Cognitive Behavior Therapy and Dialectical Behavior Therapy for Treating Obese Emotional Eaters

Kevin Glisenti and Esben Strodl

Clinical Case Studies 2012 11: 71 originally published online 18 April 2012
DOI: 10.1177/1534650112441701

The online version of this article can be found at:
http://ccs.sagepub.com/content/11/2/71
Cognitive Behavior Therapy and Dialectical Behavior Therapy for Treating Obese Emotional Eaters

Kevin Glisenti¹ and Esben Strodl²

Abstract
This study describes the treatment of obese individuals who rated high on emotional eating using four case studies that involved 22 sessions of either cognitive behavioral therapy (CBT) or dialectical behavioral therapy (DBT). Outcomes measures relating to weight, body mass index, emotional eating, depression, anxiety, and stress were all assessed with each participant prior to each baseline (three weekly sessions), during treatment and posttherapy. At the 8-week follow-up, the two cases that had received DBT had lost 10.1% and 7.6% of their initial body weight, whereas the two cases that had received CBT had lost 0.7% and 0.6% of their initial body weight. The two DBT cases also exhibited reductions in emotional distress, frequency of emotional eating or quantity of food eating in response to emotions, whereas the two CBT cases showed no overall reductions in these areas. Important processes from all four cases are described as are the implications to clinicians for developing more effective interventions for obese clients who engage in emotional eating.

Keywords
cognitive behavior therapy, dialectical behavior therapy, emotional eating

I Theoretical and Research Basis for Treatment
Overweight and obesity have become worldwide concerns reaching epidemic proportions (World Health Organization, 2003). The overall prevalence of overweight and obesity continues to increase in Western countries to the extent where approximately half of the population is currently considered to be overweight, with the effects of unhealthy diet and sedentary lifestyle present among children and among adults in the majority of the Organisation for Economic Cooperation and Development countries (Birmingham, Muller, Palepu, Spinelli, & Anis, 1999; Sassi, Devaux, Cecchini, & Rusticelli, 2009).

There are many factors associated with obesity and for some people this includes emotional eating, which can be defined as “eating in response to a range of negative emotions such as...”
anxiety, depression, anger and loneliness to cope with negative affect” (Faith, Allison, & Geliebter, 1997, p. 439). Emotional factors have been identified as antecedents and triggers of a significant number of problematic eating behaviors (Lawson, Emanuelli, Sines, & Waller, 2008), and it had been hypothesized that emotional eating may precipitate binge eating episodes among the obese (Arnow, Kenardy, & Agras, 1995). Indeed, there appears to be significant overlap between the concept of emotional eating and binge eating (Bekker & Spoor, 2008), with emotional eaters and binge eaters at risk of excessive weight gain (Tanofska-Kraff et al., 2007).

In terms of psychological treatment, cognitive behavioral therapy (CBT) has been the most extensively researched approach for diagnosed eating disorders such as binge eating disorder, bulimia nervosa, and anorexia nervosa (e.g., Channon, de Silva, Hemsley, & Perkins, 1989; Ghaderi & Anderson, 2010; Hilbert & Tuschen-Caffier, 2004; McIntosh et al., 2005; Painot, Jotterand, Kammer, Fossati, & Golay, 2001; Pike, Walsh, Vitousek, Wilson, & Bauer, 2003; Schlup, Margraf, Wilhelm, Meyer, & Munsch, 2009; Vitousek & Wilson, 1999; Wilson, 1999; Wilson & Sysko, 2006), and to a lesser extent obesity (e.g., Cooper & Fairburn, 2001; Shaw, O’Rourke, Del Mar, & Kenardy, 2009; Waller & Kennerley, 2005) around which the majority of research has been conducted utilizing a behavioral weight-loss approach. It is important to note that although CBT is generally considered the “gold standard” of psychological interventions and helpful for treating a significant number of clients with primary eating disorder symptoms, it does not facilitate symptomatic relief for all (Wisniewski, Safer, & Chen, 2007).

According to the CBT model, problematic eating behaviors such as emotional eating can be conceptualized as a combination of operant conditioning and classical conditioning behavioral factors (Ferster, Nurnberger, & Levitt, 1962) and also cognitive factors associated with negative or self-defeating cognitions in relation to diet, physical appearance, and self-worth (Perri & Fox, 2005). The latter are considered central to weight regulation and, therefore, to the development of obesity and/or eating disorders (Bennett, 1988). This model further purports that cognitive (i.e., maladaptive cognitions) and behavioral (e.g., rigid and extreme dieting) processes maintain problematic eating behaviors such as emotional eating, and, therefore, both need to be the focus of any psychological intervention and treatment (Cooper, Fairburn, & Hawker, 2003).

