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# Cognitive Behavioral Therapy with Daily Mindfulness Training: a Case Report of Comorbid Binge Eating and Bipolar Disorders

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10 Brown and Ryan (2003) conceptualized dispositional mind- 35  
11 fulness as a self-regulatory function, which is characterized by 36  
12 “being attentive to and aware of what is taking place in the 37  
13 present moment” (p.882). Mindfulness training added to cog- 38  
14 nitive behavioral therapy (CBT) has been shown to reduce 39  
15 binge eating behavior, drive for thinness, and body dissatis- 40  
16 faction while increasing psychological well-being and quality 41  
17 of life for obese individuals diagnosed with binge eating dis- 42  
18 order (BED; Carrard et al. 2011). In order to integrate mind- 43  
19 fulness into general psychological practice, clinicians often 44  
20 utilize practical strategies with their clients such as the use of 45  
21 daily reminders, the integration into daily activities, and 46  
22 psychoeducational techniques like educational skill building 47  
23 and stress management (Dimidjian and Kleiber 2013; Shonin 48  
24 et al. 2014). Mindfulness meditation can be trained with 49  
25 between-session practice (Bowen and Kurz 2012). 50  
26 Moreover, mindfulness has been shown to reduce negative 51  
27 mood and impulsivity, as well as increase psychological 52  
28 well-being with clinical and nonclinical populations (Bowen 53  
29 and Kurz 2012; Brown and Ryan 2003). 54

30 Highlighting the effects of mindfulness on cognitive and 55  
31 emotional regulation, several studies have shown its benefits 56  
32 for healthier eating patterns and less binge eating (e.g., Baer 57  
33 et al. 2005a, b; Compare et al. 2012; Jordan et al. 2014; Levin 58  
34 et al. 2014). Furthermore, in the treatment of BED, Baer et al. 59

60 (2005a, b) argued that instead of changing thoughts or nega- 35  
61 tive emotional states, the focus should be on making more 36  
62 adapted choices in response to psychological distress via 37  
63 mindfulness rather than bingeing. In addition to its usefulness 38  
64 with BED populations, mindfulness also targets mental pro- 39  
65 cesses that cut across a variety of other psychological disor- 40  
66 ders (i.e., “transdiagnostic”) such as anxiety, depression, sub- 41  
67 stance use, and chronic pain conditions (see Greeson et al. 42  
68 2014). However, there have been no reports, to our knowl- 43  
69 edge, that describe a CBT with mindfulness intervention used 44  
70 to treat BED and bipolar disorder in an outpatient clinic 45  
71 setting. 46

72 Given that BED and bipolar disorders are highly comorbid 47  
73 (Javaras et al. 2008), we report on the application of a 12-week 48  
74 individual CBT intervention with mindfulness training to the 49  
75 clinical case of an adult patient with bipolar disorder I (BD-I) 50  
76 and BED: a 49-year-old Caucasian woman who contacted AR 51  
77 (first author, health psychologist) as an outpatient to partici- 52  
78 pate in a mindfulness-based therapy because of symptoms 53  
79 related to diagnoses of BD-I, BED, and obesity (BMI= 54  
80 36 kg/m<sup>2</sup>). Diagnoses were established by two clinical evalu- 55  
81 ations: (a) BD-I 20 years ago (after an initial suicide attempt) 56  
82 and (b) BED during the first session of the reported psycho- 57  
83 therapy. The patient concurrently had psychiatric support in 58  
84 the community. The patient experienced multiple suicide at- 59  
85 tempts via intentional ingestion: the first time 20 years ago 60  
86 (when she was initially diagnosed with BD-I) and the last time 61  
87 3 months prior to beginning the current therapy. Previous psy- 62  
88 chological supports helped her understand the origins of her 63  
89 psychological distress but did not give her the necessary ther- 64  
90 apeutic tools to manage it in her everyday life. She was treated 65  
91 with mood stabilizers since her most recent suicide attempt 66  
92 and reported medical adherence. She reported having no prior 67  
93 knowledge of mindfulness and provided written consent to 68  
94 AR to participate in the treatment. 69

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70 During therapy sessions, the therapist and patient first  
71 discussed the diagnostic criteria for bipolar disorder and  
72 BED, and then the therapist provided psychoeducation about  
73 mindfulness and how to use it in daily life. Moreover, to in-  
74 crease her mindfulness skills, the patient listened to a mind-  
75 fulness recording for 10 min each day as practice. A notebook  
76 including (a) a diary for planning mindfulness sessions and  
77 writing comments about it, (b) columns to restructure cogni-  
78 tions, and (c) columns to describe the emotional determinants  
79 and outcomes of binge episodes was offered to the patient.  
80 This tool was provided so that she could engage in self-  
81 management care of her disorders. Once per week for  
82 12 weeks, the patient reviewed the notebook with the thera-  
83 pist. During these 1-h face-to-face sessions, the therapist and  
84 the patient worked together in an effort to understand the  
85 barriers that prevented her from using the notebook through-  
86 out the week and to foster the patient's autonomous motiva-  
87 tion toward therapy.

