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Acceptance and Commitment Therapy as an Adjunct or Alternative Treatment to Cognitive Behavioral Therapy for Insomnia

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Keywords

Insomnia; Acceptance; Behavioral; Treatment; Adjunctive; Cognitive-behavioral

INTRODUCTION

Insomnia is a clinical disorder that affects 10% of the general population. Prevalence rates of insomnia are higher among individuals with comorbid medical and/or psychiatric conditions, older individuals, women, and military veterans. Insomnia is associated with a range of negative outcomes including reduced psychomotor performance, reduced memory consolidation, decreased work performance, and reduced quality of life (QoL).[1–4] There are strong associations between insomnia and other medical and mental health conditions such as chronic pain, depression, and anxiety.[5,6] Cognitive behavioral therapy for insomnia (CBT-I) is considered the "gold standard" treatment and is recommended as the first approach to addressing insomnia.[7] Although CBT-I has demonstrated strong efficacy and effectiveness, adherence to the treatment recommendations can be a challenge and some individuals discontinue treatment prematurely. Difficulty with treatment adherence and drop out is likely related to the counterintuitive nature of many treatment recommendations that are a part of sleep restriction and stimulus control approaches. This can lead to discouragement and reduced motivation to adhere to recommendations and complete treatment. Cognitive therapy approaches are often used to address motivation and adherence; however, some individuals find it difficult to change their thoughts related to sleep while they are still struggling with insomnia.

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Acceptance and commitment therapy (ACT) is a third wave therapy that incorporates mindfulness, acceptance, and cognitive defusion to change the relationship that individuals experience toward their thoughts and emotional experience. There is some evidence that ACT and acceptance-based approaches improve sleep disturbance, and there is a strong theoretical rationale to incorporate ACT as an alternative or adjunctive approach in the treatment of insomnia. This article seeks to provide an overview of ACT-based interventions for insomnia and describe how they align and differ from CBT-I. We provide a review of the literature to date and discuss populations who may benefit from this approach.

Cognitive Behavioral Therapy for Insomnia

CBT-I is recommended as the first-line treatment of adults with insomnia.[7] CBT-I is a multicomponent therapy that is comprised of psychoeducation about sleep processes, stimulus control, sleep restriction, sleep hygiene, strategies to decrease arousal, and cognitive therapy. The 2 main behavioral components of CBT-I are stimulus control and sleep restriction. Stimulus control addresses the learned association that forms between the bed/bedroom and arousing wakeful activities (eg, watching TV, tossing and turning, worrying), which results in conditioned arousal. Within this approach, individuals are instructed to only use their beds for sleeping and sexual activity. Individuals are also instructed to get out of their beds during periods of wakefulness at night, and only return to bed when feeling sleepy. This strategy helps an individual strengthen the relationship between their bed and sleep (ie, increase their stimulus control) and thus reduce the negative effects of conditioned arousal. Sleep restriction helps to build sleep drive and consolidate sleep by limited time in bed (the sleep opportunity window) to match an individuals' total sleep time at the beginning of treatment with the goal of reducing or eliminating excessive time spent in bed awake. Once sleep quality improves, time in bed is gradually extended until the patient gets sufficient sleep. Sleep hygiene includes addressing other factors that affect sleep, including environmental conditions, use and timing of substances (eg, caffeine, alcohol, nicotine), and physical activity. Although these behavioral strategies ultimately lead to sleep consolidation and increased quality of sleep over time, their initial implementation commonly results in reduced sleep quality and total sleep time for many individuals. It should be noted that although stimulus control and sleep restriction can be efficacious in the reduction of insomnia symptoms as standalone interventions, sleep hygiene alone does not significantly reduce insomnia symptoms.[8] Counter-arousal and relaxation techniques are often included in CBT-I treatment to address the heightened arousal systems that can interfere with sleep. Cognitive therapy addresses the maladaptive thoughts and beliefs that interfere with sleep and adherence to treatment recommendations. One goal of cognitive therapy is to change or reduce the maladaptive thoughts that interfere with sleep by replacing them with more realistic and helpful thoughts.

Decades of research and meta-analyses have shown that CBT-I leads to significant improvements in subjective and objective sleep quality and quantity.[8,9] Additionally, successful completion of CBT-I is associated with decreases in depression, trauma-related mental health symptoms, chronic pain, and symptoms associated with sleep apnea.[10–13] However, not all individuals benefit from CBT-I, and many individuals struggle to adhere to treatment recommendations or discontinue treatment prematurely. Difficulty with adherence

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may be related to the counterintuitive nature of some treatment components (ie, sleep restriction and stimulus control) such as reducing the sleep opportunity window or getting out of bed when unable to sleep. Additionally, some studies have suggested that 14% to 40% of individuals drop out of CBT-I treatment altogether.[14] As such, adaptations to CBT-I seek to address such difficulties with treatment adherence and successful completion.