In more recent times, there has been increasing interest in the use of dialectical behavioral therapy (DBT), which was originally developed to treat borderline personality disorder (Linehan, 1993a, 1993b), as a treatment approach for eating disorders (Agras, Telch, & Linehan, 2000). Of note, it appears that research conducted to date in relation to the effectiveness of DBT has focused on participants who have a diagnosed eating disorder (e.g., Agras et al., 2000; Agras, Telch, & Safer, 2001; Birchall, McGrain, Parker, Gatward, & Palmer, 2003; Jo, Robinson, & Safer, 2010; Kroger et al., 2010; Palacios, Botella, Marco, Haro, & Guillen, 2010; Pfeiffer, Miller, Lehmkuhl, Salbachandrea, & Bohnekamp, 2008; Telch, Agras, Stewart, & Linehan, 2001), rather than obese individuals who do not meet the criteria for an eating disorder.

According to the DBT model, problematic eating behaviors such as emotional eating can be conceptualized as delivering temporary relief from a negative affect in the same way that impulsive behaviors functioned in patients with borderline personality disorder (Telch, 1997). Problematic eating behaviors such as emotional eating represent an effort by an individual to modulate or regulate emotion by numbing, avoiding, or soothing negative or overwhelming affect (Blocher-McCabe, La Via, & Marcus, 2004), and are seen as an attempt to counterbalance whatever unpleasant emotions an individual is experiencing and also escape emotional distress, in the absence of more effective emotion regulation skills (Wiser & Telch, 1999).

It has previously been noted here that although CBT is generally considered the “gold standard” of psychological interventions for weight reduction, the outcomes are still quite poor (Shaw et al., 2009). Given the generally poor outcomes for CBT in this population and the dearth of research exploring the application of CBT and DBT to treat obese individuals who
emotionally eat but do not have a diagnosed eating disorder, this study aimed to investigate the application of these two approaches to this challenging population. As such exploration of these case studies aims to help identify important therapeutic issues that may improve the outcome of psychotherapy in reducing emotional eating and weight loss in obese adults.

2 Case Introduction

Terry (pseudonym) was 35 years in age, 179 cm in height, and had a mean weight of 128.4 kg during baseline assessment. Terry advised that his weight-related problems commenced during middle childhood when he started responding to bullying within the school setting by eating. He reported that the majority of his contemporary emotional eating occurred in response to feelings of stress and fatigue associated with employment responsibilities and intimate relationship conflict.

Shelley (pseudonym) was 28 years in age, 175 cm in height, and had a mean weight of 127.2 kg during baseline assessment. She reported experiencing weight-related problems since early childhood, attributing this to very low physical activity levels and overeating problematic food. Shelley advised that the majority of her contemporary emotional eating occurred in response to feelings of fatigue associated with employment responsibilities and stress associated with financial issues.

Brian (pseudonym) was 39 years in age, 178 cm in height, and had a mean weight of 125.9 kg during baseline assessment. He reported experiencing weight-related problems since around the age of 14 years when Brian ceased training for and playing competitive sports, after which time his food intake did not alter despite a significant decrease in physical activity. Brian advised that the majority of his contemporary emotional eating occurred in response to feelings of helplessness associated with physical health problems and stress associated with study responsibilities.

Wendy (pseudonym) was 32 years in age, 170 cm in height, and had a mean weight of 94.7 kg during baseline assessment. She reported commencing to experience weight-related problems after moving out of home for the first time during her late teens, after which there was a significant change in her food intake. Wendy advised that the majority of her contemporary emotional eating occurred in response to feelings of stress associated with parenting responsibilities and also family conflict.

3 Presenting Complaints

All four participants in the case studies were obese and rated high on emotional eating; however, they did not meet diagnostic criteria for an eating disorder. The baselines scores for depression, anxiety, and stress are shown in Table 1 below. Using published norms (Crawford & Henry, 2003), Terry scored within the extremely severe range on depression, the moderate range on anxiety, and the moderate range of stress at baseline. Shelley rated herself in the moderate range for depression, the normal range for anxiety, and the mild range for stress. Brian scored in the extremely severe range on depression, anxiety, and stress, whereas Wendy rated herself in the severe range on depression, the normal range on anxiety, and the moderate range on stress.

4 History

Terry advised having consulted with a range of health and fitness professionals and also engaged in a range of commercial weight-loss programs in the past, with some success in losing weight; however, this was generally regained. He denied any weight-related physical health problems.
Terry’s primary concern at the commencement of assessment and treatment related to the impact of weight on his overall self-esteem and sense of confidence.

Shelley reported having consulted with a range of health and fitness professionals and also engaged in a range of commercial weight-loss programs in the past, with only moderate success in losing weight, which was then generally regained. She denied any weight-related physical health problems; however, she expressed some concern about her prognosis in this regard. Shelley’s primary concern at the commencement of assessment and treatment related to the impact of weight on her ability to fall pregnant and potential impact on her physical health status.

Brian advised having consulted a dietician in the past without success in losing weight; however, he had not participated in any commercial weight-loss programs. He described a significant increase in weight over the previous 2 years during which time Brian had been diagnosed with a range of physical health problems, including high blood pressure, high cholesterol, and diabetes. Brian’s primary concern at the commencement of assessment and treatment related to the impact of weight on his physical health status.

