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Unipolar major depression: Treatment with mindfulness-based cognitive therapy

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INTRODUCTION

Mindfulness-based cognitive therapy is a group program that is generally used to delay or prevent recurrence of major depression [1], but can also ameliorate acute depressive syndromes and symptoms [2]. The treatment combines the clinical application of mindfulness meditation with elements of cognitive-behavioral therapy and was first developed in 2000 as an outgrowth of mindfulness-based stress reduction [3-6].

This topic reviews the use of mindfulness-based cognitive therapy for the maintenance treatment of patients who have remitted from one or more episodes of unipolar major depression, as well as patients with acute episodes of unipolar major depression or with residual depressive symptoms. Choosing initial treatment for patients with unipolar depression, choosing treatment for resistant depression, and choosing maintenance treatment are discussed separately. (See "Unipolar major depression in adults: Choosing initial treatment" and "Unipolar depression in adults: Choosing treatment for resistant depression" and "Unipolar depression in adults: Continuation and maintenance treatment".)

INDICATIONS

Mindfulness-based cognitive therapy is indicated for:

- Maintenance treatment of euthymic patients who previously suffered one or more episodes of unipolar major depression – Evidence suggesting that the therapy is effective is discussed elsewhere in this topic. (See 'Preventing recurrences of major depression' below.)

- Acute unipolar major depression. (See 'Acute major depression' below.)

- Treatment-resistant depression. (See 'Treatment-resistant depression' below.)

- Residual depressive symptoms. (See 'Residual depressive symptoms' below.)

For each indication, the therapy can be used alone or in conjunction with pharmacotherapy. In addition, mindfulness-based cognitive therapy can be used for patients who did not respond to other psychotherapies (eg, cognitive-behavioral therapy).

The use of mindfulness-based cognitive therapy for acute unipolar major depression, treatment-resistant depression, residual depressive symptoms, and/or maintenance treatment is consistent with practice guidelines from the American Psychiatric Association [7,8], Canadian Network for Mood and Anxiety Treatments [9], Royal Australian and New Zealand College of Psychiatrists [10], and United Kingdom National Institute for Health and Clinical Excellence [11]. In addition, many patients with depressive syndromes prefer a psychotherapy over an antidepressant drug.

Mindfulness-based cognitive therapy has also been used to treat other disorders [6], including adult attention deficit hyperactivity disorder. (See "Attention deficit hyperactivity disorder in adults: Psychotherapy", section on 'Mindfulness/mindfulness-based cognitive therapy'.)

Contraindications — Contraindications to mindfulness-based cognitive therapy include the following:

- Attention and concentration are so impaired that the patient cannot participate in the therapy – Mindfulness meditation requires a minimal level of intact cognition.

- Active suicidal ideation and no other current maintenance treatment.

- Untreated trauma – Treating trauma requires patients to discuss the content of traumatic experiences. Mindfulness-based cognitive therapy places more emphasis upon observing thoughts and feelings and less upon responding to their content.

- An inability to tolerate the intense, difficult emotions that are elicited, including sadness, anxiety, and anger.

THEORETICAL FOUNDATION

Mindfulness-based cognitive therapy is a skills-training group program that combines the clinical application of mindfulness meditation with elements of cognitive-behavioral therapy (CBT) [3,4,12]. Mindfulness is purposeful, nonjudgmental attention to the present moment, which is developed through meditation and other practices [4]. CBT is based upon the theory that maladaptive thoughts and behaviors lead to psychopathology; the clinician addresses these dysfunctional cognitions and the patient tries to change the resulting problematic behaviors.

There are similarities between mindfulness-based cognitive therapy and CBT. Both treatments teach patients to identify triggers and symptoms of relapse, and to develop a behavior plan for avoiding relapse. Other similarities include directing patients to observe their thoughts and to rate activities for the pleasure and sense of mastery they provide.