Acceptance-Based Interventions for Insomnia

ACT is one of the third wave behavioral therapies. Third wave therapies use mindfulness and acceptance as key approaches within the treatment. ACT is based on both principles that explore cognition and behavior through a holistic and context-focused perspective that allows openness and acceptance toward all psychological events, pleasant or unpleasant, or those labeled as negative or maladaptive.[15,16] ACT consists of 6 domains that are targeted in treatment: (1) Present moment focus: Use of mindfulness to become aware of present moment, without judgment, including ability to identify and tolerate inner experiences—pleasant or unpleasant; (2) Acceptance: Willingness to allow difficult inner experiences to exist, without trying to change or control them; (3) Values: Aspects of living that give meaning to one's life (eg, family, career, spirituality); (4) Cognitive defusion: Separation from and nonidentification with thoughts; (5) Self as context: Identifying observer self within that can separate from daily experiences and connect to core self; and (6) Committed action: Identification of concrete, objective goals that are values-consistent (Fig. 1). Through these domains, individuals change their relationship to their thoughts and emotions with an emphasis on function, rather than the form of an experience.[17]

In contrast to CBT, ACT proposes that it is not the experience of unwanted thoughts, emotions, or behaviors that cause suffering but rather the process of attempting to control, reduce, or eliminate these personal experiences that causes individuals to struggle. By engaging in experiential avoidance, individuals create more, not less, of these unwanted experiences. Furthermore, ACT theory views an individual's values as an essential foundation for goal setting in treatment. The goal of ACT, therefore, is to increase psychological and behavioral flexibility and use values to achieve a meaningful life. Individuals do so by engaging in mindfulness (eg, the act of being present in the current moment) and a variety of experiential exercises and metaphors aimed at fostering acceptance of personal experiences, disentangling who we are from our experiences, fostering a willingness to embrace inner experiences, and a commitment to making behavioral changes in accordance with one's own values.[15]

Acceptance and Acceptance and Commitment Therapy-based approaches for the treatment of insomnia

ACT is regularly used as a treatment modality for many psychiatric and medical disorders.[18,19] Thus, it is no surprise that this treatment modality is now being applied to the treatment of insomnia. Theories promoting acceptance-based interventions to treat insomnia suggest that increasing awareness and flexibility toward cognitive processes that present when experiencing insomnia symptoms may help to promote an adaptive stance toward insomnia experiences and facilitate deactivation of these same cognitive processes.[20,21] Indeed, studies have shown that ACT interventions result in significant improvements in

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sleep outcomes. Interventions cited in the literature include both studies that use only ACT to treat insomnia and research studies that incorporate ACT with insomnia-specific behavioral components as a more direct alternative to CBT-I; the latter approach is outlined below.

ACT-based interventions for insomnia involve targeting both sleep-interfering behaviors and cognitive arousal through a few key strategies[22,23]:

1. Acquiring an accepting stance (rather than "fighting" with their insomnia) through use of willingness to experience short-term discomfort (eg, fatigue and tiredness that accompany sleep restriction and stimulus control components of insomnia treatment).
2. Increasing cognitive defusion (ability to recognize and label thoughts as "just thoughts" and let go of attachment or reaction to the thoughts themselves).
3. Learning to be present through use of mindfulness to observe pleasant and unpleasant experiences as they occur (eg, noticing feelings of comfort in bed).
4. Using self as context (one's ability to develop a broader awareness of their own core self) to have nonjudgmental stance toward sleep-related experiences and realize you are greater than your insomnia.
5. Clarify values that improve their QoL and focus attention away from sleep.
6. Establish committed action to behaviors in line with one's goals that favor pursuit of values despite experience of insomnia.

In ACT-based interventions for insomnia, the above elements are incorporated into treatment that also includes the behavioral components of insomnia treatment, such as sleep restriction and stimulus control. To demonstrate the differences between acceptance-based and ACT-based interventions to treat insomnia and CBT-I, Table 1 outlines session by session treatment components of an ACT-based intervention titled Acceptance and the Behavioral Changes to treat Insomnia (ABC-I) created by Lavinia Fiorentino and Jennifer L. Martin,[24] compared with that of CBT-I.

