the short and longer term. While DBT was not expected to result in significant weight loss or weight maintenance in the treatment intervention period, improvement in eating psychopathology did impressively result in weight stabilization in throughout the 6 month follow-up period.

Mild weight loss or weight maintenance after DBT has been observed before. However, these findings were found with patients with BED. The present findings suggest that DBT may also result in weight maintenance or weight loss in a large percentage of obese people without BED who experience high degrees of emotional eating. Teaching adaptive emotion regulation skills may be a desirable missing component for this otherwise difficult to treat population of patients with obesity.

The very low drop-out rate suggests DBT is highly acceptable for most obese emotional eaters, which is of importance given typical drop-out rates of obese patients from treatment are much higher (e.g., 16-20%). One contributing factor may have been the emphasis placed during the pre-treatment interview on weight maintenance as a goal.

The finding that many patients increased their dietary restraint during treatment in addition to weight loss is consistent with other findings on decreased overeating or eating binges after dieting. Unlike the Restriment Scale literature, which links dietary restriction to overeating and eating disorders, the DEBQ Restraint scale measures “watching exactly what you eat” and/or moderation of food intake in response to occasions of overeating (e.g., “When you have eaten too much, do you eat less than usual the following day?”). Hence, individuals with higher DEBQ Restraint scores may have been more successful in avoiding weight gain because of their tendency to compensate for occasional bouts of overconsumption by subsequently eating less.

A possible explanation for the weight gain of 20% at the 6 month follow-up may come from a recent study in which Blomquist and colleagues assessed the weight trajectories in the year prior to commencing treatment for BED. Weight gainers, in contrast to the weight non-gainers, had been on a very steep weight gain trajectory, showing an average weight gain of more than 10...
kg during the year before seeking treatment. It is not known whether the weight gainers in the present study also were following a steep pre-treatment weight gain. However, it would be of interest to assess the pre-treatment weight trajectories of patients receiving treatment in future studies. For patients with a steep pre-treatment weight gain trajectory, a more feasible treatment goal might be to aim at a less steep weight gain trajectory rather than constancy of body weight, let alone weight loss.

A limitation of this study is the absence of a control group. A further limitation is the relatively small sample size and, given the chronicity of emotional eating and obesity, the rather brief follow-up period of 6 months. A strength of the study was that body height and body weight were obtained through by objective measurements in 94% of the participants. A further strength is that only one person dropped out of the DBT treatment.

In conclusion, DBT in this study was associated with reductions in important aspects of eating psychopathology in the short term and at the six month follow-up— which took place 1 year after initiation of the study. These improvements were accompanied by weight constancy or even a reduction of body weight for the majority of the patients. The ability of DBT to limit the customary weight increases of obese patients with high degrees of emotional eating suggests DBT to be a promising strategy to inhibit the further growth of obesity-related morbidity in these difficult to treat obese patients.

References

11. Safer DL, Robinson AH, Jo B. Outcome from a randomized controlled trial of group therapy for binge eating disorder: comparing dialectical behavior therapy adapted for binge eating to an active comparison group therapy. Behav Ther 2010; 41 (1): 106-120.
18. Safer DL, Robinson AH, Jo B. Outcome from a randomized controlled trial of group therapy for binge eating disorder: comparing dialectical behavior therapy adapted for binge eating to an active comparison group therapy. Behav Ther 2010; 41 (1): 106-120.
32. Van Strien T, van de Laar FA. Intake of energy is best predicted by overeating tendency and consumption of fat is best predicted by dietary restraint: a 4-year follow-up of patients with newly diagnosed Type 2 diabetes. Appetite 2008; 50 (2-3): 544-547.


