

Mindfulness-Based Cognitive Therapy for Treatment-Resistant Depression

Walter E.B. Sipe¹ and Stuart J. Eisendrath²

¹Langley Porter Psychiatric Hospital & Clinics and Benioff Children's Hospital, University of California San Francisco, San Francisco, CA, USA, ²UCSF Depression Center, Langley Porter Psychiatric Hospital & Clinics, University of California San Francisco, San Francisco, CA, USA

At its inception, mindfulness-based cognitive therapy (MBCT) was explicitly developed as a strategy for prevention of depressive relapse that could be delivered to groups of previously depressed patients currently in remission (Segal, Williams, & Teasdale, 2002). Indeed, its efficacy in an actively depressed population was very much in question, as there was concern that the intensity of negative thinking and difficulties in concentration would prevent patients with active depression from fully participating in the MBCT experience (Teasdale *et al.*, 2000). A number of other features of chronic depression pose challenges to the application of MBCT in its original form: Individuals with psychomotor agitation or restlessness may have a difficult time sitting still for any extended period of time; unwanted ruminations may dominate thoughts, with particular self-criticisms directed at a sense of failure to “meditate the right way”; and engagement and motivation to maintain a home practice may be particularly challenging. Nevertheless, since the first pilot study in 2006 (Finucane & Mercer, 2006), a growing body of evidence shows promise for the effectiveness of treatment of active depression by MBCT (Sipe & Eisendrath, 2012). In this chapter we describe the theoretical rationale for applying MBCT to patients with treatment-resistant depression (TRD), consider specific pitfalls and adaptations that may be used to facilitate effective treatment, and review the evidence base to date.

We presume that readers are already familiar with MBCT in its standard form, that is, the version initially developed for relapse prevention in individuals with a history of depression (Segal *et al.*, 2002). Therefore, a detailed account of the rationale and basic structure will not be provided in this chapter. Readers are

referred to other chapters in this volume, and are strongly encouraged to read the “Green Book” (now in its second edition) published by Segal, Williams, and Teasdale, which not only provides a session-by-session manual for conducting MBCT, but also provides a rich background on theories of relapse in recurrent depression and a personal account of the development of MBCT (Segal, Williams, & Teasdale, 2013).

THE PROBLEM OF TREATMENT-RESISTANT DEPRESSION

Treatment-resistant depression (TRD) is a major public health problem and a widespread source of suffering. Persistent depression is the number one cause of disability in North America and is the third leading cause of disability worldwide (Haden & Campanini, 2001). As typically defined, TRD represents a failure to fully remit from depressive symptoms after two or more antidepressant medication trials (Khan *et al.*, 1991; Trivedi *et al.*, 2004), and these studies indicate that TRD may represent 50% of patients with depression. In practice, this treatment population has often gone through far more than two rounds of medication trials. The STAR*D trial was a large, multisite study designed to prospectively investigate which of the several treatments are most effective for participants with major depressive disorder who experience an unsatisfactory clinical outcome following a standard initial treatment (Rush *et al.*, 2004). With every round of failed trials, the rate of a subsequent favorable response tends to diminish: in the STAR*D trials, the likelihood of achieving full remission was less than 14% after a poor response to two standard interventions (Rush *et al.*, 2006).

While medication combinations or switches as outlined in the STAR*D trial are the most commonly utilized treatment strategies for TRD, these have limited effectiveness (Rush *et al.*, 2006; Trivedi *et al.*, 2006). Likewise, there are currently no rigorous studies supporting psychotherapy as monotherapy for TRD. Cognitive behavior therapy (CBT) has been suggested as an augmentation to antidepressant medication, but there is little evidence to guide therapeutic interventions in TRD (Stimpson, Agrawal, & Lewis, 2002). In a recent review, two RCTs supported CBT's efficacy while two failed to find an effect (McPherson *et al.*, 2005). Since then, the first large-scale trial of CBT as an adjunct for TRD demonstrated efficacy versus treatment as usual, but remission rates in the treatment arm were 28% (Wiles *et al.*, 2013). An RCT of psychoanalytic psychotherapy for TRD is also under way (Taylor *et al.*, 2012); however, the study design of 18 months of weekly psychotherapy highlights the resource-intensive nature of such treatments.

With few pharmacologic alternatives available, and limited psychotherapy resources, there is a substantial risk of therapeutic nihilism on the part of patients and providers alike. Moreover, the cycle of lack of response to supposedly effective medications may confirm a patient's view that depression is an intrinsic property of the self, reinforcing negative beliefs about the world and

the future (Eisendrath, Chartier, & McLane, 2011). There is an urgent and substantial need for increased research and development of innovative treatments for these complex and difficult patients.

Theoretical Rationale for Applying MBCT to a Treatment-Resistant Depressed Population

The development of MBCT was explicitly informed by a cognitive analysis of relapse vulnerability (Segal, Williams, Teasdale, & Gemar, 1996; Teasdale, Segal, & Williams, 1995). These studies have shown that, in contrast to control subjects, patients with a past history of depression display a pattern of cognitive reactivity, whereby mild dysphoria activates thinking patterns similar to those previously present in a depressive episode (Segal *et al.*, 2006). In remitted patients, these reactivated patterns of thinking can maintain and intensify the dysphoric state through escalating and self-perpetuating cycles of ruminative cognitive-affective processing, and this vulnerability increases with each episode of depression (Teasdale *et al.*, 2000). From the perspective of relapse prevention, MBCT aims to enhance awareness and expand attentional control so that patients become more aware of negative thoughts and feelings earlier in a dysphoric episode (while at risk for relapse), and to disengage from these thoughts and feelings before a ruminative spiral begins, enhancing resilience and reducing the risk of relapse. Because the relevant skills can be applied to all thoughts, MBCT does not require the occurrence of specific negative cognitions and is well suited to periods of remission—where everyday experience can be used as the object of training.