To further illustrate the adaptation of ACT as a treatment modality for insomnia, Table 2 illustrates examples of metaphors used to exemplify ACT concepts of acceptance and willingness, present moment focus and mindfulness, cognitive defusion, as well as traditional behavioral components (eg, sleep restriction).[24,25]

Mechanisms for Change: Cognitive Behavioral Therapy for Insomnia versus Acceptance and Commitment Therapy to Treat Primary Insomnia

There are several proposed mechanisms by which ACT-based interventions may be effective for the treatment of insomnia. Through the use of experiential acceptance and willingness, mindfulness and cognitive defusion, and values identification and committed action, individuals experiencing insomnia can increase flexibility, openness, and acceptance of a wide range of cognitive and emotional phenomena associated with sleep difficulties, as well as challenging insomnia-specific behavioral treatment components.

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Generally, psychological inflexibility has been shown to be a significant predictor of insomnia severity and increased avoidance behaviors that are linked to sleep disturbances.[26,27] Therefore, borrowing components of acceptance and willingness from ACT may be beneficial to individuals with insomnia because it fosters experiential openness and flexibility, rather than suppression of difficult internal experiences or overregulation of psycho-physiological processes associated with sleep. It is theorized that disengagement from daily concerns involves letting go of controlled information processing by reducing verbal regulation and control, and increasing acceptance of spontaneously occurring physiological and mental processes (eg, sleep imagery). Acceptance may help to promote cognitive deactivation and physiological dearousal during initial sleep onset.[20]

Acceptance has also been shown to decrease counterproductive sleep effort, or what has been called the "attention effort syndrome," defined as the tendency of individuals with insomnia to struggle to control their sleep by "trying hard" to fall asleep (Espie and colleagues, 2006). This effortful attempt to sleep often results in a secondary arousal state, which contributes to increases in frustration and anxiety that fuels a vicious cycle of worsening the problem.[21,22,28] ACT may help individuals to decrease secondary distress by fostering acceptance and willingness to let go of the effort to fall asleep, thus decreasing this struggle over time.[20,22,29] Experiential acceptance and willingness may also be particularly beneficial in helping individuals with insomnia realize and internalize that sleep is not under voluntary control and fluctuations in sleep due to stressful events or other daily concerns are to be occasionally expected as part of the human experience.[20]

Furthermore, ACT may be helpful in supporting individuals with insomnia through difficult behavioral components of treatment, namely sleep restriction and stimulus control. Many individuals with insomnia struggle with anxiety and fears about losing sleep, being fatigued during the day, or maintaining a particular amount of sleep. An acceptance-based approach can help to increase adherence to sleep restriction and other difficult behavioral components of insomnia treatment (eg, the stimulus control recommendation to get out of bed when struggling with sleep during the night) by facilitating a willingness to experience short-term discomfort associated with behavioral recommendations for long-term benefit, particularly when those benefits are linked to the individuals' life values.[22]

Further, cognitive defusion and mindfulness components of ACT may help individuals manage the cognitive components of insomnia. Individuals with insomnia tend to have a larger number of negative thoughts at night and may use more thought-control strategies (thought suppression, reappraisal, and worrying) than healthy sleepers. They may also struggle more with thought suppression and hold fairly rigid beliefs about their sleep.[30–33] These thought-control strategies require effort and contribute to longer sleep latencies and worse sleep quality.[34] The experiential avoidance that individuals use in an attempt to control their cognitive and psychological experiences (eg, thought control) can maintain their insomnia.[20] Furthermore, a focus on changing thoughts or experiences related to insomnia (eg, frustration associated with sleep latency) can sometimes lead to additional attempts to overcontrol these thoughts at a time when increased cognitive mentation is counter to the ultimate goal of achieving sleep initiation. As traditional CBT-I teaches individuals cognitive restructuring of unpleasant thoughts or dysfunctional beliefs, ACT

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proposes that individuals can decrease the struggle with these inner experiences by letting go of the attempt to change them. By engaging in present moment focus and cognitive defusion strategies, individuals can use mindfulness to notice thoughts that originate while trying to fall asleep without judgement or need to alter the thought. Cognitive defusion further allows individuals to shift their relation with the content of their thoughts.[21] Fig. 2 shows the use of ACT-based cognitive defusion strategies versus traditional cognitive therapy (eg, thought restructuring) to manage a sleep-related thought.