Both treatments also address dysfunctional, ruminative, and depressogenic thoughts (eg, "I'm so weak" or "I've let others down") that are induced by distressing events [13]. During an acute episode of major depression, the patient experiences dysphoria and dysfunctional thoughts, along with other symptoms. Some studies suggest a connection develops between dysphoria and dysfunctional thoughts [1,14]. Following remission, something distressing may induce sadness, which may then reactivate self-criticism and other dysfunctional thoughts about inadequacy and failure, even if they are not relevant to the current situation. Patients may believe their remission is threatened and ask, "What's wrong with me?" This rumination may lead to a cascade of thoughts and emotions that results in relapse of depression [15,16].

One of the primary distinctions between mindfulness-based cognitive therapy and CBT is that mindfulness-based cognitive therapy includes meditation. Evidence that supports using the element of mindfulness meditation for patients with depressive disorders includes randomized trials:

- A meta-analysis of five trials in 499 depressed patients compared mindfulness meditation alone with active interventions that controlled for nonspecific aspects such as the amount of time and attention provided to patients; each trial lasted eight weeks [17]. Three to six months after treatment, improvement of depression was greater in patients who received meditation than controls; however, the clinical benefit was small [17].

- A subsequent eight-week trial compared mindfulness meditation alone with usual care (typically CBT) in primary care patients (n = 215) with clinically significant depressive

symptoms; approximately two-thirds of the patients in each group also received antidepressants [18]. Improvement of depression in the two groups was comparable.

Another distinction between mindfulness-based cognitive therapy and CBT is that mindfulness-based cognitive therapy emphasizes accepting dysfunctional thoughts [19,20]. By contrast, CBT emphasizes changing dysfunctional thoughts by gathering evidence to dispute their veracity.

The hypothesized mechanism of action for mindfulness-based cognitive therapy includes the following elements [4,5,19-21]:

- Observing and accepting dysfunctional thoughts rather than avoiding or suppressing them
- Decentering – Viewing one's thoughts as momentary mental events rather than facts that reflect reality or one's self-worth
- Decreasing rumination and worry
- Cultivating self-compassion
- Increasing one's ability to tolerate dysphoria

Neurobiology and neuropsychology — Mindfulness meditation may possibly be associated with functional and structural brain changes in areas involved with attention, emotional regulation, and self-awareness [22,23]. The clinical significance of these changes may be related to findings from other studies that suggest mindfulness meditation addresses biased attention to negative life events and impairments in emotion regulation, each of which are each putative risk factors for relapse of depressive episodes [24,25].

Results from neurobiologic and neuropsychologic studies of mindfulness meditation include the following:

- Neuroimaging studies have found that meditation may possibly be associated with functional and structural brain changes [22,23,26]. As an example, a randomized trial compared mindfulness meditation training with relaxation training in 35 individuals who were unemployed and experiencing stress [27]. Both training programs were conducted at a residential center over three days. Magnetic resonance imaging found that resting state functional connectivity (communication) between the posterior cingulate cortex and the dorsolateral prefrontal cortex (within the default mode network) increased with meditation training, but not relaxation training. In addition, the four-month follow-up assessment found that circulating levels of interleukin-6 (a biomarker of systemic

inflammation) decreased in the group that received meditation training, and increased in the group that received relaxation training.

- A systematic review of 23 controlled or case-controlled studies found that mindfulness meditation may enhance attention, memory, and some executive functions (such as response inhibition) [28].

ASSESSMENT

The clinician conducting mindfulness-based cognitive therapy individually interviews prospective patients to assess their suitability and explain what occurs during therapy [29]. Prior to this interview, the patient should read a handout (table 1) that explains that the therapy is an acute or maintenance treatment for depression, that homework is part of the treatment, and the difficulty of facing unpleasant emotions and thoughts.

In determining whether the patient is appropriate for mindfulness-based cognitive therapy, we confirm that the patient currently has an acute episode of unipolar major depression or residual symptoms, or a prior history of unipolar major depression. The Patient Health Questionnaire – Nine Item (PHQ-9) is a well-validated, widely used, self-report measure that can facilitate assessment of the patient's current depressive status (table 2) [30,31].