Wendy reported having consulted with a health and fitness professional and also engaged in commercial weight-loss programs in the past, with success in losing weight; however, this was generally regained. She denied any weight-related physical health problems; however, she expressed some concern about her prognosis in this regard. Wendy’s primary concern at the commencement of assessment and treatment, however, related to the impact of weight on her personal appearance.

## 5 Assessment

### Screening Assessment

Participants initially completed the Emotional Overeating Questionnaire (EOQ; Masheb & Grilo, 2006), Eating Disorder Examination Questionnaire (EDEQ; Fairburn & Beglin, 1994), and Depression Anxiety and Stress Scale–21 (DASS-21; Lovibond & Lovibond, 2004) as part of the initial screening process. Individuals who rated high on emotional eating in the absence of an eating disorder then completed the Structured Clinical Interview for Diagnostic and Statistical Manual of Mental Disorders (4th ed., DSM-IV; American Psychiatric Association, 1994)

### Table 1. Mean DASS-21 Scores During Sessions for Terry, Shelley, Brian, and Wendy

<table>
<thead>
<tr>
<th>Experimental condition</th>
<th>DASS-21—Depression</th>
<th>DASS-21—Anxiety</th>
<th>DASS-21—Stress</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Terry (DBT)</td>
<td>Shelley (DBT)</td>
<td>Brian (CBT)</td>
</tr>
<tr>
<td>Baseline</td>
<td>28</td>
<td>14.6</td>
<td>40.6</td>
</tr>
<tr>
<td>Treatment—Quarter 1</td>
<td>25.3</td>
<td>21.6</td>
<td>41</td>
</tr>
<tr>
<td>Treatment—Quarter 2</td>
<td>25.6</td>
<td>26</td>
<td>42</td>
</tr>
<tr>
<td>Treatment—Quarter 3</td>
<td>26.3</td>
<td>22.6</td>
<td>41.6</td>
</tr>
<tr>
<td>Treatment—Quarter 4</td>
<td>25.2</td>
<td>27.6</td>
<td>37.6</td>
</tr>
<tr>
<td>Monitoring</td>
<td>16.5</td>
<td>26.5</td>
<td>34.5</td>
</tr>
</tbody>
</table>

Note: DASS-21 = Depression Anxiety and Stress Scale–21; DBT = dialectical behavioral therapy; CBT = cognitive behavioral therapy.
Axis I Disorders (SCID-1; Spitzer, Williams, Gibbon, & First, 1990). Exclusion criteria included high suicidal risk, psychosis, or substance abuse disorder according to the SCID-1, as well as physical conditions that would preclude full participation in the study (i.e., affecting mobility), current participation in treatment for obesity, current treatment known to affect eating or weight (e.g., certain medications), and pregnancy.

The EOQ is a 6-item self-report tool that measures frequency of overeating in response to specific emotions. Participants are asked to indicate on how many days over the past 28 days they had eaten an unusually large amount of food given the circumstances, in response to feelings of anxiety, sadness, loneliness, tiredness, anger, and happiness. Rating options include “No days,” “1-5 days,” “6-12 days,” “13-15 days,” “16-22 days,” “23-27 days,” and “Every day.”

The EDEQ is a 32-item self-report measure of eating disorder psychopathology based on the eating disorder examination interview (Fairburn & Cooper, 1993). It assesses the frequency of different forms of overeating behaviors, including objective bulimic episodes (i.e., binge eating defined as consuming an unusually large amount of food, given the circumstances, with a subjective feeling of loss of control).

The DASS-21 is a 21-item self-report questionnaire that measures the severity of a range of symptoms common to depression, anxiety, and stress. In completing the DASS-21, the individual is required to indicate the presence of a symptom over the previous week. Each item is scored from 0 = did not apply to me at all over the last week to 3 = applied to me very much or most of the time over the past week.

The SCID-1 provides descriptive information about comorbid psychiatric disorders. The SCID-1 assesses current and lifetime Axis I psychiatric disorders using criteria in accordance with the DSM-IV.

**Outcome Assessment**

Outcomes measures included weight (kg), body mass index (BMI; weight [kg]/height [m]²), and EOQ and DASS-21 scores. These outcomes were all assessed with each participant prior to each baseline (three weekly sessions), during the interventions (twenty-two 60-minute weekly sessions), and posttherapy (four sessions conducted at 1, 2, 4, and 8 weeks postintervention completion) session. The EOQ was adapted to enable the participants to indicate on how many days over the past 7 days they had eaten an unusually large amount of food given the circumstances, in response to feelings of anxiety, sadness, loneliness, tiredness, anger, and happiness.

**6 Case Conceptualization**

Wendy and Brian were considered through a CBT case conceptualization, whereas Shelley and Terry were considered through a DBT case conceptualization. According to a CBT perspective, Wendy and Brian’s emotional eating can be conceptualized as involving operant conditioning factors, where their behavior is controlled by immediate consequences of the taste of food serving as a positive reinforcer and a decrease in the unpleasant sensation of hunger acting as a negative reinforcer. Further classical conditioning factors, where an association develops between the environmental circumstances that precede their emotional eating and internal stimuli perceived as hunger, produce inappropriate stimulus control over eating and result in unhealthy eating patterns, excessive food consumption, and obesity.