Finally, a focus on individual values to increase motivation and adherence to eventually achieve long-term sleep outcomes is a key component of ACT for insomnia. It is common among individuals with insomnia to place an exaggerated value on sleep and subsequent tiredness and fatigue resulting from lack of sleep or poor sleep quality. Consequentially, individuals with chronic insomnia may lose sight of some of their life values because their attention is directed toward control of their sleepiness or fatigue.[21,22] Individuals may make concessions in nonsleep-related values in the service of symptom management. Thus, value-based goal setting and committed action may increase willingness to adhere to difficult behavioral recommendations in the service of nonsleep-related values (eg, getting out of bed at the same time every day to exercise instead of sleeping in after getting a poor night's sleep due to a value of health and wellness). Individuals are encouraged to commit to actions related to their values, such as engaging in activities instead of canceling them due to symptoms on insomnia, and to use cognitive defusion and acceptance of thoughts and feelings that may promote avoidance of these activities. The emphasis on value-based living at the onset and throughout insomnia treatment may help individuals to see beyond the discomfort of both insomnia symptoms and the challenging treatment components, and engage fully in treatment that is in the service of their values.

Research Outcomes

Although nascent, studies examining outcomes of acceptance-based interventions for insomnia demonstrate decreases in sleep disturbance as well as improvements in QoL. It is notable that most studies to date have examined the effectiveness of ACT-only interventions: not including insomnia-specific behavioral interventions such as sleep restriction and stimulus control. In a pilot study examining the effectiveness of ACT-only (not including insomnia-specific behavioral interventions) in nonresponders to CBT-I, ACT improved sleep-related QoL and subjective sleep quality despite the absence of substantive changes in total sleep time.[29] A systematic review of intervention studies conducted by Salari and colleagues (2020) showed that ACT has a significant effect on insomnia, termed primary insomnia by authors indicating insomnia not caused by co-morbid conditions, and sleep quality. Specifically, the review included 19 intervention studies, 3 of which have examined the effect of ACT interventions on primary insomnia. Of those studies, ACT-only interventions were associated with improvements in insomnia, including sleep duration (total sleep time), subjective sleep quality, and sleep-related cognitive and emotional processes.[35–37] It was also suggested that improvements in symptoms can occur even within the first few weeks of treatment.[36,37] Moreover, these studies found significant decreases in experiential avoidance, dysfunctional beliefs and attitudes about sleep, difficulties in emotional regulation, and severity of depressive symptoms, as well as sleep acceptance

improvements over time in the ACT group when compared with the active control group.[35,37] This suggests the theoretical underpinnings of ACT were important to symptom improvement. The remainder of the studies included in this review indicated that ACT had a significant impact on comorbid insomnia, or insomnia occurring with other diseases, such as chronic pain, cancer, or fibromyalgia.

Results of 2 small studies using the ACT-based intervention titled ABC-I demonstrate clinically meaningful improvements in sleep outcome measures for participants who underwent the ABC-I intervention. Of note, the ABC-I intervention includes both components of ACT and insomnia-specific behavioral components.[24] Across both ABC-I pilot studies, researchers found improvements in insomnia severity and reduced sleep effort at posttreatment. Furthermore, one of the pilot studies also showed reduced self-reported sleep disruptions, increased in sleep quality, and no attrition (eg, all participants enrolled in ABC-I completed treatment, even those who has previously dropped out of CBT-I). Existing literature suggest promising results for the use of ACT to treat insomnia either as a standalone treatment or in conjunction with insomnia-specific behavioral interventions.

Use of Acceptance and Commitment Therapy in subpopulations of individuals with insomnia

Although CBT-I is highly effective for individuals with comorbid medical and mental health conditions, these conditions sometimes present specific challenges to treatment. This section outlines the theoretical rationale for using ACT-based exercises in these circumstances. For example, individuals who have experienced trauma at night may hold the thought, “Sleep is not safe because bad things happen at night.” The cognitive therapy approach of challenging and restructuring this thought may be effective for some individuals, although others may think it invalidates their traumatic experiences. However, using an ACT approach, the individual would not need to change this initial thought but rather relate to it in a way that places less emphasis on the thought itself and validates the rationale for the thought to occur. One could work with the patient to acknowledge this meaningful thought while still taking steps toward better sleep so they can live a life consistent with what they value most (eg, being active during the day with their family).

This approach can also be useful with older adults who suffer from multiple chronic conditions and those suffering from chronic pain that affects sleep. In some instances, a patient may not be able to achieve “ideal” sleep or to sleep as well as they did earlier in life. Using an ACT-based approach, one can explore these issues through experiential exercises that highlight differences between actual “pain” and psychological “suffering.” This approach can help individuals to create realistic expectations and reduce counterproductive sleep effort.