Suicidal patients without any other treatment are not appropriate for mindfulness-based cognitive therapy. In addition, it is critical to ascertain if attention and concentration are so impaired that the patient cannot participate in the therapy; cognition is assessed with both the interview (eg, "Is reading a problem? Can you concentrate for long periods of time? Can you follow the plot while watching a movie?") and mental status examination.

In assessing the patient's commitment to attend the weekly sessions and complete the daily homework, we discuss the value of persisting with treatment if results are not immediately apparent [4]. An analogy can be offered that training one's cognition is like training a muscle; it takes practice. Similarly, depressed patients often have to take an antidepressant medication for several weeks before they notice any benefit. The intention is to enable patients to estimate their readiness for mindfulness-based cognitive therapy, rather than to persuade them to enroll.

Logistical and practical aspects of treatment are also discussed during the individual interview, including the policy for tardiness, missed appointments, and payment.

DELIVERING MINDFULNESS-BASED COGNITIVE THERAPY

Mindfulness-based cognitive therapy is a group program that combines training in mindfulness meditation with cognitive-behavioral therapy (CBT) techniques. The therapy is based upon a treatment manual (book) that describes how the therapy is structured and standardizes the procedures that are used [4]. Each of the eight sessions, as well as the homework to be completed in between sessions, is described in detail to help clinicians implement the treatment and maintain consistency. Handouts for each session are also included.

Clinician training — Two prerequisites for leading mindfulness-based cognitive therapy groups are that the clinician practices mindfulness meditation and attends training workshops (table 3) [4]. This limits the treatment's availability but is intended to control its quality; our experience is that the poorest outcomes seem to result from clinicians teaching mindfulness without practicing it themselves. During mindfulness meditation, patients encounter difficulties or confusion about what is expected. Clinicians who have not experienced these challenges appear less able to help patients manage them and continue treatment [4,32]. Training in mindfulness-based cognitive therapy is available online at the MBCT website or the MindfulNoggin website.

Combined with pharmacotherapy — Mindfulness-based cognitive therapy is compatible with acute or maintenance pharmacotherapy [33-35]. If mindfulness-based cognitive therapy and pharmacotherapy are provided by different clinicians, they need to work together as members of the same treatment team. This should include an agreement with each other and the patient that the two clinicians will share any concerns they have and not keep secrets. Patients commonly tell the clinician providing mindfulness-based cognitive therapy that they wish to discontinue their antidepressants; these patients should be redirected to the clinician prescribing the medication.

Format — Mindfulness-based cognitive therapy is typically an in-person group program consisting of eight weekly sessions, each lasting two hours [4,20,36]. The group typically includes 8 to 15 patients.

The skills learned during the group sessions are practiced daily in between sessions for up to one hour. Each meditation session at home should last a minimum of approximately 30 minutes [21]. When meditating at home, many patients listen to audio recording that are provided as part of their therapy materials; these recordings provide guidance during the meditation session. Patients who prefer to meditate without guidance can use a timer to monitor the length of the session.

Self-help approaches have been successfully utilized to increase access to the treatment. As an example, a 16-week randomized trial compared self-help mindfulness-based cognitive therapy with self-help CBT in 410 patients with mild to moderate unipolar depression [37]. All patients received a self-help workbook with instructions on implementing the techniques of mindfulness-based cognitive therapy or CBT. In addition, patients received six sessions of support from a trained practitioner. A minority of patients were receiving pharmacotherapy. Online assessments found that improvement of depression was greater with self-help mindfulness-based cognitive therapy than self-help CBT, and the clinical benefit was small to moderate.

In addition, an online, web-based version of mindfulness-based cognitive therapy that delivers the content in eight sessions has been developed for patients with limited access to the treatment [38].

Specific therapeutic interventions — Each session focuses upon learning mindfulness meditation and CBT concepts and skills within a group setting.