In addition, a CBT case conceptualization would purport that Brian and Wendy have negative or self-defeating cognitions (e.g., arbitrary inference and selective abstraction) related to their diet, physical appearance, and self–worth, which often results in emotional distress.
This in turn led to Brian and Wendy avoiding situations in which they felt particularly self-conscious about their appearance, which helped avoid distress and discomfort in the short term. It did not, however, allow them to feel less anxious or negative about the situation because it prevented learning that feared consequences often do not materialize. Wendy and Brian also had a diet with many rules about how they should eat, which made them prone to extreme reactions following any breaking of the rules, however minor they may be. This in turn led to unhelpful behaviors such as turning to emotional eating as a way of coping with such thoughts.

According to a DBT perspective, Shelley and Terry’s emotional eating can be conceptualized primarily as a difficulty in four related areas: mindfulness, distress tolerance, emotional regulation, and interpersonal effectiveness. In terms of difficulties with mindfulness, Terry and Shelley had poor abilities to observe in a detached manner their emotional reactions to their life experiences and the circumstances that influenced their emotional reactions. As such, whenever Shelly and Terry experienced challenges with their employment, they would be largely unaware of their experience of stress, and the impact of their environment on their stress levels, until the stress reached high levels.

Similarly, Shelley and Terry had weaknesses with their distress tolerance. That is, they had difficulty accepting the experiencing of negative emotions and saw the experience of negative affect as bad and overwhelming. This then lead to unwise decisions to use food as a way of avoiding or minimizing the experience of a range of negative emotions.

Associated with this, Shelley and Terry tended to have poor emotional regulation skills. Given that they had weak self-soothing abilities, their emotional reactions to stressors tended to be labile and intense. Furthermore, because of all the times they turned to food in the past, Terry and Shelley have a low expectancy that they can handle their emotions any other way than through using food. Although Shelley and Terry’s emotional eating leads to a temporary decrease in distress by providing a way in which they can avoid how they feel and escape for the moment, in the medium to longer term, it leads to feelings of guilt and shame. This in turn leads to more emotional eating and feelings of hopelessness.

Finally, Shelley and Terry had a few areas of weakness in their interpersonal effectiveness. For example, both tended to be unassertive during interpersonal conflict resulting in submission at their workplaces. This then perpetuated their feelings of injustice and anger into their personal lives, thereby increasing the negative affect that they experienced. Similarly, their difficulties with resolving disagreements or having their emotional needs met in their romantic relationships further added to the range of negative emotions that they experienced. Given their difficulty of being mindful of these negative emotions, their intolerance to them, and their inability to self-soothe these emotions, Shelley and Terry would turn to food as a way of regulating their negative affect. The emotional eating and obesity in turn contributed to their experience of negative affect, perpetuating the cycle.

7 Course of Treatment and Assessment of Progress

After completion of assessment, participants were randomly assigned to either the CBT- or DBT-based treatment intervention after being matched on gender. Terry and Shelley were assigned to the DBT intervention and Brian and Wendy to the CBT-based intervention. The therapist for both treatment interventions was an experienced, fully registered psychologist who was completing postgraduate training in clinical psychology. All sessions were audiotaped and randomly selected by an independent person who confirmed the integrity of treatment component delivery.
Treatment Components

CBT intervention. The CBT intervention was an adapted version of a comprehensive treatment program originally developed by Cooper et al. (2003) and incorporated the following modules:

1. Starting treatment—This module involved participants being assessed and the treatment described with an emphasis placed on the distinction between weight-loss and weight maintenance. Participants were introduced to detailed self-monitoring of food and fluid intake, and were taught how to count calories and plot their weight each week on a graph.
2. Establishing and maintaining weight loss—Emphasis here was placed on assisting participants to restrict their energy intake to approximately 1,500 calories per day. Clients were encouraged to devise their own flexible dietary requirements with consideration to their circumstances and personal food preferences.
3. Addressing barriers to weight loss—This module focused on identifying and addressing problems that potentially could interfere with adherence to the energy-restricted diet. Examples of potential problems included decreased motivation, inaccurate calorie monitoring, bad food choice, excessive alcohol use, repeated snacking, and eating as a reward or in response to emotions.
4. Increasing activity—The main emphasis of this module was assisting participants to establish a more active lifestyle for the longer term as part of any weight maintenance efforts. Participants were encouraged to increase their general activity level (including decreasing sedentariness) rather than only increasing formal exercise.
5. Addressing body image concerns—This module was designed to identify and address cognitive obstacles in relation to body image concerns, and comprised six partially independent sections. Participants were provided with education and assessment in relation to body image, and were also assisted to address a number of cognitive factors maintaining a poor body image.
6. Addressing weight goals—Participants were provided with assistance during this module to clarify weight goals, and explore previous experiences with weight loss and maintenance, to better understand any problems previously encountered (e.g., cognitive obstacles such as unrealistic weight goals and a belief that other primary goals could not be achieved without this amount of weight loss). The importance of acceptance and change within this process was also emphasized.
7. Addressing primary goals—The aim of this module was to assist participants address primary goals or objectives they hoped to achieve as a result of weight loss. Examples included changing physical appearance, improving self-confidence, improving interpersonal functioning, and increasing fitness levels. Further emphasis was placed on addressing cognitive obstacles affecting participant satisfaction with what had been achieved, irrespective of whether initial weight-loss goals had been achieved.
8. Healthy eating—This module focused on the importance of healthy eating while losing weight as part of longer term weight management. Emphasis was placed with participants on reducing fat consumption, increasing consumption of bread, cereal, rice, and pasta, and increasing consumption of fruits and vegetables in line with standard up-to-date nutritional guidelines.