The idea that thoughts can be helpful versus un-helpful and that they can or should be changed is also a notion that is not shared by all individuals in all cultures. Some individuals may find this notion inconsistent with their own personal values or belief system, and therefore may not believe that their provider truly understands their symptoms and experiences. The adaptability of ACT across cultural and diversity factors has been previously discussed as an important area of study.[38] Since the center of the approach is the

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patient's own values and lived experiences and not the therapist's assessment of whether a thought is helpful or unhelpful, ACT may therefore be appropriate for individuals from a variety of cultural backgrounds.

SUMMARY

In contrast to CBT-I, ACT proposes that the process of attempting to control, reduce or eliminate thoughts, emotions or physical sensations associated with sleep contributes to greater struggle with sleep difficulties, thus leading to increased symptomology and suffering. The goal of acceptance-based and ACT-based interventions is to assist individuals in managing insomnia symptoms by using acceptance and willingness, cognitive defusion and mindfulness, self as context, and values as a means to commit to implementing changes that will improve sleep. Differences exist in the structure of acceptance-based and ACT-based insomnia interventions in the literature, with some including typical behavioral components of CBT-I, and some using acceptance strategies alone. Overall, research examining outcomes of acceptance-based interventions for insomnia demonstrate improvements in both sleep outcomes and QoL. Furthermore, ACT interventions can be uniquely tailored to specific values that individuals identify at the outset of treatment, particularly those values affected by insomnia. An ACT approach may be useful for individuals with co-morbid mental health and medical conditions to focus on meaningful changes in sleep behaviors that bring them closer to valued living, as well as facilitate adaptation of insomnia treatment to be patient-centered and account for lived experiences that may differ by sociocultural background.

DISCLOSURE

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KEY POINTS

- Increasing awareness and flexibility when experiencing insomnia symptoms helps to promote an adaptive stance toward insomnia experiences and facilitate deactivation of these same processes that hinder sleep.
- Acceptance and commitment therapy (ACT) interventions for insomnia involve targeting both sleep-interfering behaviors and cognitive arousal through incorporation of acceptance and willingness, mindfulness, cognitive defusion and self as context, and values identification and committed action.
- In ACT-based interventions for insomnia, elements of ACT are combined with evidence-based behavioral components of insomnia treatment, such as sleep restriction and stimulus control.
- Studies examining outcomes of acceptance-based interventions for insomnia demonstrate improvements in sleep outcomes and quality of life.
- Using an ACT-based approach, clinicians can individualize treatment to accommodate specific needs, such as when working with individuals with comorbid conditions and those from diverse cultures and backgrounds, or to facilitate adaptation to a patient-centered, culturally sensitive approach to insomnia treatment.

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CLINICS CARE POINTS

- Acceptance and commitment therapy (ACT) is a third wave behavioral therapy that can be used as an alternative or adjunctive approach in the treatment of insomnia.
- ACT-based interventions for insomnia can be used to increase psychological and behavioral flexibility regarding sleep and sleep difficulties.
- ACT tools such as experiential acceptance and willingness, mindfulness and cognitive defusion, and values identification and committed action may assist individuals experiencing insomnia to increase openness and acceptance through: 1) targeting avoidance behaviors and control strategies; 2) counterproductive sleep effort; 3) tolerance of short-term discomfort; 4) and value-based living.
- Acceptance and ACT-based interventions have been shown to result in significant improvements in sleep outcomes, such as reductions in insomnia severity and sleep effort, well as improvement in sleep-related quality of life and subjective sleep quality.
- ACT-based approaches to insomnia treatment may improve patient-centered care due to broad adaptability of ACT across diverse lived experiences.