Meditation and other practices are used to develop mindfulness, ie, purposeful attention to the present moment. Patients learn to observe their thoughts, feelings, and bodily sensations with curiosity and without criticizing themselves or passing judgment upon what is observed [4]. Sitting meditation often focuses upon breathing and the sensations of respiration. Another mindfulness practice is the body scan, which involves paying attention to different parts of the body and noticing any tension, pain, bracing, or numbing. Mindfulness is also practiced while patients stretch or walk. Each of these practices typically last for 40 minutes, but others are shorter (eg, Three-Minute Coping Breathing Space, a technique for managing rumination about a problem, and the Three-Minute Breathing Space, a technique for connecting with the present moment). In addition, mindfulness is practiced with everyday activities such as eating. Towards the end of treatment (eg, during week 6), some programs also include a one day retreat that focuses upon practicing mindfulness in a sustained manner.

Mindfulness-based cognitive therapy makes use of CBT techniques that include prescribing homework and teaching patients about depressive symptoms, dysfunctional thoughts that frequently accompany depression, and how thoughts can affect the emotional impact of an event [4]. The clinician also describes the CBT model of thoughts and feelings (ABC: Antecedent, Behavior, and Consequence). In addition, patients create a behavior plan to prevent relapse, which includes a list of both activating, pleasurable activities and habitual dysfunctional thoughts, as well as a letter that the patient addresses to him/herself explaining the importance of staying active, reducing self-criticism, and giving oneself credit for successes.

The group format provides several therapeutic benefits, including mutual support and decreased isolation [4]. In addition, patients learn from each other as they discuss their struggles with depression and dysfunctional thoughts, and their difficulties with developing attentional focus.

The last session addresses termination. The clinician asks patients to speak candidly about what they have learned, encourages them to practice mindfulness after the group meetings stop, and helps patients say goodbye [4]. In addition, the clinician gives each patient a small object, such as a marble or small polished stone, to remind patients of the other group members and their shared emotional experience.

Managing clinical deterioration — If depressive symptoms recur in remitted patients during mindfulness-based cognitive therapy, the clinician should assess the patient outside of the group setting to determine whether and how the treatment plan should be modified. If clinical deterioration occurs because the patient misses group sessions or does not complete homework assignments, the clinician and patient should decide whether the patient can recommit to the treatment or whether alternative treatment is indicated. Alternative treatment may also be indicated if the patient is adhering to mindfulness-based cognitive therapy but is not responding; options include adding pharmacotherapy, or switching to pharmacotherapy or a different psychotherapy such as interpersonal psychotherapy. Another option is to join a new mindfulness-based cognitive therapy group after the patient has improved with alternative treatment. (See "Unipolar depression in adults: Choosing treatment for resistant depression".)

Support for continuing mindfulness-based cognitive therapy for patients with subsyndromal symptoms is discussed elsewhere in this topic. (See 'Residual depressive symptoms' below.)

CONTINUING CARE

The purpose of mindfulness-based cognitive therapy is to teach skills that patients will use beyond treatment termination. The risk for recurrence of major depression persists for years after recovery from an episode, and patients are thus encouraged to practice mindfulness indefinitely (much as hypertensive patients are vigilant for high-sodium foods). Several resources are available to support the ongoing practice of mindfulness. (See 'Information for patients' below.)

In addition, some mindfulness-based cognitive therapy programs include monthly follow-up sessions (“graduate classes”) [39]. These sessions typically involve a 30-minute sitting meditation focusing upon the breath, along with 30 minutes of mindful stretching or walking.

The discussion afterwards addresses the challenges of practicing mindfulness, with less emphasis on therapeutic problem solving.

EVIDENCE OF EFFICACY

Mindfulness-based cognitive therapy has typically been used to delay or prevent recurrences of unipolar major depression [40,41]. In addition, the therapy appears to be beneficial for acute episodes of unipolar major depression as well as residual depressive symptoms [42].