DBT intervention. The DBT intervention was an adapted version of a comprehensive treatment program originally developed by Safer, Telch, and Chen (2009), and incorporated the following modules:
1. Pretreatment interview—The pretreatment interview was not designed to replace a standard clinical intake and was scheduled after this had been completed. Goals included developing a therapeutic alliance, obtaining an understanding of the participant’s eating problems, giving a rationale for DBT treatment, orienting to treatment and obtaining attendance commitment, exploring treatment expectations (participant and therapist), providing logistical information, and the therapist answering any questions and conveying enthusiasm for treatment.

2. Introductory sessions—These sessions were designed to welcome the participant, obtain commitment to abstinence from emotional eating, explore the pros and cons of emotional eating, orient to treatment session structure, and review the treatment model, assumptions, and rationale. They were also designed to complete a treatment agreement, introduce a behavioral chain analysis concept, review diary cards, practice identifying dysfunctional links as parts of a chain analysis, explore the concept of dialectical abstinence, and review diaphragmatic breathing.

3. Mindfulness—The aims of these sessions were to assist the participant develop core mindfulness skills with a view to facilitating nonjudgmental observation, description, and experience of a current moment without the need to act on it. The participant was initially provided with an explanation of mindfulness, and how it could help him or her become more aware of the urges to emotionally eat, how it could assist in the reduction of self-judging, and how it is used to replace emotional eating and any other problem behavior.

4. Emotional regulation—The participant was taught skills to label, and better understand and more adaptively manage his or her emotions during these sessions. Emphasis was also placed on breaking the link between emotions and problem behaviors, specifically the link between feeling overwhelmed by emotions (positive and negative) and turning to food. The participant was also taught to develop new and more effective ways to respond in this regard with a view to decreasing emotional eating.

5. Review of core mindfulness skills—This session involved a review of all core mindfulness skills with the participant.

6. Distress tolerance—The aim of these sessions was to assist the participant to develop skills relating to tolerating discomfort and distress in situations where little could be done to change his or her situation in that particular moment. Emphasis during these sessions was placed on the development of acceptance and crisis survival skills with a view to assisting the participant manage emotional pain more skillfully so as to not make a situation worse by turning to food, binge eating, or purging.

7. Session 19 to 20: Review and relapse prevention—These final sessions focused on renewing commitment to abstinence, exploring and processing any feelings associated with the conclusion of treatment, and reviewing mindfulness, emotion regulation, and distress tolerances skills with a view to applying these, instead of engaging in emotional eating. Sessions also incorporated reviewing strategies and discussing plans focusing on preventing relapse on the termination of treatment.

Assessment of Treatment Outcomes

*Percentage body weight lost and BMI.* Figures 1 and 2 present Terry, Shelley, Brian, and Wendy’s percentage body weight lost (compared with average body weight during baseline) across baseline, treatment, and monitoring sessions at 1, 2, 4, and 8 weeks posttreatment completion for the CBT and DBT interventions.
Terry had lost 0% of his average body weight during baseline. This increased to 1.6%, 2.5%, 6.3%, and 8.4% at the end of the first, second, third, and final quarter of the DBT-based treatment. Follow-up data indicated that his percentage body weight lost had increased to 10.1% at the conclusion of the monitoring period. Terry’s mean BMI during baseline was 40, and it
decreased to 39.6, 38.9, 38.2, and 37 by the end of the first, second, third, and final quarter of the DBT-based treatment, respectively. Terry’s mean BMI had decreased to 36.1 by the end of the monitoring period.

Shelley lost 0.3% of her average body weight during baseline. This increased to 2.6%, decreased to 2.4%, and then increased to 5.5% and 6.4% at the end of first, second, third, and final quarter of the treatment, respectively. Follow-up data indicated that her percentage body weight lost peaked at 8.1% during and was 7.6% at the conclusion of the monitoring period. Shelley’s mean BMI during baseline was 41.5, and it decreased to 40.8, 40.5, 39.8, and 39.2 by the end of the first, second, third, and final quarter of the DBT-based treatment. Shelley’s mean BMI had decreased to 38.5 by the end of the monitoring period.