88 At baseline and after every four sessions, the patient com-  
89 pleted several self-report questionnaires that measured eating  
90 behavior (Three-Factor Eating Questionnaire TFEQ-R18), de-  
91 pression (Beck Depression Inventory, BDI-II; Hospital  
92 Anxiety and Depression Scale, HADS-D), anxiety (Hospital  
93 Anxiety and Depression Scale, HADS-A), impulsivity  
94 (Barratt Impulsiveness Scale, BIS-11), motivation toward  
95 therapy (Client Motivation for Therapy Scale, CMOTS), and  
96 mindfulness skills (Mindful Attention Awareness Scale,  
97 MAAS; Acceptance and Action Question, AAQ-II). The re-  
98 sults are displayed in Table 1.

99 The patient reported less cognitive restriction with food, as  
100 well as better controlled and less emotional eating after 12  
101 sessions of weekly psychotherapy. Moreover, she reported a  
102 decrease in cognitive impulsivity but maintained high scores  
103 in motor impulsivity and nonplanning. Surprisingly, the pa-  
104 tient's anxiety scores increased and dispositional mindfulness  
105 scores remained stable across the 12-week psychotherapy pe-  
106 riod. Depression scores were consistent with a major depres-  
107 sive episode experienced within bipolar disorder: the patient  
108 showed moderate or severe depression scores every 4 weeks.  
109 Motivation scores showed that the patient was more intrinsi-  
110 cally motivated toward therapy but more extrinsically moti-  
111 vated when she endorsed severe depression (i.e., after 4 weeks  
112 and at post-therapy). Surprisingly, the patient seemed to be as  
113 mindful at the end of the therapy as she was at baseline, al-  
114 though her psychological flexibility increased across time in  
115 therapy. Furthermore, the patient reported less binge episodes  
116 and a more structured meal organization during the second  
117 half of psychotherapy.

118 One of the determinants of BED is the difficulty to cope  
119 with psychological distress (Baer et al. 2005a, b), and bipolar  
120 disorder can be viewed as a dysfunction in mood regulation  
121 (Swann et al. 2007). As BD-I includes manic and depressive  
122 episodes, the associations with behavioral impulsivity

(including substance abuse) are well known regardless of the  
type of episode (Swann et al. 2007). This clinical case report  
aimed to highlight the wide range of applications of daily  
mindfulness training in obese individuals with BED and other  
psychiatric comorbidities.

The results reported by the patient are important for clini-  
cians to note for several reasons. First, depression scores  
assessed with the BDI-II was sensitive to change across ther-  
apy while the HADS-D was not. Second, while dispositional  
mindfulness remained stable, psychological flexibility (i.e.,  
acceptance) increased during the 12-week program. These  
results suggest that daily mindfulness training and discussions  
during sessions foster acceptance of thoughts, emotions,  
and bodily sensations in daily life. Moreover, the patient  
became more intrinsically and extrinsically motivated  
toward therapy as the number of sessions progressed. These  
changes in motivational regulation could be ex-  
plained by the positive alliance between patient and  
therapist and by the early stage of change of the patient  
regarding binge episodes. In fact, the patient never  
attempted to seek support for her BED prior to the  
current treatment. Furthermore, the results showed that  
when depression increased, the patient's motives for at-  
tending therapy were more extrinsic (i.e., while feeling  
depressed, she stated she was attending therapy for the happi-  
ness of her therapist instead of her own). This association is  
similar to literature arguing that motivation is modulated  
by the satisfaction of psychological needs (Deci and  
Ryan 1985). Previous research has shown that negative  
states of mind (e.g., depression) are associated with mo-  
tivation for change, which may be one explanation for the  
current observed patterns.

On the other hand, during therapy, the patient reported that  
she was not always compliant with the daily mindfulness  
training. She first argued that she did not understand how  
mindfulness could help her; hence, the therapist educated  
her on the effects and mechanisms of action of mindfulness.  
After the psychoeducation sessions, the patient began to put  
an alarm on her phone to enhance adherence to daily  
mindfulness training. It seems that understanding the  
potential benefits of mindfulness training facilitated her  
involvement and autonomy in her own care. Bowen and  
Kurz (2012) argued that maintaining long-term mindfulness  
training and its implementation in everyday life could be ob-  
tained by daily practice. In this case, the patient reported that  
she succeeded at being mindful when difficult situations came  
in her life, which is in accordance with previous predictions  
(Bowen and Kurz 2012). A recent study investigating the role  
played by therapeutic alliance, adherence, and competence in  
treatment failure showed that both therapeutic alliance and  
competence are mediators between adherence and treatment  
success (Weck et al. 2015), suggesting that feeling competent  
and having a strong alliance with the therapist increases