Yet despite the theoretical concerns and practical challenges of applying MBCT to actively depressed populations, there is also a compelling rationale for anticipating that it may be an effective model. Chief among these is the notion that the same cognitive processes known to make individuals prone to depression relapse (Kenny & Williams, 2007) tend to perpetuate depressive states, producing TRD. Psychological and neural correlates of increased reactivity and emotional dysregulation are observed in depression (Mayberg, 2003); and rumination, particularly brooding on past failures, has been proposed as an important driver of depression (Nolen-Hoeksema, 2000).

In depression, rumination is usually defined as the experience of repetitive, intrusive, negative cognitions focused on depressive symptoms and their causes, meanings, and consequences (Brosschot, Gerin, & Thayer, 2006; Treynor, Gonzalez, & Nolen-Hoeksema, 2003). In individuals with TRD, these ruminations function as an ineffective application of what MBCT's authors describe as a "discrepancy-based" problem-solving mode of mind: a state in which the mind registers the discrepancy between how one views things, compared with how they ought to be, and attempts to reduce the discrepancy between the view of what is and how it ought to be (Segal *et al.*, 2002). While this discrepancy-based problem solving is appropriate in situations where there is a clear course

of action available, applying this strategy in order to avoid or escape aspects of internal experience can lead to increased suffering and a persistent sense of dissatisfaction (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). Mindfulness meditation has been found to reduce levels of rumination in depressed patients even for those who have been previously treated with CBT (Broderick, 2005; Ramel, Goldin, Carmona, & McQuaid, 2004). An important putative mechanism of action of MBCT is to specifically encourage participants to adopt a distinct mode of being characterized by a focus of attention on noticing and accepting that which is in the present moment. In this mode, “there is no need to evaluate experience in order to reduce discrepancies between actual and desired states” (Segal *et al.*, 2002). This alternative to the problem-solving mode of mind may be of particular value in TRD, where patients have already failed multiple change-based strategies, including medications and more traditional psychotherapy.

In parallel with encouraging an alternate mode of being, MBCT emphasizes changing one’s relationship to one’s thoughts, rather than trying to explicitly change thought content (Segal *et al.*, 2002; Teasdale *et al.*, 1995, 2000). As participants cultivate a stance of greater metacognitive awareness, their thoughts, feelings, and beliefs are experienced as “mental events” rather than as aspects of self or direct reflections of truth (Teasdale *et al.*, 2002). This perspective on thoughts and feelings, known as decentering or defusion, helps reduce personal identification with depressive ideas and feelings, giving the individual a wider range of possible viewpoints about his or herself (Frewen, Evans, Maraj, Dozois, & Partridge, 2008). For example, when a depressed individual thinks, “I am a bad and defective person,” a CBT therapist might challenge the validity of that statement, and then help the patient to develop alternative or more balanced thoughts. In contrast, a MBCT therapist teaches patients to recognize “I am having the thought that I’m a bad and defective person,” realize the thought is not necessarily a fact, and then let go of the thought. For many depressed individuals, decentering from automatic thoughts may be associated with a significant reduction in depressive symptoms and an increase in emotional regulation and tolerance of dysphoric states (Fresco, Segal, Buis, & Kennedy, 2007). Defusion is an important mediator of improvement in depressive symptoms in acceptance and commitment therapy (ACT) (Zettle, Rains, & Hayes, 2011).

Mindfulness, the core component of MBCT, has been associated with enhanced emotional regulation (Arch & Craske, 2006; Linehan, 1993). The emphasis on observation and monitoring skills in mindfulness training can increase a patient’s willingness to tolerate the range of internal experiences, even negative ones (Linehan, 1993). Mindfulness practice may function as an exposure procedure in which nonjudgmental awareness of aversive depressive thoughts and feelings leads to diminished reactivity and decreased avoidance (Baer, 2003), leading in turn to decreased negative affect (Melbourne Academic Mindfulness Interest Group, 2006). Enhancing acceptance of depressive symptoms and decreasing avoidance of unpleasant affect can help reduce overall

emotional distress (Hayes, Luoma, Bond, Masuda, & Lillis, 2006). These skills are taught in MBCT to help individuals to engage more fully with their lives and experience increased positive reinforcement of new behaviors. The skills are critical for individuals with TRD who have often withdrawn significantly from most, if not all, life areas that could generate positive reinforcements.

MBCT also targets enhanced self-compassion which may be an important buffer for negative self-feelings (Leary, Tate, Adams, Allen, & Hancock, 2007). A study by Kuyken *et al.* (2008) found that MBCT was equally effective as maintenance antidepressants in preventing relapse over a 1-year period in remitted patients. In a secondary analysis, self-compassion was a key mediator of MBCT's ameliorative effects on preventing depressive relapse (Kuyken *et al.*, 2010). Because individuals with TRD typically have heightened self-criticisms, enhancing self-compassion may be a particularly useful attribute of MBCT in this population.

Adaptations of Standard MBCT for TRD

The MBCT intervention we use to treat individuals with TRD closely follows the manual developed by Segal *et al.* (2002) with specific modifications for TRD. Modifications to the MBCT manual were necessary because the original version was designed for individuals in remission with a focus on relapse prevention, while our population consists of individuals with active—and frequently chronic—depression. The details of our adaptation will be illustrated in the case study to follow. We otherwise assume that readers of this chapter are familiar with MBCT in its original conception. In general terms, there were three main issues we sought to address.