Brian had lost −0.05% of his average body weight during baseline. This increased to 2.9% during the first quarter, peaked at 5.2% during and then decreased to 2.8% at the end of the second quarter, and then decreased to 0.8% and 1.4% at the end of the third and final quarter of the treatment. Follow-up data indicated that his percentage body weight lost was 0.7% at conclusion of the monitoring period. Brian’s mean BMI during baseline was 39.7, and decreased to 38.6 and 38.2 by the end of the first and second quarter of the CBT-based treatment; however, it increased to 39 and 39.1 by the end of the third and final quarter. Brian’s mean BMI had increased to 39.5 by the end of the monitoring period.

Wendy had lost 0.03% of her average body weight during baseline at the conclusion of this period. This increased to 1.2% and 1.9%, and then decreased to 1% and 0.3% at the end of first, second, third, and final quarter of the treatment. Follow-up data indicated that her percentage body weight lost was 0.6% at the conclusion of the monitoring period. Wendy’s mean BMI during baseline was 32.8, and remained relatively stable at 32.6, 32.2, 32.2, and 32.4 by end of the first and second quarter of the CBT-based treatment. Wendy’s mean BMI was 32.5 by the end of the monitoring period.

The data therefore indicated that Terry and Shelley’s mean weight at baseline steadily decreased during the DBT treatment and further decreased during the monitoring phase. Brian’s mean weight initially decreased from baseline during the first half of CBT treatment, however, then increased during the second half of treatment and monitoring, whereas Wendy’s mean weight remained relatively stable throughout baseline, treatment, and monitoring.

EOQ. Figures 3 and 4 present Terry, Shelley, Brian, and Wendy’s EOQ scores across baseline, treatment, and monitoring sessions at 1, 2, 4, and 8 weeks posttreatment completion for the CBT and DBT interventions.

Terry’s frequency of eating in response to emotions, as measured by the EOQ, generally declined during the course of DBT and remained low during the 8-week follow-up period. Shelley’s frequency of eating in response to emotions fluctuated a lot during the course of therapy. Interestingly, the peaks in emotional eating coincided with the periods that her partner was interstate due to his work commitments. As such, it appeared that DBT was helpful in reducing the frequency of emotional eating in Terry but not Shelley.

Brian and Wendy displayed fluctuations in the frequency of emotional eating during the course of therapy and follow-up, with no significant change. Therefore, in these two cases, there was no evidence that CBT was helpful in reducing the frequency of emotional eating in these two cases.

Emotional reactions (DASS-21). Table 1 shows Terry, Shelley, Brian, and Wendy’s mean DASS-21 depression, anxiety, and stress scores during baseline, treatment (Quarter 1, 2, 3, and 4), and monitoring at 1, 2, 4, and 8 weeks posttreatment completion.

The data indicated that there was a decrease in Terry’s depression, anxiety, and stress levels from baseline during DBT treatment and monitoring, whereas Shelley’s depression increased from baseline during treatment and monitoring, whereas her anxiety and stress remained at the same level throughout. Brian’s depression, anxiety, and stress remained at the same level throughout baseline, CBT treatment, and monitoring, whereas there was a slight decrease in
Wendy’s depression from baseline during treatment and monitoring, while her anxiety and stress remained at the same level throughout. As such, the DBT treatment appeared to assist in reducing the intensity of negative affect experienced in Terry’s case but not in Shelley’s case, whereas the CBT intervention did not reduce the negative affect experienced by Brian or Wendy.
Qualitative feedback. Further data in relation to treatment outcomes were obtained through qualitative feedback from participants in relation to their experience. Terry reported initial difficulties fully grasping the mindfulness module of DBT treatment; however, once these skills were better understood, he experienced a significant decrease in frequency of emotional eating. This qualitative feedback may in part explain why Terry’s EOQ (which measures frequency of eating in response to emotions) scores remained relatively stable from baseline up until halfway through the DBT treatment, however, then steadily decreased from this point onward and during the monitoring phase of the intervention. Terry also advised that adopting the DBT concept of emotional eating representing an effort to numb, avoid, or soothe negative or overwhelming affect helped him better understand and in turn manage his eating behaviors.

Shelley also advised experiencing some initial difficulties grasping the concept of mindfulness; however, like Terry, she was eventually able to better understand these skills and put them into practice as part of the DBT treatment. In other qualitative feedback, Shelley’s partner secured interstate employment on a 3-week on and 1-week off basis early on in the treatment and she reported that this may have impacted her progress. The impact of Shelley’s partner’s periods of absence is clearly seen in Figure 3 with the peaks in the frequency of emotional eating coinciding with the partner’s absence. Shelley’s results posed an interesting question. If the DBT appeared to not reduce the frequency of emotional eating or the intensity of her emotional reactions, then why did DBT appear to result in a significant reduction in her BMI? The qualitative feedback helped to explain this puzzle. Although Shelley did continue to react strongly to stressors such as her partner’s absence and did continue to use eating as a coping strategy at a similar frequency, Shelley reported a significant reduction in the quantity of food eaten in response to her emotional triggers. Unfortunately, this was not captured by the questionnaires used in this study but was captured by the reduction in her BMI. As such, Shelley’s case illustrates a different outcome of DBT to Terry’s case.