Psychotherapy trials, like pharmacotherapy trials, are methodologically variable. Rigorous psychotherapy trials specify a priori hypotheses and analytic tests, use active psychotherapy comparators that control for the nonspecific aspects of psychotherapy, use standardized diagnostic criteria and outcome measures, carefully blind outcome ratings, develop manuals for the psychotherapies that are studied and measure the clinician's adherence, and stratify patients on predetermined risk variables. Less meticulous studies use open-label designs, less rigorous comparators (eg, treatment as usual or waiting lists), or fail to adequately blind outcome ratings. Although it is commonly believed that blinding of patients in psychotherapy trials is less successful compared with pharmacotherapy trials, this has never been studied.

Meta-analyses appear to overestimate the clinical effect of nearly all psychotherapies that are used to treat depression because of publication bias and study quality [43-45].

Preventing recurrences of major depression

Overview — For euthymic patients with a history of major depressive episodes, multiple randomized maintenance trials suggest that mindfulness-based cognitive therapy can delay or prevent additional recurrences [40,41,46]. As an example, a meta-analysis of patient-level data from nine randomized trials compared mindfulness-based cognitive therapy with a control condition (usual care or active treatment) during 60 weeks of follow-up in patients with recurrent major depression who were currently remitted (n >1200) [47]. The primary findings included the following:

- Recurrences of major depression were observed in fewer patients who received mindfulness-based cognitive therapy, compared with controls (38 versus 49 percent).
- Patients with higher levels of residual depressive symptoms were less likely to relapse with the psychotherapy than controls.
- The effectiveness of mindfulness-based cognitive therapy was independent of sociodemographic factors (eg, age, sex, marital status, and socioeconomic status) and

psychiatric variables (eg, age at onset of depression and number of previous major depressive episodes), suggesting that the psychotherapy is useful for a broad range of patients.

- There was no evidence of adverse events associated with active treatment when delivered by well-trained teachers in a clinical context.

Another meta-analysis suggests that there may be a dose response relationship, such that the benefit of mindfulness-based cognitive therapy is influenced by the amount of time that patients practice mediation at home [48]. As an example, one prospective study included patients (n = 99) who were assigned to mindfulness-based cognitive therapy as part of an eight-week randomized trial, and subsequently followed for up to one year [49]. During the eight-week trial, the frequency of daily meditation sessions was monitored. Relapse of depression over the one-year follow-up occurred in fewer patients who meditated for three or more days/week during the eight-week protocol, compared with patients who practiced on fewer days (39 versus 58 percent).

Additional information about continuation and maintenance treatment for unipolar depression is discussed separately. (See "Unipolar depression in adults: Continuation and maintenance treatment".)

Mindfulness-based cognitive therapy compared with cognitive therapy — Mindfulness-based cognitive therapy combines mindfulness meditation with cognitive therapy (see 'Specific therapeutic interventions' above). Although multiple randomized trials indicate that mindfulness-based cognitive therapy can prevent recurrence of unipolar major depression (see 'Overview' above), it is not clear that mindfulness meditation provides any additional benefit beyond that of cognitive therapy alone because cognitive therapy alone can also prevent recurrences. (See "Unipolar depression in adults: Continuation and maintenance treatment", section on 'Cognitive-behavioral therapy'.)

The best evidence suggests that adding mindfulness meditation to cognitive therapy does not provide any additional benefit beyond that of cognitive therapy alone. One randomized trial has compared mindfulness-based cognitive therapy with cognitive therapy in patients (n = 164) who remitted from an episode of unipolar major depression [50]. At baseline, more than half of the patients in each group were also treated with antidepressants. Both treatments were administered for eight weeks in a group format, and patients were followed for up to two years. The rate of relapse was nearly identical in each group (approximately 22 percent of patients).