First, the language and examples of all the sessions were modified to focus on current depressive symptoms specifically. For example, phrases like “when you become depressed” were replaced with “notice what the experience of depression is like for you right now.” In addition, specific psychoeducation about the natural course of depression and relapse prevention in the context of acceptance was introduced early in the course, including graphs and illustrations of depression as a chronic disease with relapses over the lifespan (Greden, 2001).

Second, mindfulness practices were modified to account for difficulties with attentional control and restlessness typically observed in depression. In general, periods of sitting meditation were shortened and greater emphasis was placed on mindful movement/yoga, walking meditation, and brief “breathing spaces.”

Third, we postulated that in an actively depressed population, experiential avoidance of depressive cognitions and emotions and habitual control strategies would make the very notions of “acceptance” and “allowing” threatening both conceptually and in practice. We therefore introduced a number of metaphors and exercises commonly used in acceptance and commitment therapy (Luoma, Hayes, & Walser, 2007; Zettle, 2007) to illustrate the frequently counterproductive effects of avoidance and help patients become more willing to relate

mindfully to their current experience. In addition, throughout the series of sessions, particular attention was placed on maintaining the distinction between “acceptance” and “resignation.”

CASE STUDY

Luke was a 34-year-old male graduate student referred for long-standing TRD. He described himself as having been “tense” almost continuously since high school, and during his intake interview he was able to delineate three episodes of depression since late adolescence, usually triggered at times of life transition. Each subsequent episode has been more severe, and lasted longer than previous ones despite antidepressants and psychotherapy. He attributed his current episode to worries about completing his dissertation after almost 9 years in his graduate program, as well as an aggravation of ankle pain.

His current episode began 1 year earlier, after he was “put on notice” by his advisor for missing meetings. In the past, he had tried a variety of medications and psychotherapies, including several months of CBT after graduating college. At the time he felt like CBT was helpful in “thinking positively,” but that in this current episode, “I can’t stop myself from going negative.” Luke began seeing a psychiatrist soon after his depression returned. Luke tried sertraline, but—consistent with his past experience with selective serotonin reuptake inhibitors—this made him feel “flat and unfeeling.” He then changed to bupropion but did not find it helpful for his mood. He then was treated with duloxetine with somewhat positive results but with intolerable fatigue. In addition to depressive symptoms, he also felt anxious and had difficulty sleeping (both difficulty falling asleep and early awakening), usually ruminating about the reading or writing he should be doing. He tried various sleep medications that were not very effective. His psychiatrist recommended augmenting his treatment with atypical antipsychotics, but Luke was resistant to this idea. He was referred for MBCT following the multiple failures of antidepressant medications trials.

Despite a number of successes and publications in his professional career, Luke believed that “I am not living up to my potential” and “squandering my opportunities.” He had a difficult time concentrating and focusing on his work, instead engaging in mundane tasks at times he had scheduled to work. He was unable to enjoy activities that he previously derived pleasure from, frequently ruminating on the “work I should be doing instead.” He became increasingly socially isolated, withdrawing from friends and his girlfriend, and complained of decreased libido, weight gain, fatigue, and lack of energy. He denied active suicidal thinking but hoped he would develop a fatal illness that would end his life, or that he would somehow just disappear. He had no previous suicide attempts and had never required psychiatric hospitalization.

Luke believed that some of his recent depressive symptoms could be accounted for by current stressors in his life, including what he described as an increasingly unsupportive advisor. He also noted that one of his most consistent

sources of stress relief and energy had been playing pick-up basketball, but that caused aggravation of an old ankle injury and made it too painful to engage in most exercises, and on bad days, walking was difficult. This pain had been lingering for several months, and Luke expressed hopelessness and doubt that either his pain or depression would get better.

When Luke introduced himself at the first session, his affect was superficially bright, and a bit strained when he spoke about how he was looking forward “to doing something positive to get feeling good again.” While acknowledging his willingness to participate, we took this as the first opportunity to gently introduce to the group the idea that we would not be trying to directly fix or change thoughts, but rather learning how to relate to depression in a new way. We asked how well trying to have “positive thoughts” has worked, and Luke acknowledged he has ended up more frustrated that he has not been able to “think his way out of depression.” We then introduced the Chinese woven finger trap (Hayes, Strosahl, & Wilson, 2003) exercise as a metaphor for how acceptance and relinquishing the struggle to escape may set the path for recovery. As participants attempt to pull their fingers out of the woven trap with greater force, they only produce a tighter ensnarement. The counterintuitive solution is to gently move one’s fingers closer together to create some space and then ease out of the trap. This exercise also emphasized the distinction between the discomfort of depression (the finger trap) and the additional discomfort of the struggle itself (the tightening of the pull). At first Luke became distressed as he said, “What if I am stuck with this depression forever?” As we contrasted acceptance (giving up the struggle so one’s situation can be seen as it is) with resignation (e.g., giving up hope of ANYTHING making a difference), Luke began to understand that trying to escape his depression with positive thinking might actually have been adding to his sense of struggle and anxiety, and that an alternative approach could be possible.

In the second group session, Luke was presented with the following equation: $\text{SUFFERING} = \text{RESISTANCE} \times \text{PAIN}$ (e.g., physical pain or emotional pain like depression) (Young, 2004). Several examples were used to illustrate this equation. When people have difficulty falling asleep and try to resist that difficulty by forcing themselves to get to sleep, they are rarely successful and typically become more agitated. Applying this concept to depression, the MBCT group discussion elaborated that trying to avoid feeling depressed actually may contribute to the suffering of depression. Avoidance attempts may feel like they help in the short term, but not only do they fail to fix the problem long term, they can actually make depression worse (Zettle, 2007; Zettle & Hayes, 2008). Through attempts to avoid his depression, Luke busied himself with nonessential tasks and began to isolate himself socially. Through MBCT exercises aimed at describing pleasant experiences, he realized that he had cut himself off from things that had added pleasure to his life and began to reverse this pattern.