Qualitative feedback from Brian indicated that he initially fully embraced the detailed self-monitoring of food and fluid intake (during which time he was losing weight); however, he experienced significant difficulties maintaining this from around the halfway mark of the CBT treatment. Interestingly, he attributed weight gain after this time mainly to the impact of some diabetes-related problems (fluctuating blood sugar levels); however, he also described some motivational issues adhering to treatment protocol. Indeed, a more in-depth review of these motivational issues indicated that although Brian was able conceptualize emotional eating as primarily an issue of distorted cognitions about weight, shape, and restrictive eating in line with a CBT approach, the perceived strength of his emotions made it difficult for him to challenge such cognitions on an ongoing basis. This outcome of this case highlighted the importance of addressing such constructs as distress intolerance and emotional regulation in addition to any pure cognitive interventions.

Wendy also advised initially embracing the detailed self-monitoring of food and fluid intake, however, experiencing significant difficulties maintaining this during the early stages of the CBT treatment. She attributed these difficulties to a number of factors, including disappointment about the amount of weight she was losing and also a significant increase in family conflict, which was in turn adversely impacting her frequency of emotional eating. This was confirmed by a review of the quantitative data, which indicated that Wendy’s emotional eating scores increased from baseline to treatment. Interestingly, Wendy also reported being able to conceptualize emotional eating as primarily an issue of distorted cognitions about weight, shape, and restrictive eating in line with a CBT approach; however, the perceived strength of her emotions made it difficult for her to challenge such cognitions, which was similar to Brian’s reported experience. As such, we see Wendy’s experience in therapy as mirroring Brian’s in that it was difficult for her to engage in pure cognitive strategies without also targeting distress intolerance and emotional regulation.
8 Complicating Factors

There were a number of complicating factors for these cases. For example, Shelley’s partner secured interstate employment early on in treatment on a 3-week on and 1-week off basis, and her emotional eating scores tended to fluctuate in line with this (i.e., increased when her partner was interstate working and decreased during the week he was home). In addition, Shelley’s emotional eating scores were relatively low during baseline, compared with her score during the initial screening process and throughout the treatment and monitoring. Although Shelley’s partner’s interstate travels was a complication in that it was not anticipated at the start of therapy and appeared to interfere with her improvement in her ability to manage her emotions and her frequency of emotional eating, the experience turned out to be an advantage to the study. This is because it highlighted another outcome of DBT that was not initially measured or considered. That is, that for some cases, DBT may not result in a reduction of negative affect or the frequency of emotional eating but may result in a reduction in the quantity of food eating in response to emotional eating.

There did not appear to be any complicating factors for Terry throughout the assessment, treatment, and monitoring process, other than some initial difficulties grasping the concept of mindfulness.

Brian reported experiencing significant diabetes-related problems around the halfway mark of treatment, prior to which time he had experienced considerable weight loss. He initially appeared to attribute weight gain after this time to the impact of diabetes; however, a more in-depth review indicated that he may also have experienced some motivational issues adhering to treatment protocol associated with difficulties challenging distorted cognitions. It was also noted that Brian’s depression, anxiety, and stress levels remained within the severe to extremely severe range throughout baseline, treatment, and monitoring, which may have hindered his capacity to fully participate in the CBT program. Other potential complicating factors included Wendy’s weight and BMI being significantly lower than other participants at the commencement of assessment. Wendy also experienced significant family conflict throughout the treatment, which may have affected her progress.

It is also important to note that another complicating factor related to the treatment utilized in these case studies was adapted versions of comprehensive treatment programs, originally developed by Cooper et al. (2003) utilizing a CBT approach and Safer et al. (2009) utilizing a DBT approach. These treatment programs were originally designed to achieve weight loss and also minimize any weight gain for individuals with binge eating disorder and bulimia nervosa, respectively, and not specifically in the context of treating individuals who rated high on emotional eating but did not meet the diagnostic criteria for an eating disorder. Other potential complicating factors included the time available to the authors to complete this study, which, therefore, only allowed the option for an 8-week posttreatment follow-up period. Clearly, a longer period is required in future studies.

9 Access and Barriers to Care

There were no access and barriers to care considerations for these cases as there were no costs associated with assessment and treatment services that were provided as a part of a research program. Of note, however, despite the four participants being obese and rating high on emotional eating, they did not meet diagnostic criteria for an eating disorder, and therefore, managed care organizations may be hesitant to fund treatment for such individuals, other than on a preventive basis (i.e., in terms of overweight and obesity potentially affecting long-term health by increasing the risk of chronic illnesses such as diabetes, some cancers, and cardiovascular diseases).
Follow-Up

There are two main challenges with current psychological interventions for weight reduction: poor initial reduction in weight and poor maintenance of weight loss (Shaw et al., 2009). The focus of this study was only on what we can learn from implementing DBT and CBT to improve initial weight reduction. Given that satisfactory follow-up periods for weight-loss interventions span 2 to 5 years, this was outside the scope of this study. As such, posttherapy follow-up in this study occurred only during the monitoring sessions conducted 1, 2, 4, and 8 weeks posttreatment conclusion. The monitoring during this period indicated that the gains made by Terry and Shelley from DBT were maintained for the 8-week period following therapy, whereas the lack of gains displayed in Brian and Wendy as a result of CBT was also maintained over the subsequent 8-week follow-up period.