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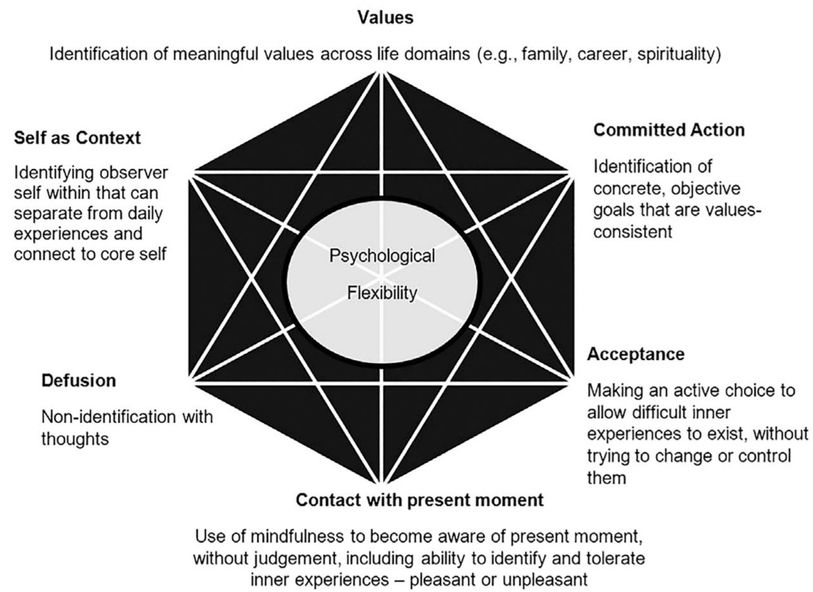
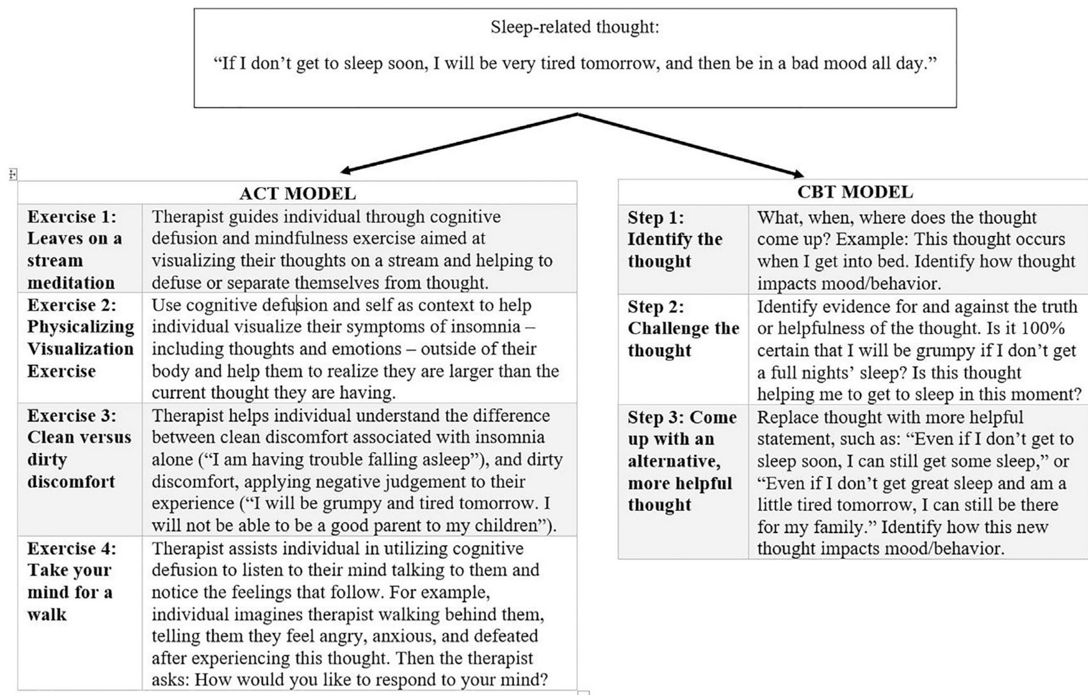


Fig. 1.
This figure depicts and briefly describes each element of the Hexalfex Model of Acceptance and Commitment Therapy (ACT) Processes



Sleep-related thought:

"If I don't get to sleep soon, I will be very tired tomorrow, and then be in a bad mood all day."

ACT MODEL	
Exercise 1: Leaves on a stream meditation	Therapist guides individual through cognitive defusion and mindfulness exercise aimed at visualizing their thoughts on a stream and helping to defuse or separate themselves from thought.
Exercise 2: Physicalizing Visualization Exercise	Use cognitive defusion and self as context to help individual visualize their symptoms of insomnia – including thoughts and emotions – outside of their body and help them to realize they are larger than the current thought they are having.
Exercise 3: Clean versus dirty discomfort	Therapist helps individual understand the difference between clean discomfort associated with insomnia alone ("I am having trouble falling asleep"), and dirty discomfort, applying negative judgement to their experience ("I will be grumpy and tired tomorrow. I will not be able to be a good parent to my children").
Exercise 4: Take your mind for a walk	Therapist assists individual in utilizing cognitive defusion to listen to their mind talking to them and notice the feelings that follow. For example, individual imagines therapist walking behind them, telling them they feel angry, anxious, and defeated after experiencing this thought. Then the therapist asks: How would you like to respond to your mind?