Also, through observations of body sensations and thoughts associated with depression, Luke noticed how angry he was at his body for the ankle pain it

was causing him. Seeing this, we discussed how he could begin to handle his situation with self-compassion. Much like relating to a new puppy getting into all sorts of mischief—wandering off, chewing on shoes, etc.—and in need of training, Luke could view his body as deliberately out to provoke and harass him or simply doing what bodies do when they are injured. On the second view, Luke could see that he could give up his anger and still take concrete actions to move towards healing.

In the third MBCT group session, a metaphor was introduced that many TRD patients have found very helpful. Winston Churchill talked about his depressive states as the “black dog” (Johnstone, 2006), and a depressed day as one in which “the black dog has returned.” This metaphor was presented in the context of an individual’s reaction to depression. There are a range of possible reactions to a large black dog, from terror to curiosity. The discussion of this metaphor invites patients to conceptualize their depression as something that they can react to in a number of different ways. This was particularly salient for Luke who began to shift his relationship to his depression, entertaining the idea that like a big black dog, depressive symptoms could be a signal about something in his life and not just a terrifying entity. In his case, Luke realized the black dog could be a signal that something was not working in his life and saw the relevance to his relationship with his dissertation advisor. He realized he could relate to his supervisor in a less submissive way.

In later sessions we built on this metaphor with a group activity originally observed in a mindfulness-based stress reduction class: the “Frankenstein exercise.” In the group, Luke was paired with another group member. He took on the role of “victim” and his partner assumed the role of “monster.” Then they reversed roles. The “Frankenstein monster,” as many group members spontaneously voiced, represents depression coming towards them in a threatening way. As the “victim,” Luke had several options. He could freeze and cower in front of the attack (submissive), he could try to sidestep it (avoidant), he could forcefully hold it at bay (resistant), or he could approach the monster, hold its arm, and lead it in the direction he wanted to go (mindfully assertive). Each of these possibilities was acted out by the pairs of “monsters” and these enactments were discussed as metaphors for alternative ways to approach a difficult situation or experience. None of the approaches “to change the monster,” except the mindful, assertive response (holding the arm and leading it), allowed Luke to envision a life where not all his energies need be directed at changing, fighting, or vanquishing the depression in order for some sense of control to return.

Another adaption drawn from the ACT literature was the “donkey standoff” exercise (Luoma *et al.*, 2007). The harder one pulls on a donkey by the lead rope, the more it resists. The way to get a donkey to move is to actually move alongside it and look in the direction you want to go. Interestingly, at the time we presented it, this metaphor fell flat. However, an older woman in the group shared her own breakthrough in this lesson as she began to see, in an experiential way, that having a full and meaningful life is not about getting rid of her

depression, but rather coming alongside it and moving with it rather than resisting and fighting it. Luke later shared hearing this group member's experience, which helped him to open up to understanding the Frankenstein exercise.

An important effect of MBCT is for participants to become aware of their thoughts as thoughts, and not as reflections of "the Truth." This is particularly relevant for a group of depressed individuals, such as Luke, where the dominant cognitive content is negative. While we did not challenge the veracity of thoughts as such, we did add another distinction drawn from the ACT literature—the "Your mind is not your friend" exercise (Zettle, 2007)—with the intent of helping patients hold their thoughts with less certainty that they are true. Immediately, Luke found this idea disturbing: "Without my mind, I won't be able to do my work." However, we engaged the group in looking at how their thoughts may goad them into trying to solve unsolvable problems. They also began to see how much time they may have spent "arguing" with their minds. Luke could see how much time he spent "hooked by my thoughts and being pulled where the thought was taking me." While we cannot live without our minds, Luke acknowledged that "maybe I don't always have to take the bait."

A standard MBCT exercise that resonated with Luke with particular power in the sixth session was a short sitting meditation focused on the breath, while developing awareness of thoughts as they were arising. In a modification done in the group, Luke was instructed to ask himself, "What is Luke thinking?" every few minutes. In the course of this exercise, his affect rather abruptly shifted from obviously dysphoric to one of bemusement. Luke shared that at some point during the exercise he had a new awareness of a sense of self that "could just notice all this noise going on without engaging with it." Part of what he realized through this exercise was that he could actually observe his thoughts without needing to take them personally, getting to the place where he was *having* thoughts rather than *being* what they were saying about him (e.g., weak, a failure, etc.). The sense of lightness that he experienced and shared about during the exercise helped both Luke and the group see that a new relationship was possible with depression. Luke then began to see that he could start trying to do more of the previously enjoyable things in his life that he had avoided despite remaining depressed. He did not have to wait for the depression to vanish before he could resume his life. This was particularly evident in his becoming increasingly more proactive in dealing with his physical issues and reconnecting with his advisor.

The last modification to MBCT that was helpful to Luke was a discussion of expectations, and their relationship to depression and self-esteem. Helping individuals with active depression to set expectations at realistic levels is often critical to maintaining self-esteem (Eisendrath *et al.*, 2011). These individuals often set unrealistically high expectations and then feel critical of themselves for not achieving them. We used the following equation as a simple way of viewing the relationship between self-esteem, achievement, and expectations:

$$\text{ACHIEVEMENT/EXPECTATIONS} = \text{SELF - ESTEEM}$$

Adjusting expectations to realistic levels is much more rapidly accomplished than increasing achievement levels. In depression, expectations are often set so high that no matter the achievement, an individual judges the results as a failure. Helping Luke set reasonable expectations for himself (slow steady progress with his ankle, manageable concrete steps toward planning his dissertation, and reengaging socially) helped him begin to feel better about himself. He added that “I can still have big goals in life but don’t need to judge myself against them at every moment, especially when I am depressed.”