Treatment Implications of the Cases

These case studies explored the use of CBT- and DBT-based interventions to treat obesity in individuals who rated high on emotional eating but did not meet the diagnostic criteria for an eating disorder to identify therapeutic processes that may be of benefit to treating such clients. First, overall results suggested that DBT appeared to show some promise in relation to treating obese emotional eaters as both cases experienced a significant reduction in body weight. What is interesting from this study is that the impact of DBT on weight reduction appeared to happen through two different processes in each case. In the case of Terry, DBT appeared to result in a reduction of the intensity of negative emotions experienced as well as a reduction in the frequency of emotional eating. These reductions are likely to have been associated with the reduction in body weight observed in this case. In contrast, in the case of Shelley, DBT appeared to have no impact on the intensity of negative emotions or on the frequency of emotional eating. Rather there appeared to be a reduction in the quantity of food eaten during bouts of emotional eating. As such, clinicians and researchers should be mindful of all three variables when devising and measuring psychological interventions for emotional eating in obese individuals.

A second treatment implication related to qualitative feedback received from participants in the CBT treatment, who reported that while they were able to conceptualize emotional eating as primarily an issue of distorted cognitions, their perceived strength of emotions made it difficult to challenge such cognitions. This finding suggests that for some cases, it is difficult to engage in pure cognitive strategies without first training clients in “emotional strategies.” That is, individuals who feel overwhelmed by the strength of their emotions may have difficulty logically challenging the cognitions that might be associated with their emotional eating. As such, concepts used by DBT such as mindfulness, distress intolerance, and emotional regulation may be important to address early on in therapy before cognitive strategies are attempted. This may provide therapy clients with the strategies to allow them to distance themselves from their emotions enough so that the experience of negative emotions does not interfere with the implementation of cognitive strategies. This hypothesis may in part help explain the rather humble findings for the effectiveness of CBT in treating obesity (Shaw et al., 2009).

Another treatment implication of the cases related to both participants in the DBT treatment reporting initial difficulties in fully grasping the concept of mindfulness. This suggested that the clinician may need to place more emphasis initially during treatment on assisting and ensuring that a client has developed core mindfulness skills with a view to facilitating nonjudgmental observation, description, and experience of a current moment, without the need to act on it by eating emotionally. This implication is further emphasized by Safer et al. (2009) having noted that mindfulness skills are taught at the commencement of treatment because they are the basic
core skills that clients need to master to successfully utilize the emotion regulation– and distress tolerance–related skills taught over the course of the DBT treatment.

A fourth treatment implication related to the use of self–monitoring, which Vitousek and Wilson (1999) have previously noted to be a key feature of CBT for eating disorders. Both participants in the CBT treatment experienced significant difficulties adhering to detailed self-monitoring, commencing around the halfway mark of the intervention, at a time when both reported feeling disenchanted with aspects of their treatment progress (one related to the perceived impact of diabetes and the other related to amount of weight lost). This could suggest that particular treatment emphasis needs to be placed not only on developing a strong therapeutic alliance but also on reviewing monitoring progress, particularly when clients are feeling disillusioned with some aspect of their treatment progress, with the aim of then targeting the issues contributing to the lagging motivation.

12 Recommendations to Clinicians and Students

These case studies elicited several recommendations for clinicians. The first is that while CBT has been the most extensively researched form of treatment for diagnosed eating disorders and also obesity, and research conducted to date in relation to the effectiveness of DBT has mainly focused on its use in the eating disorders context, the latter may have promised to effectively treat obesity in individuals who rate high on emotional eating but do not meet the diagnostic criteria for an eating disorder. It is acknowledged, however, that further research is required in this regard. The DBT’s focus on strategies that assist with distress tolerance and emotional regulation may be important precursors to any cognitive strategies that are utilized with obese emotional eaters.

A second recommendation to clinicians and students related to the importance of ensuring that clients had grasped the concept of mindfulness given these core skills were needed for a client to successfully utilize the emotion regulation– and distress tolerance–related skills associated with a DBT approach. A final recommendation for these case studies related to the importance of not only developing a strong therapeutic alliance but also on reviewing and monitoring progress particularly when clients were feeling disillusioned with some aspect of their CBT treatment progress.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

References


Bios

Kevin Glisenti, M Clin Psych, is a Psychologist at OGI Potential in Deception Bay and Margate, Australia. Kevin has a special interest in the treatment of overweight and obesity to achieve realistic weight loss and to improve overall health, physical functioning and quality of life. He works with children, adolescents and adults.

Esben Strodl, PhD, is a senior lecturer in psychology at the Queensland University of Technology. His teaching and research interests are in the areas of clinical and health psychology. In particular his research interests are in the areas of psychological interventions for chronic diseases and chronic health conditions.