Mindfulness-based cognitive therapy alone compared with pharmacotherapy alone — Based upon pooled results from randomized trials, mindfulness-based cognitive

therapy may possibly be superior to antidepressants for maintenance treatment of unipolar major depression [47]. However, some of the patients in these trials, despite being assigned to monotherapy with mindfulness-based cognitive therapy, also received antidepressants. In addition, the largest trial found that the benefit of mindfulness-based cognitive therapy was comparable to that of pharmacotherapy [34]:

- Evidence that suggests mindfulness-based cognitive therapy is perhaps superior to pharmacotherapy for maintenance treatment of unipolar major depression includes a meta-analysis of patient-level data from four randomized maintenance trials [47]. The analysis compared mindfulness-based cognitive therapy with antidepressants alone in patients (n = 669) with recurrent major depression who were currently remitted and followed for up to 60 weeks. At the time of enrollment, many patients were treated with maintenance antidepressants; although patients assigned to psychotherapy received support in discontinuing antidepressants and many succeeded in doing so, other patients continued their antidepressants at reduced or full doses. Recurrence of major depression was 23 percent less likely to occur in patients who received mindfulness-based cognitive therapy, compared with patients treated with antidepressants alone (hazard ratio 0.77, 95% CI 0.60-0.98).

- The largest of the four trials enrolled 424 patients with recurrent unipolar major depression who were in full or partial remission and receiving maintenance antidepressants [34]. The patients were randomly assigned to mindfulness-based cognitive therapy with support to taper or discontinue antidepressant treatment, or assigned to continue antidepressants. Among the patients assigned to mindfulness-based cognitive therapy, 30 percent continued their antidepressants at reduced or full doses. During two years of follow-up, recurrence rates were comparable in patients assigned to mindfulness-based cognitive therapy or antidepressants (44 and 47 percent).

Mindfulness-based cognitive therapy plus usual care compared with usual care alone — Based upon randomized trials, maintenance treatment with mindfulness-based cognitive therapy plus usual care appears to be more effective than usual care alone in preventing recurrent depression [40,41]:

- A systematic review included a meta-analysis of six trials (n = 584), which found that recurrence of depression occurred in fewer patients who received mindfulness-based cognitive therapy than patients who received usual care alone (relative risk 0.7, 95% CI 0.6-0.9) [51]. However, heterogeneity across studies was moderate and the benefit of mindfulness-based cognitive therapy may have resulted from differences in the usual care that each group received (pharmacotherapy and/or psychotherapy). In addition, it is not

clear whether mindfulness-based cognitive therapy provided any specific effects because the randomized trials did not control for the additional attention it conferred. A separate meta-analysis suggested that reductions in recurrence of depression with mindfulness-based cognitive therapy may be due in part to booster sessions following acute treatment.

- An eight-week trial not included in the meta-analysis compared mindfulness-based cognitive therapy plus usual care (eg, antidepressants) with usual care alone in 205 patients with three or more prior episodes of unipolar major depression (66 percent had fully or partially remitted from their most recent episode, 34 percent with a current depressive syndrome) [2]. There were fewer depressive symptoms at the end of treatment in patients who received mindfulness-based cognitive therapy, and results were comparable for remitted patients and patients with depressive syndromes at study entry.

- Another eight-week trial not included in the meta-analysis compared mindfulness-based cognitive therapy plus usual care with usual care alone in pregnant women with a prior history of unipolar major depression (n = 86) [52]. Pharmacotherapy or other psychotherapies were permitted in both groups. Recurrence of major depression during pregnancy or the postpartum period occurred in fewer patients who received active treatment than patients who received usual care alone (18 versus 50 percent).

Mindfulness-based cognitive therapy plus pharmacotherapy — Many patients with a history of recurrent depressive episodes receive mindfulness-based cognitive therapy plus pharmacotherapy as maintenance treatment [47]. It appears that combination treatment is more effective in preventing recurrences of depressive episodes than mindfulness-based cognitive therapy alone. However, mindfulness-based cognitive therapy plus antidepressants does not appear to provide any advantage over antidepressants alone:

- A 15-month trial enrolled patients (n = 249) with recurrent unipolar major depression in remission who were currently treated with antidepressants as maintenance treatment for at least six months, and randomly assigned them to mindfulness-based cognitive therapy followed by continuation of antidepressants, or to mindfulness-based cognitive therapy followed by discontinuation of antidepressants [53]. Recurrence of depression occurred in fewer patients who received combination treatment than patients who discontinued pharmacotherapy (39 versus 54 percent).