At the end of the last group, Luke made a point to stay after and specifically thank the leaders for the group. While mindfulness had always seemed like a good idea to Luke, the regular practice of mindfulness techniques and the experience of watching and accepting his thoughts had provided a new sense of calm in the face of his depression. Overall, he felt the experience was “more than I hoped for.” On reviewing his depression severity score the following day, we were somewhat surprised to note that his score had dropped dramatically to near-normal levels.

STUDIES OF MBCT IN ACTIVE DEPRESSION

The first pilot study to examine MBCT as a therapy for the active phase of recurrent depression reported a clinically meaningful improvement in Beck Depression Inventory (BDI) scores at 3 months after completing a course of therapy (BDI reduced from a mean of 36 to 18), a comparable improvement in anxiety scores, and a high degree of patient acceptability of the treatment (Finucane & Mercer, 2006). In another small pilot study of adults with substantial residual symptoms between acute episodes of depression, MBCT resulted in a significant improvement in BDI scores and a strong trend for improvement in rumination symptoms (Kingston, Dooley, Bates, Lawlor, & Malone, 2007). In a particularly noteworthy study, when MBCT was compared directly with CBT in a sample of currently depressed subjects, there was a substantial drop in BDI of both groups that persisted at 12 months following therapy (with CBT, BDI scores dropped from 36 to 19, whereas with MBCT, scores dropped from 32 to 19) (Manicavasgar, Parker, & Perich, 2010). Of note, MBCT was equally effective for individuals with fewer than three episodes in this study.

Recent pilot data also indicate that MBCT may be effective as monotherapy for acutely depressed individuals (Eisendrath *et al.*, 2014). In that study, 20 depressed individuals who were in no other psychiatric treatment received MBCT as mono-treatment. They had been matched on gender, age, and depression severity to a control sample of individuals who received sertraline treatment for depression. The outcome indicated that Hamilton Depression Rating scores decreased equivalently in both samples. On the self-report Quick Inventory of Depressive Symptoms, the MBCT scores decreased more significantly.

The studies reported to date on using MBCT in TRD have been small pilots, albeit encouraging. In one uncontrolled study of 50 patients with recurrent or chronic depression in a depressed episode, mean BDI dropped from 24 to 14.

Almost 70% of this sample had a previous course of CBT and about 75% were on ADM (Kenny & Williams, 2007). A second nonrandomized trial of MBCT for TRD reported a drop in mean BDI from 24 to 15, a 29% remission rate, and 38% response rate (as measured by a >50% reduction in BDI score); there was also significant improvement on anxiety measures (Eisendrath *et al.*, 2008). A small controlled study that did not specifically include TRD, but included patients with active symptoms of >2 years' duration, reported BDI scores in the MBCT group that dropped from 29 to 18 with a response rate of 37%, while there was virtually no change in the treatment as usual group, with only 1 in 15 control subjects responding (Barnhofer *et al.*, 2009). The three studies above reported good tolerability with low dropout rates (Barnhofer *et al.*, 2009; Kenny & Williams, 2007), and no evidence that MBCT was problematic even for the most symptomatic patients (Eisendrath *et al.*, 2008). Currently, a large RCT evaluating MBCT versus an active control in TRD is under way (Eisendrath *et al.*, 2011). This study will also include functional magnetic resonance imaging data pre- and post-treatment. Long-term follow-up from an early cohort of participants achieving remission in an open trial (Eisendrath *et al.*, 2008) displayed persistent gains in remission of depression, decreased rumination, decreased anxiety, and increased mindfulness that continued for up to 58 months of follow-up (Munshi, Eisendrath, & Delucchi, 2012).

Evidence on Mechanisms of Change

Despite emerging support for the efficacy of MBCT in depression, data on specific mechanisms of psychotherapeutic change remain quite limited. Assumptions about mechanisms of action are based primarily on theoretical rationales or observations of the impact of mindfulness in other clinical and research settings; however, early examinations of mechanisms of change in MBCT specifically are supportive of the current conceptualization. A small RCT reported that efficacy of MBCT in actively depressed patients was mediated by decreased rumination and increased mindfulness as measured by the Mindful Attention Awareness Scale (Shahar, Britton, Sbarra, Figueredo, & Bootzin, 2010). Interestingly, it was changes specifically in brooding rumination that were associated with change, and not reflective pondering. Kuyken *et al.* also reported that MBCT's treatment effects were mediated by increased mindfulness, as well as enhanced self-compassion (Kuyken *et al.*, 2010). As further studies of MBCT in TRD progress, there will be additional data on mechanisms of change, including neural correlates (Eisendrath *et al.*, 2011).

PRACTICAL ISSUES IN IMPLEMENTING MBCT FOR TRD

Patient Selection

The weight of the current evidence indicates that depressed individuals can engage meaningfully with MBCT, despite negative ruminations and impaired

attention. Indeed, these very features of depression are precisely those areas that mindfulness training targets. Nevertheless, many depressed patients will find a course of MBCT challenging, even with adaptations made to accommodate a depressed population. Therefore, patients will be served best when entering a group with clear motivation, and understanding that between the 8 weekly groups, an essential aspect of treatment is the daily home practice. Assessment of suicidal patients in MBCT reveals both a challenge and a promise of this modality. Patients who are suicidal have shown higher dropout rates from MBCT trials (Kuyken *et al.*, 2008), and no clear effect on direct measures of suicidal ideation (Barnhofer *et al.*, 2009). Conversely, Kenny and Williams (2007) reported that patients with suicidal thoughts started treatment with higher baseline BDI scores that significantly decreased with treatment. Crane and Williams (2010) note that patients with suicidal ideation who dropped out of an MBCT trial displayed a significant worsening in interpersonal problem-solving effectiveness after acute induction of a negative mood state. They conclude that while extremely reactive individuals with high levels of depressive rumination may find engaging with MBCT particularly difficult, these same patients are likely to have the most to gain from the development of mindfulness skills if they complete the course.

