Application of Cognitive Behavioral Therapies for Comorbid Insomnia and Depression

Patricia Haynes, PhD

KEYWORDS

• Insomnia • Depression • Cognitive behavioral therapy

KEY POINTS

- Insomnia and depression are highly comorbid clinical states.
- Key elements of CBT-I include stimulus control therapy, sleep restriction therapy, and cognitive restructuring. CBT-I is highly effective for insomnia and also reduces depression symptoms and depression relapse. Depressed individuals may be more likely to terminate from CBT-I prematurely and may also have some difficulties remaining adherent to the therapy. Those individuals who do complete treatment seem to have a treatment response comparable to nondepressed individuals.
- Key elements of CBT-D include behavioral activation and cognitive restructuring. CBT-D is highly effective for depression and also reduces insomnia symptoms. One study found that residual insomnia after CBT-D does not predict relapse/recurrence above and beyond the impact of residual anxiety symptoms. Studies are necessary to examine whether insomnia moderates CBT-D treatment adherence or response.
- It is recommended that CBT-I therapists incorporate elements of CBT-D into the therapy with depressed patients to address adherence problems caused by motivational deficits, avoidance, and depressogenic automatic thoughts. Cognitive behavioral social rhythm therapy has incorporated principles of both CBT-I and CBT-D.

INTRODUCTION

Insomnia co-occurs frequently with depression. Approximately 80% of depressed individuals experience some form of insomnia symptom.[1] Up to 12% of patients with depression may have insomnia symptoms sufficiently severe enough to warrant a comorbid diagnosis, although it is a predominant characteristic of the symptomology in only 6% of depressed patients.[1] Given the high prevalence with which insomnia co-occurs with depression, insomnia has historically been assumed to be a by-product of depression and hence its inclusion as a symptom of a Major Depressive Episode in the *Diagnostic and Statistical Manual of Mental Disorders, fifth edition*.[2] Studies that have examined the timeframe of the development of the two states have indicated that depression may actually be causally related to insomnia. Insomnia often occurs before depression[3–5] and predicts depression recurrence.[6] Practice parameters put forth by the American Academy of Sleep Medicine now encourage providers to conceptualize insomnia as a comorbid disorder (vs secondary disorder) when associated with depression.[7]

Department of Psychiatry, University of Arizona, 1501 North Campbell Avenue, PO Box 245002, Tucson, AZ 85724-5002, USA
E-mail address: thaynes@email.arizona.edu

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This comorbid conceptualization is consistent with temporal data showing that insomnia comorbid with depression is an important intermediate phenotype between pure insomnia and depression.[8] Patients with both insomnia and depression experience a more severe clinical state. As compared with insomnia patients only, insomnia patients with comorbid depression have greater presleep mental arousal, more maladaptive beliefs and attitudes about sleep, more sleep effort, and worse sleep hygiene than insomnia patients without depression.[9,10] Persistent insomnia with depression is associated with suicide[11,12] and an increased tendency to use global attributions for negative events (eg, "This issues creates problems in *all* areas of my life"),[13] a hallmark characteristic of learned helplessness. Disrupted sleep profiles in depression are associated with longer depressive episode duration, a more severe history of depressive illness, a greater number of depressive episodes, and being earlier in the course of a depressive episode.[14]

Altogether, these data are important because they illustrate the necessity of treatment procedures that take both insomnia and depression into account. Cognitive behavioral therapy (CBT) is a well-tested, evidence-based behavioral intervention for depression and insomnia that seems to be at least equal to the effect of medication for each disorder. Relatively few studies have examined the impact of CBT on both disorders. Examination of depression and insomnia outcomes in CBT is important, because it provides a means by which to determine unique ways each version of CBT (CBT for insomnia [CBT-I] and CBT for depression [CBT-D]) address symptoms of the alternate disorder. These data also inform ways that CBTs might need modification to address the comorbid condition.

This article introduces ways that CBTs have been used in depression and insomnia with a focus on the impact each therapy has had on the alternate diagnosis.

COGNITIVE BEHAVIORAL THERAPY FOR INSOMNIA AND DEPRESSION

CBT-I is a well-tested, highly effective evidence-based psychotherapy for insomnia. The three key active components of CBT-I are (1) stimulus control, (2) sleep restriction, and (3) cognitive restructuring, although CBT-I also includes education about sleep, relaxation training, and sleep hygiene (eg, instructions to discontinue caffeine, alcohol, and so forth). The first active component of CBT-I is stimulus control, a behavioral intervention designed to counter the learned association between bed/bedroom and wakefulness.[15] With stimulus control, patients are instructed to retire to bed only when sleepy, use the bed only for sleep and sex, arise from bed if unable to sleep (repetitively throughout the night if necessary), and arise at a regular time each morning. The second active component of CBT-I is sleep restriction, a behavioral intervention that uses the homeostatic sleep drive to consolidate sleep.[16] In sleep restriction therapy, individuals are instructed to reduce their overall time in bed awake by arising at a consistent morning time and staying up until a prescribed time in the evening, which is significantly later than usual. Time in bed is gradually expanded as sleep efficiency (total sleep time divided by the total time in bed) increases. Cognitive restructuring is the last active CBT-I component. It is a cognitive intervention in which practitioners use guided discovery to help patients identify and change illogical or extreme ways of thinking.[17] In the context of sleep, these thoughts often relate to frustration over the inability to fall asleep or exaggerated concerns about the effects of sleep loss on daily functioning.[18]

Because insomnia is a predictor of depression recurrence, researchers have questioned whether CBT-I might have a valuable role as an adjunct treatment of depression. For instance, Manber and colleagues[19] assessed the impact of CBT-I in 30 individuals with depression and insomnia who were receiving concomitant treatment by escitalopram. Individuals were randomized to 7 weeks of individual CBT-I or an attention control condition using a validated quasidesensitization technique. Those individuals who received CBT-I had a higher rate of depression remission (61.5%) and insomnia remission (50.0%) than those who received the control condition (33.3% depression, 7.7% control), although these differences were not statistically significant (potentially because of the small sample size). These findings are consistent with a recent randomized control trial in which brief behavioral therapy for insomnia, a variant of CBT-I that does not use cognitive restructuring, and treatment as usual (controlled prescription of antidepressant) were compared with treatment as usual alone in patients with both refractory depression and insomnia.[20] Relative to treatment as usual alone, patients who received brief behavioral therapy for insomnia had significantly improved sleep quality and depression. In addition, 50% of patients receiving brief behavioral therapy for insomnia achieved depression remission after 8 weeks compared with only 5.9% of patients who did not receive the therapy. In total, these studies support the concept that augmentation of an antidepressant