- Another 15-month trial by the same investigators enrolled patients (n = 68) with recurrent unipolar major depression who were currently treated with antidepressants as maintenance treatment for at least six months, and randomly assigned them to mindfulness-based cognitive therapy plus antidepressants or to antidepressants alone

[54]. Recurrence of depression was nearly identical for combination treatment and antidepressants alone (36 and 37 percent of patients).

Acute major depression — We use mindfulness-based cognitive therapy for acute episodes of unipolar major depression, based upon positive results in multiple randomized trials:

- A meta-analysis of four trials (n = 160 patients) compared the therapy with control conditions (usual care, cognitive-behavioral therapy, or psychoeducation) and found a significant, clinically large benefit favoring mindfulness-based cognitive therapy [55]. However, heterogeneity across trials was substantial.

- A subsequent meta-analysis of 31 trials (n >2300 depressed patients) compared mindfulness-based cognitive therapy with control conditions [20]. The primary findings were as follows:

  - Improvement was greater in patients who received mindfulness-based cognitive therapy than controls placed on waiting lists, and the clinical benefit was large. However, heterogeneity across studies was moderate.

  - Reduction of depression was greater with mindfulness-based cognitive therapy than active control conditions (eg, usual care, group psychoeducation, and/or pharmacotherapy), and the clinical effect was moderate. Heterogeneity was also moderate.

  - Follow-up assessments indicated that the advantage of mindfulness-based cognitive therapy persisted beyond the treatment phase.

- A third meta-analysis identified seven trials, each lasting eight weeks, and compared mindfulness-based cognitive therapy with control conditions (eg, usual care, cognitive therapy, or pharmacotherapy) in acutely depressed patients (n >400) [35]. Improvement of depression was greater with mindfulness-based cognitive therapy than control conditions, and the clinical benefit was small to moderate.

In addition, a meta-analysis of 11 randomized trials (n >700 patients with unipolar major depression) compared control conditions with mindfulness-based cognitive therapy or other mindfulness-based interventions, such as mindfulness-based stress reduction [56]. Improvement was greater with mindfulness-based interventions, and the benefit was clinically moderate to large; however, heterogeneity across studies was also large.

Treatment-resistant depression — Patients with acute depression that does not respond to initial treatment may perhaps benefit from add-on treatment with mindfulness-based cognitive

therapy. A study enrolled patients (n = 92) with unipolar major depression that did not respond to pharmacotherapy and did not respond to either cognitive-behavioral therapy or interpersonal psychotherapy; patients were randomly assigned to eight weeks of usual care plus mindfulness-based cognitive therapy or to usual care alone [57]. Usual care included pharmacotherapy and/or psychotherapy. Partial remission, defined as ongoing symptoms that no longer met criteria for major depression, occurred in more patients who received add-on mindfulness-based cognitive therapy than usual care alone (41 versus 22 percent). In addition, mindfulness-based cognitive therapy led to a higher quality of life. Follow-up assessments found that the benefit of treatment persisted for at least six months [58].

Additional information about the efficacy of mindfulness-based cognitive therapy plus usual care is discussed elsewhere in this topic. (See 'Mindfulness-based cognitive therapy plus usual care compared with usual care alone' above.)

Residual depressive symptoms — Residual depressive symptoms are a risk factor for recurrence of unipolar major depression. Although multiple randomized trials have found that residual symptoms improve with mindfulness-based cognitive therapy [59], one trial did not:

- An eight-week trial enrolled patients (n = 130) with residual symptoms of unipolar major depression and randomly assigned them to mindfulness-based cognitive therapy or a waiting list; patients in both groups continued any current usual care (pharmacotherapy and/or psychotherapy) [42]. Improvement of residual symptoms was greater in patients who received mindfulness-based cognitive therapy than controls, and the benefit persisted for 12 months.

- A three-month trial enrolled 460 primary care patients who had partially responded to usual care (antidepressants and/or psychotherapy) for recurrent depressive syndromes [60]. The patients were randomly assigned to usual care plus add-on treatment with eight sessions of digital mindfulness-based cognitive therapy or to usual care alone. During 12 months of posttreatment follow-up, remission of residual symptoms occurred in more patients who received adjunctive mindfulness-based cognitive therapy (59 versus 47 percent). In addition, recurrence of depression occurred in fewer patients who received adjunctive therapy (13 versus 23 percent).