Mindfulness

t1.1 **Table 1** Scores of the  
t1.2 psychological self-reported  
t1.3 measures, filled out online every  
t1.4 four sessions

Psychological measures	Possible range	Baseline	4 weeks	8 weeks	12 weeks
Eating behavior (TFEQ-R18)					
Cognitive restraint	(0 to 100)	27.78	22.22	0.00	16.67
Uncontrolled eating	(0 to 100)	92.59	96.30	92.59	74.07
Emotional eating	(0 to 100)	100.00	100.00	88.89	88.89
Depression					
BDI-II score	(0 to 63)	22	32	21	36
BDI-II category		Moderate	Severe	Moderate	Severe
HADS-D	(0 to 21)	11	15	14	14
Anxiety (HADS-A)	(0 to 21)	6	13	12	14
Impulsivity (BIS-11)					
Cognitive		100.94	109.69	101.25	95.00
Attention	(1 to 4)	25.60	28.80	27.20	20.80
Cognitive instability	(1 to 4)	3.15	3.95	2.40	2.80
Motor		3.00	3.00	3.00	2.00
Motor	(1 to 4)	34.22	34.22	34.22	36.67
Perseverance	(1 to 4)	3.71	3.43	3.43	3.14
Nonplanning	(1 to 4)	2.50	3.25	3.00	3.00
Self-control	(1 to 4)	37.13	41.53	36.30	35.20
Cognitive complexity	(1 to 4)	3.33	3.67	3.83	3.17
Motivation toward therapy (CMOTS)					
Amotivation	(-36 to 36)	3.40	3.60	3.20	3.20
External regulation	(1 to 7)	24.92	13.00	25.83	12.33
Introjected regulation	(1 to 7)	1.67	3.33	1.33	4.00
Identified regulation	(1 to 7)	1.00	3.50	3.50	4.75
Integrated regulation	(1 to 7)	4.33	5.00	2.67	3.67
Intrinsic regulation	(1 to 7)	6.00	5.75	7.00	6.75
Mindfulness skills					
Dispositional mindfulness (MAAS)	(1 to 6)	6.50	4.50	5.75	5.25
Psychological flexibility (AAQ-II)	(1 to 7)	5.75	6.75	7.00	6.75

*AAQ-II* Acceptance and Action Questionnaire, *BDI-II* Beck Depression Inventory, *BIS-11* Barratt Impulsiveness Scale, *CMOTS* Client Motivation for Therapy Scale, *HADS* Hospital Anxiety and Depression Scale, *MAAS* Mindful Attention Awareness Scale, *TFEQ-R18* Three-Factor Eating Questionnaire

176 adherence to therapy and probability for a successful outcome.  
177 In our case, the negative states of mood experienced by the  
178 patient could have decreased her feeling of competence,  
179 disrupted the relationship between therapeutic alliance, and  
180 decreased treatment adherence.

181 After the 12 planned weeks of therapy, the patient de-  
182 cided to stop seeing AR, stating that the therapy was stress-  
183 ful due to the changes in her “diet” (i.e., from binge epi-  
184 sodes to structured eating). The anxiety scores increasing  
185 from baseline to post-therapy seem to show the patient’s  
186 uncertainty during the therapy process. In fact, during  
187 weekly sessions, she reported that she did not feel compe-  
188 tent. As a clinical health psychologist, it was challenging to  
189 address the patient’s concurrent mood alterations and con-  
190 cerns about the subjective effectiveness of the therapy.  
191 Positive feedback was given when the patient reported im-  
192 provements in the management of her daily life, but it

seems that other techniques should be implemented to min- 193  
imize anxiety in the behavior change process (i.e., 194  
readapting alimentation to replace BED). 195

196 These findings should be considered in the context of 196  
several limitations. First, the therapeutic relationship 197  
may have led the patient to give responses she wanted 198  
the therapist to see (i.e., response bias), although infor- 199  
mation given to her about the outcome measures was 200  
limited. Second, this is a case of one 49-year-old female 201  
patient that should not be taken as representative of the 202  
population of patients with BED and BD-I. To our 203  
knowledge, this is the first report of a mindfulness- 204  
based intervention for bipolar disorder with multiple suicide 205  
attempts and BED. Mindfulness training should be considered 206  
as a complementary tool in CBT for improving cognitive reg- 207  
ulation of negative emotions across illnesses including obesi- 208  
ty, BED, and BD-I. 209

210 **Compliance with Ethical Standards**  
 211  
 212 **Conflict of Interest** The authors declare that they have no competing  
 213 interests.

214 **References**

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