CBT MODEL	
Step 1: Identify the thought	What, when, where does the thought come up? Example: This thought occurs when I get into bed. Identify how thought impacts mood/behavior.
Step 2: Challenge the thought	Identify evidence for and against the truth or helpfulness of the thought. Is it 100% certain that I will be grumpy if I don't get a full nights' sleep? Is this thought helping me to get to sleep in this moment?
Step 3: Come up with an alternative, more helpful thought	Replace thought with more helpful statement, such as: "Even if I don't get to sleep soon, I can still get some sleep," or "Even if I don't get great sleep and am a little tired tomorrow, I can still be there for my family." Identify how this new thought impacts mood/behavior.

Fig. 2.

Outline of how Acceptance and Commitment Therapy (ACT) and Cognitive Behavioral Therapy (CBT) approaches can be used to address sleep-focused thoughts".

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Table 1

Sample session outline: acceptance and the behavioral changes to treat insomnia, an acceptance and commitment therapy-based insomnia treatment, compared with cognitive behavioral therapy for insomnia

Session Number	ABC-I	CBT-I
Session 1 (postinitial evaluation):	• Introduce stimulus control and sleep hygiene • Identify values to foster acceptance of discomfort related to insomnia • Introduce mindfulness	• Goal setting and sleep education (2 process model; 3 Ps) • Rationale for sleep restriction • Introduce sleep restriction and stimulus control
Session 2:	• Sleep education (2 process model; 3 Ps model of insomnia) • Rational for sleep restriction • Introduce sleep restriction • Mindfulness practice	• Introduce sleep hygiene • Maintenance of sleep restriction
Session 3:	• Introduce cognitive defusion and self as context • Mindfulness practice • Maintenance of sleep restriction	• Introduce cognitive therapy, including identifying and challenging thoughts related to sleep • Maintenance of sleep restriction and continued practice of stimulus control guidelines
Session 4:	• Review of cognitive defusion, self as context • Maintenance of sleep restriction • Mindfulness practice	• Maintenance of sleep restriction, stimulus control, and cognitive training
Sessions 5–8:	• Review • Maintenance of sleep restriction • Mindfulness practice • Relapse prevention	• Introduce relaxation training • Maintenance of sleep restriction, stimulus control, cognitive therapy • Relapse prevention overview

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Table 2

Sleep-related metaphors that can be incorporated into treatment of insomnia to address challenges