Future Adaptations

As noted earlier, adaptations in MBCT made to accommodate an actively depressed population include modifying dialogue to address depression in the present tense, emphasizing shorter and more active mindfulness practices over extended sitting, and more directly addressing experiential avoidance. As MBCT for depression evolves, additional insights from the whole range of mindfulness and acceptance-based approaches to mental illness will be informative. Additionally, use of multimedia and technology resources may enhance the delivery of MBCT and patient engagement. We have continued to show all our participants in MBCT a video documentary of participants in an early mindfulness-based stress reduction group. Patients have consistently reported that seeing the accounts of other individuals applying mindfulness to chronic issues was an important motivator to stay engaged in the group. Use of smartphone reminders, and an ever-expanding array of applications designed to track and remind participants of habits may be applied to enhance compliance among participants.

The Clinician's Mindfulness Practice

The developers of MBCT provide a very revealing description of the evolution of their own understanding of mindfulness and the role of the therapist in embodying the ways of being that are being conveyed in MBCT (Segal *et al.*, 2002, pp. 54–57). They note how their preliminary trials and personal

experience using MBCT challenged “...our earlier conception of mindfulness as a technique in which patients could be trained by a therapist who might or might not have been mindful himself or herself...Just as in rock climbing... mindfulness training involves the instructor participating alongside the patient, not giving instructions, as it were, from the bottom of the rock face.” The stipulation that instructor or therapist must have an active mindfulness practice in some form probably applies to any mindfulness-based therapy and is surely a theme echoed throughout this volume. However, we believe that this issue is so central to the conduct of this therapy that it warrants special emphasis—particularly given the pitfalls of a chronically depressed population.

With the growing public awareness of mindfulness in society at large, patients may have some conception of mindfulness (Tugend, 2013). Unfortunately, many of the images conveyed by popular culture belie just how challenging the practice of mindfulness can be for any individual. Even experienced meditators can have the experience of frequent mind wandering, dealing with fatigue or restlessness, or simply maintaining a daily practice. Against preconceived notions that patients may have that mindfulness “should” be relaxing or that they “should” be able to “clear my mind,” the experiential reality of engaging in a mindfulness practice often evokes intense self-critical judgments, especially in depressed individuals. Indeed, we are asking our patients to direct their attention to some of the most aversive aspects of their experience, with no effort to change them.

In addition to teaching us to authentically embody mindfulness for our patients, a personal mindfulness practice can also be helpful in revealing our attitudes as clinicians. Certainly, mindfulness has direct benefits on healthcare providers in terms of enhancing quality of life and compassion (Shapiro, Astin, Bishop, & Cordova, 2005). Historically, much of our own training as therapists may be based on change-based strategies, and our target for intervention may be to alleviate symptoms of depression. Early in a course, participants are introduced to the formulation: $\text{Pain} \times \text{Resistance} = \text{Suffering}$. As clinicians and researchers, an active mindfulness practice helps us to clarify our own self-conceptions regarding the relationship between pain and suffering. This is particularly relevant when confronted with intense affect during the course of a group. For clinicians trained in more traditional CBT, there may be an instinctive response to offer a reframe, challenge a thought, or institute a strategy to provide relief. However, with enhanced acceptance and reduced resistance, the suffering may diminish without any direct decrease in the emotional pain of depression. For some patients with chronic depression, complete remission—or even substantial shifts in commonly measured scales of mood and neurovegetative symptoms—may not be achieved. Yet, if these same individuals undergo a shift in their relationship to their symptoms, such that depression becomes something they have versus who they are, an experience to be noticed versus a condition to fight against, and they have the ability to engage with matters of personal value, there has been a great contribution.