- An eight-week trial enrolled 424 patients with recurrent unipolar major depression who were in full or partial remission and receiving maintenance antidepressants [34]. The patients were randomly assigned to mindfulness-based cognitive therapy with support to taper or discontinue antidepressant treatment, or assigned to continue antidepressants.

During two years of follow-up, resolution of residual symptoms was comparable for the two treatment groups.

The risk of depressive recurrences secondary to residual symptoms is discussed separately. (See "Unipolar depression in adults: Course of illness", section on 'Recurrence'.)

SOCIETY GUIDELINE LINKS

Links to society and government-sponsored guidelines from selected countries and regions around the world are provided separately. (See "Society guideline links: Depressive disorders".)

INFORMATION FOR PATIENTS

Books, compact disks, and websites devoted to mindfulness meditation are available to augment mindfulness-based cognitive therapy. Two handbooks are available for patients enrolled in mindfulness-based cognitive therapy or patients deciding whether it is suitable [3,61]. The MBCT website also describes the intervention and includes links to programs in North America and Europe as well as research papers that can be downloaded [62]. In addition, the Access MBCT website is an international registry of therapists who are qualified to administer mindfulness-based cognitive therapy.

SUMMARY

- **Indications and contraindications** – Mindfulness-based cognitive therapy is indicated for maintenance treatment of euthymic patients who previously suffered one or more episodes of unipolar major depression, as well as patients with acute episodes of major depression, treatment-resistant depression, or residual depressive symptoms. The therapy can be used alone or in conjunction with pharmacotherapy. However, contraindications include cognitive impairment that precludes use of mindfulness meditation, active suicidal ideation and no other current maintenance treatment, or a history of untreated trauma. (See 'Indications' above and 'Contraindications' above.)

- **Theoretical foundation** – Mindfulness-based cognitive therapy is a skills-training group program that is used to delay or prevent recurrence of major depression. The therapy combines the clinical application of mindfulness meditation with elements of cognitive-behavioral therapy (CBT). (See 'Introduction' above and 'Theoretical foundation' above.)

Mindfulness is purposeful, nonjudgmental attention to the thoughts and feelings that occur each moment. CBT is based upon the theory that maladaptive thoughts and behaviors lead to psychopathology; the clinician addresses these dysfunctional cognitions and the patient tries to change the resulting problematic behaviors. (See 'Theoretical foundation' above.)

Mindfulness meditation may possibly be associated with functional and structural brain changes in areas involved with attention, emotional regulation, and self-awareness. The clinical significance of these changes may be related to findings from other studies that suggest meditation addresses biased attention to negative life events and impairments in emotion regulation, each of which are each putative risk factors for relapse of depressive episodes. (See 'Neurobiology and neuropsychology' above.)

- **Assessing suitability for the therapy** – Clinicians should assess the prospective patient's current clinical status, prior course of illness, and commitment to attend the eight two-hour weekly sessions and complete the daily homework. (See 'Assessment' above.)

- **Specific therapeutic interventions** – Mindfulness-based cognitive therapy interventions include meditation, the body scan, and mindfulness while stretching or walking. The therapy also uses some CBT techniques, which include learning about depressive symptoms and dysfunctional thoughts, and creating a behavior plan to prevent relapse. (See 'Specific therapeutic interventions' above.)

- **Efficacy** – Randomized trials suggest that for euthymic patients with a history of recurrent, unipolar major depressive episodes, mindfulness-based cognitive therapy can delay or prevent recurrence. In addition, the therapy can benefit patients with acute episodes of major depression or residual depressive symptoms. (See 'Evidence of efficacy' above.)

- **Information for patients** – Resources are available to educate patients about mindfulness-based cognitive therapy and to locate qualified therapists. (See 'Information for patients' above.)

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