Learning how to surf	Getting good sleep is a lot like learning how to surf. What do you need to go surfing? A surf board? A wet suit? Sunscreen? Checking the weather report? Going down to the water? Paddling out? And then what? You wait for the waves. There is nothing you can do to make the waves comes faster or stronger. You wait for whatever wave you get that day. That is our parallel to sleep: There is a lot that we are going to do to make the conditions are right for sleep and help you learn how to ride the sleep waves. However, on any one night, there is not a lot that you or I can do to make a sleep wave come any faster or stronger. You must accept the sleep waves that you get and trust that you will become a better sleep surfer in time *Purpose:* Designed to convey two aspects of fostering good sleep: (1) Preparation for a good night's sleep (sleep hygiene rules) such as when as a surfer prepares to have a good surfing experience by waking up early, waxing their board, wearing a wet suit, stretching, and so forth and (2) Giving up control over sleep by using mindfulness and an accepting stance that sleep will come (such as a surfer waits for a wave to arrive)
Finger trap	*Give patient finger trap and ask them to put their fingers inside Have you ever played with one of these before? What happens when you try to pull your fingers apart? The more that you struggle to release your fingers, the tighter the trap becomes and the more difficult it becomes to free yourself. The trick is to do the opposite of what you think you should do: pushing your fingers together will loosen the trap and allow you to remove your fingers. Similarly to this trap, the more we struggle with our sleep, the more elusive sleep becomes. Instead, we will be trying some strategies that at first might seem counterinitiative to what you think will work in order to promote better sleep. Instead of struggling to sleep, we must relax and let sleep unfold naturally. *Purpose:* A reminder to "stop trying to sleep." The woven bamboo tubes (finger traps) illustrate the effectiveness of what may seem counterintuitive at times. In regards to sleep, individuals learn that what they may think is counterintuitive (eg, stop trying to fall asleep, sleep restriction) may actually promote sleep
Leaves on a stream	"Leaves on a stream meditation"[24] involves asking individuals to attend to their breath and envision a stream. As thoughts and emotions come up during mindfulness exercise, guide individuals in putting each thought on a leaf and watching it float down the stream. *Purpose:* A classic ACT meditation that incorporates breath work, focusing on the physical body and senses, and a visualization depicting one's thoughts as flowing downward leaves on a stream. This exercise promotes practice of mindfulness and cognitive defusion (if you can imagine your thoughts as leaves on a stream, you cannot be your thoughts)
Pizza dough/silly putty	Have you ever made pizza from pizza dough? What happens when the dough is rolled out too far? The dough become thin and breaks. When this happens, we are unable to add more dough to the holes. Instead, we must ball up the dough and start over again. This is the approach we are going to take with your sleep. You have cast a wide net for sleep, hoping that you will get more sleep as a result. Unfortunately, you have holes in your sleep. Similar to the dough, we are going to ball up your sleep to an amount of time your body is currently capable of producing (which we will know from your sleep diary). Once we eliminate the holes in your sleep (ie, you start sleeping more solidly), we will start to roll out your sleep (ie, increase your time in bed). *Purpose:* Used to describe the concept of sleep restriction therapy and how our sleep quality and quantity is improved over time. The metaphor uses pizza dough or silly putty to explain that we first work on consolidating sleep and then work on expanding sleep again once we increase the quality of it, as if we were rolling the dough out again
Cleaning out your closet/ renovating your home	When was the last time you cleaned out your closet? Usually one of the first steps is taking everything out to sort through it before you put it back in. This often means that the mess looks much bigger before it begins to look organized. This is a similar process to the work we are doing. Some aspects of your sleep (eg, fatigue, mood) might get worse before they get better as your body is working through these changes. However, like cleaning out your closet, the mess is still on the road to a cleaner closet! *Purpose:* In behavioral treatment of insomnia, symptoms (eg, fatigue, sleepiness, mood) often get worse before they get better. These metaphors help individuals compare this process to other difficult activities, such as cleaning out your closet or renovating your home
Physicalizing visualization	Another thing you might do when you encounter feelings and thoughts about your insomnia is to externalize these experiences outside of your body. If these experiences were outside of your body, what shape would they have? If you could put these thoughts and feelings outside your body, what color would they be? How big would they be? Would they be rough or smooth, silky or like granite? What would they sound or smell like? *Purpose:* In this experiential exercise, the therapist guides the patient in visualizing their insomnia, as well as their feelings and thoughts about insomnia. By visualizing these experiences as objects outside of their body, individuals are able to feel like they are more than these experiences and are not fused to them
Clean versus dirty discomfort	There are many ways that I can respond to pain and discomfort. Let us say I stub my toe. I might initially feel the pain and then take steps to manage and soothe the pain (eg, put ice on my foot). We call this clean discomfort. Instead, I might respond by telling myself "I'm so clumsy." We call this dirty discomfort; when I add negative self-judgements to my experience of pain, which ultimately makes my experience of pain worse. We cannot escape experiencing pain and discomfort but we can change how we approach these experiences and how we treat ourselves when we do feel pain. *Purpose:* These concepts refer to the difference between experiencing pain or discomfort versus applying negative judgement to the experience of pain. The overall discomfort and pain is exacerbated when adding dirty pain/discomfort versus clean pain/discomfort alone. This metaphor can help individuals recognize self-judgement and take a self-compassionate approach instead of criticism
Take your mind for a walk	This is an experiential exercise in which the provider and patient go for a walk (or imagine doing so). The provider walks slightly behind the patient, talking directly into the patient's ear pretending to be their mind. The provider offers a variety of comments (positive, critical, and neutral) to emulate the patient's self-judgements (personalizing to the

	patient's common self-talk statements). The patient's role is to "listen to their mind" and notice resulting feeling and actions. The patient should be made aware that no comment "literally" stopped the patient from moving forward *Purpose:* The aim of this exercise is to allow the patient the opportunity to notice the variety of things their mind is saying at any given time, some thoughts helpful while others are harmful. The patient may come to understand that they have the choice of how to act and relate toward their own mental chatter and are encouraged to act according to their values, regardless of what thoughts their minds give them
Two plates scale	Present a picture of a two-plated scale and explain that their insomnia is on one of the plates and their willingness to accept their experience of insomnia is on the other. Demonstrate what happens to the scale with individuals who are unwilling to accept their experience (ie, the insomnia rises). Demonstrate again that if they experience more willingness to accept their experience of insomnia, the insomnia plate becomes more balanced or even lighter than the willingness plate *Purpose:* Used to describe the relationship between willingness, acceptance, and suffering. This metaphor can further illustrate the concept of clean and dirty discomfort

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