REFERENCES

- Arch, J. J., & Craske, M. G. (2006). Mechanisms of mindfulness: Emotion regulation following a focused breathing induction. *Behaviour Research and Therapy*, 44, 1849–1858.
- Baer, R. A. (2003). Mindfulness training as a clinical intervention: A conceptual and empirical review. *Clinical Psychology: Science and Practice*, 10, 125–143.
- Barnhofer, T., Crane, C., Hargus, E., Amarasinghe, M., Winder, R., & Williams, J. M. (2009). Mindfulness-based cognitive therapy as a treatment for chronic depression: A preliminary study. *Behaviour Research and Therapy*, 47, 366–373.
- Broderick, P. C. (2005). Mindfulness and coping with dysphoric mood: Contrasts with rumination and distraction. *Cognitive Therapy and Research*, 29, 501–510.
- Brosschot, J. F., Gerin, W., & Thayer, J. F. (2006). The perseverative cognition hypothesis: A review of worry, prolonged stress-related physiological activation, and health. *Journal of Psychosomatic Research*, 60, 113–124.
- Crane, C., & Williams, J. M. (2010). Factors associated with attrition from mindfulness-based cognitive therapy in patients with a history of suicidal depression. *Mindfulness (NY)*, 1, 10–20.
- Eisendrath, S., Chartier, M., & McLane, M. (2011). Adapting mindfulness-based cognitive therapy for treatment-resistant depression: A clinical case study. *Cognitive Behavioral Practice*, 18, 362–370.
- Eisendrath, S. J., Delucchi, K., Bitner, R., Fenimore, P., Smit, M., & McLane, M. (2008). Mindfulness-based cognitive therapy for treatment-resistant depression: A pilot study. *Psychotherapy Psychosomatics*, 77, 319–320.
- Eisendrath, S. J., Gillung, E., Delucchi, K., Mathalon, D. H., Yang, T. T., Satre, D. D., Rosser, R., Sipe, W. E. B., & Wolkowitz, O. W. (2014). A preliminary study: Efficacy of mindfulness-based cognitive therapy versus sertraline as first-line treatments for major depressive disorder. *Mindfulness*. <http://dx.doi.org/10.1007/s12671-014-0280-8>.
- Finucane, A., & Mercer, S. W. (2006). An exploratory mixed methods study of the acceptability and effectiveness of Mindfulness-Based Cognitive Therapy for patients with active depression and anxiety in primary care. *BMC Psychiatry*, 6, 14.
- Fresco, D. M., Segal, Z. V., Buis, T., & Kennedy, S. (2007). Relationship of posttreatment decentering and cognitive reactivity to relapse in major depression. *Journal of Consulting and Clinical Psychology*, 75, 447.
- Frewen, P. A., Evans, E. M., Maraj, N., Dozois, D. J. A., & Partridge, K. (2008). Letting go: Mindfulness and negative automatic thinking. *Cognitive Therapy & Research*, 32, 758–774.
- Greden, J. F. (2001). *Treatment of recurrent depression*. Washington, DC: American Psychiatric.
- Haden, A., & Campanini, B. (2001). *The World Health Report 2001: Mental health: New understanding, new hope*. World Health Organization (WHO).
- Hayes, S. C., Luoma, J. B., Bond, F. W., Masuda, A., & Lillis, J. (2006). Acceptance and commitment therapy: Model, processes and outcomes. *Behaviour Research and Therapy*, 44, 1–25.
- Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (2003). *Acceptance and commitment therapy: An experiential approach to behavior change*. New York: Guilford.
- Hayes, S. C., Wilson, K. G., Gifford, E. V., Follette, V. M., & Strosahl, K. (1996). Experimental avoidance and behavioral disorders: A functional dimensional approach to diagnosis and treatment. *Journal of Consulting and Clinical Psychology*, 64, 1152–1168.
- Johnstone, M. (2006). *Living with a black dog: His name is depression*. Kansas City: Andrews McMeel.
- Kenny, M. A., & Williams, J. M. (2007). Treatment-resistant depressed patients show a good response to Mindfulness-based Cognitive Therapy. *Behaviour Research and Therapy*, 45, 617–625.
- Khan, A., Dager, S. R., Cohen, S., Avery, D. H., Scherzo, B., & Dunner, D. L. (1991). Chronicity of depressive episode in relation to antidepressant-placebo response. *Neuropsychopharmacology*, 4, 125–130.

- Kingston, T., Dooley, B., Bates, A., Lawlor, E., & Malone, K. (2007). Mindfulness-based cognitive therapy for residual depressive symptoms. *Psychology and Psychotherapy*, 80, 193–203.
- Kuyken, W., Byford, S., Taylor, R. S., Watkins, E., Holden, E., White, K., et al. (2008). Mindfulness-based cognitive therapy to prevent relapse in recurrent depression. *Journal of Consulting and Clinical Psychology*, 76, 966–978.
- Kuyken, W., Watkins, E., Holden, E., White, K., Taylor, R. S., Byford, S., et al. (2010). How does mindfulness-based cognitive therapy work? *Behaviour Research and Therapy*, 48, 1105–1112.
- Leary, M. R., Tate, E. B., Adams, C. E., Allen, A. B., & Hancock, J. (2007). Self-compassion and reactions to unpleasant self-relevant events: The implications of treating oneself kindly. *Journal of Personality and Social Psychology*, 92, 887–904.
- Linehan, M. M. (1993). Dialectical behavior therapy for treatment of borderline personality disorder: Implications for the treatment of substance abuse. *NIDA Research Monograph*, 137, 201–216.
- Luoma, J. B., Hayes, S. C., & Walser, R. D. (2007). *Learning ACT: An Acceptance & Commitment Therapy skills-training manual for therapists*. Cambridge University Press.
- Manicavasagar, V., Parker, G., & Perich, T. (2010). Mindfulness-based cognitive therapy vs cognitive behaviour therapy as a treatment for non-melancholic depression. *Journal of Affective Disorders*, 130, 138–144.
- Mayberg, H. S. (2003). Modulating dysfunctional limbic-cortical circuits in depression: Towards development of brain-based algorithms for diagnosis and optimised treatment. *British Medical Bulletin*, 65, 193–207.
- McPherson, S., Cairns, P., Carlyle, J., Shapiro, D., Richardson, P., & Taylor, D. (2005). The effectiveness of psychological treatments for treatment resistant depression: A systematic review. *Acta Psychiatrica Scandinavica*, 111, 331–340.
- Melbourne Academic Mindfulness Interest Group. (2006). Mindfulness-based psychotherapies: A review of conceptual foundations, empirical evidence and practical considerations. *Australian and New Zealand Journal of Psychiatry*, 40, 285–294.
- Munshi, K., Eisendrath, S., & Delucchi, K. (2012). Preliminary long-term follow-up of mindfulness-based cognitive therapy-induced remission of depression. *Mindfulness*, 1–8.
- Nolen-Hoeksema, S. (2000). The role of rumination in depressive disorders and mixed anxiety/depressive symptoms. *Journal of Abnormal Psychology*, 109, 504–511.
- Ramel, W., Goldin, P. R., Carmona, P. E., & McQuaid, J. R. (2004). The effects of mindfulness meditation on cognitive processes and affect in patients with past depression. *Cognitive Therapy and Research*, 28, 433–455.
- Rush, A., Trivedi, M., Wisniewski, S., Nierenberg, A., Stewart, J., Warden, D., et al. (2006). Acute and longer-term outcomes in depressed outpatients requiring one or several treatment steps: A STAR* D report. *American Journal of Psychiatry*, 163, 1905–1917.
- Rush, A. J., Fava, M., Wisniewski, S. R., Lavori, P. W., Trivedi, M. H., Sackeim, H. A., et al. (2004). Sequenced treatment alternatives to relieve depression (STAR* D): Rationale and design. *Controlled Clinical Trials*, 25, 119–142.
- Segal, Z., Williams, J. M., & Teasdale, J. (2002). *Mindfulness-based cognitive therapy for depression: A new approach to preventing relapse* (1st ed.). New York: Guilford.
- Segal, Z., Williams, J. M., & Teasdale, J. (2013). *Mindfulness-based cognitive therapy for depression* (2nd ed.). New York: Guilford.
- Segal, Z. V., Kennedy, S., Gemar, M., Hood, K., Pedersen, R., & Buis, T. (2006). Cognitive reactivity to sad mood provocation and the prediction of depressive relapse. *Archives of General Psychiatry*, 63, 749.
- Segal, Z. V., Williams, J., Teasdale, J., & Gemar, M. (1996). A cognitive science perspective on kindling and episode sensitization in recurrent affective disorder. *Psychological Medicine*, 26, 371–380.

- Shahar, B., Britton, W. B., Sbarra, D. A., Figueredo, A. J., & Bootzin, R. R. (2010). Mechanisms of change in mindfulness-based cognitive therapy for depression: Preliminary evidence from a randomized controlled trial. *International Journal of Cognitive Therapy*, 3, 402–418.
- Shapiro, S. L., Astin, J. A., Bishop, S. R., & Cordova, M. (2005). Mindfulness-based stress reduction for health care professionals: Results from a randomized trial. *International Journal of Stress Management*, 12, 164.
- Sipe, W., & Eisendrath, S. J. (2012). Mindfulness-based cognitive therapy: Theory and practice. *Canadian Journal of Psychiatry. Revue canadienne de psychiatrie*, 57, 63.
- Stimpson, N., Agrawal, N., & Lewis, G. (2002). Randomised controlled trials investigating pharmacological and psychological interventions for treatment-refractory depression. Systematic review. *The British Journal of Psychiatry*, 181, 284–294.
- Taylor, D., Carlyle, J.-A., McPherson, S., Rost, F., Thomas, R., & Fonagy, P. (2012). Tavistock Adult Depression Study (TADS): A randomised controlled trial of psychoanalytic psychotherapy for treatment-resistant/treatment-refractory forms of depression. *BMC Psychiatry*, 12, 60.
- Teasdale, J. D., Moore, R. G., Hayhurst, H., Pope, M., Williams, S., & Segal, Z. V. (2002). Metacognitive awareness and prevention of relapse in depression: Empirical evidence. *Journal of Consulting and Clinical Psychology*, 70, 275–287.
- Teasdale, J. D., Segal, Z., & Williams, J. M. (1995). How does cognitive therapy prevent depressive relapse and why should attentional control (mindfulness) training help? *Behaviour and Research Therapy*, 33, 25–39.
- Teasdale, J. D., Segal, Z. V., Williams, J. M., Ridgeway, V. A., Soulsby, J. M., & Lau, M. A. (2000). Prevention of relapse/recurrence in major depression by mindfulness-based cognitive therapy. *Journal of Consulting and Clinical Psychology*, 68, 615–623.
- Treynor, W., Gonzalez, R., & Nolen-Hoeksema, S. (2003). Rumination reconsidered: A psychometric analysis. *Cognitive Therapy and Research*, 27, 247–259.
- Trivedi, M. H., Fava, M., Wisniewski, S. R., Thase, M. E., Quitkin, F., Warden, D., et al. (2006). Medication augmentation after the failure of SSRIs for depression. *New England Journal of Medicine*, 354, 1243–1252.
- Trivedi, M. H., Rush, A. J., Crismon, M. L., Kashner, T. M., Toprac, M. G., Carmody, T. J., et al. (2004). Clinical results for patients with major depressive disorder in the Texas Medication Algorithm Project. *Archives of General Psychiatry*, 61, 669.
- Tugend, A. (March 22, 2013). In *Mindfulness, a Method to Sharpen Focus and Open Minds*, *The New York Times*. Retrieved from http://www.nytimes.com/2013/03/23/your-money/mindfulness-requires-practice-and-purpose.html?pagewanted=1&_r=0&ref=general&src=me.
- Wiles, N., Thomas, L., Abel, A., Ridgway, N., Turner, N., Campbell, J., et al. (2013). Cognitive behavioural therapy as an adjunct to pharmacotherapy for primary care based patients with treatment resistant depression: Results of the CoBaT randomised controlled trial. *Lancet*, 381, 375–384.
- Young, S. (2004). *Break through pain: A step-by-step mindfulness meditation program for transforming chronic and acute pain*. Boulder, CO: Sounds True.
- Zettle, R. D. (2007). *ACT for depression: A clinician's guide to using acceptance & commitment therapy in treating depression*. New York: New Harbinger.
- Zettle, R. D., & Hayes, S. C. (2008). Brief ACT treatment of depression. *Handbook of Brief Cognitive Behaviour Therapy*, 35–54.
- Zettle, R. D., Rains, J. C., & Hayes, S. C. (2011). Processes of change in acceptance and commitment therapy and cognitive therapy for depression: A mediation reanalysis of Zettle and Rains. *Behavior Modification*, 35, 265–283.