

Case Report

Cognitive Behavioral Treatment of Insomnia and Impact on Depression outcome

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Submitted: 16 January 2014

Accepted: 10 February 2014

Published: 07 October 2014

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Keywords

- Insomnia
- Cognitive
- Behavioral
- Therapy
- Insomnia
- Nonpharmacological
- Depression

Abstract

Insomnia disorder is the most prevalent sleep disorder. Insomnia symptoms can develop prior to a depressive disorder in 41%, during a depressive episode in 29%, and following the onset of a depressive episode in 29%. Historically it has been thought that insomnia disorder is a symptom of depression and if the depressive disorder is treated the insomnia will resolve. Emerging research indicates this is in fact not the case and that by not treating the insomnia disorder it may leave the patient at risk for the development or redevelopment of depression. It is already well established that cognitive behavioral therapy for insomnia (CBTI) is the standard treatment for insomnia and this treatment is effective even when insomnia is comorbid with a medical and or psychiatric condition. Emerging literature points to the use of CBTI to treat insomnia disorder and by improving sleep there is improvement in symptoms of depression despite CBTI not directly treating the depression. We report on a case of a patient that experienced chronic persistent insomnia disorder for four years and experienced onset of a depressive episode 3 years later with recent hospitalization for suicidal ideation. This case is unique in that following CBTI treatment, the patient reported improvement in depressive symptoms and also significant reduction in suicidal ideation.

ABBREVIATIONS

CBTI: Cognitive Behavioral Therapy For Insomnia

INTRODUCTION

Insomnia disorder is the most prevalent sleep disorder [1]. According to the Diagnostic and Statistical Manual, Fifth Edition, (DSM-V), an insomnia disorder is diagnosed when (a) the nocturnal symptoms, most commonly difficulties initiating or maintaining sleep occur at least 3 nights per week, (b) last at least three months and (c) cause clinically significant distress or impairment in functioning during the day [2]. In the diagnostic criteria for Major Depressive Disorder, insomnia is one of nine listed symptoms [2]. Insomnia symptoms can develop prior to the depressive disorder in 41%, during a depressive episode in 29%, and following the onset of a depressive episode in 29% [3]. In many patients with depression, disrupted sleep coexists [4]. Historically it has been thought that insomnia disorder is a symptom of depression and if the depressive disorder is treated the insomnia will resolve. Emerging research indicates this is in fact not the case and that by not treating the insomnia disorder it may leave the patient at risk for the development or redevelopment of depression [5] and in fact points to disturbed sleep being a risk factor for the development of psychiatric disorders [6]. It is already well established that cognitive

behavioral therapy for insomnia (CBTI) is the standard treatment for insomnia and this treatment is effective even when insomnia is comorbid with a medical and or psychiatric condition [7,8]. Emerging literature points to the use of CBTI to treat insomnia disorder and by improving sleep there is improvement in symptoms of depression despite CBTI not directly treating the depression [9,10].

We report on a case of a patient that experienced chronic persistent insomnia disorder for four years and experienced onset of a depressive episode 3 years later with recent hospitalization for active suicidal intention. He presented for CBTI treatment although was resistant to a referral for treatment of his depression. This case is unique in that following CBTI treatment, the patient reported improvement in depressive symptoms and also significant reduction in suicidal ideation.

CASE PRESENTATION

A 39 year old, Caucasian male presented for treatment of chronic insomnia described as difficulty initiating sleep and waking earlier than desired approximately five out of seven nights. He has suffered with persistent insomnia for the past four years but reports recent worsening in symptoms in the last 6-9 months. He reports significant financial stress, which led to chronic worry and rumination and ultimately resulted in a

depressed mood and worsening of disturbed sleep. He states that he stays in bed at night ruminating about his current situation (i.e. financial and about his disrupted sleep) and worrying about the future. Over the years, he reports trying many things to get to sleep including drinking a warm glass of milk before bed, wearing earplugs, installing black-out shades, watching boring movies, eliminating all caffeine and alcohol and eating dinner at least five hours prior to bedtime; all to limited benefit. Three years ago, he began taking a benzodiazepine (lorazepam 1mg) to aid his sleep and initially noticed improvement in sleep onset although he continued to have prolonged awakenings after sleep. He is currently taking 3mg of lorazepam nightly and while he does not feel it helps him sleep, he is concerned his insomnia would be "even worse" should he discontinue the medication.

Prior to the onset of the current depressive episode (one year ago), he describes himself as "relatively healthy" and active; he enjoys hiking, swimming and rock climbing although his physical activity has diminished significantly over the past few months. He denies any symptoms of sleep apnea or other sleep disorders and reports no significant medical history.

When describing his sleep, he appears concerned and hopeless. He believes his ability to cope with current stressors and depressed mood is impaired due to his sleep disturbance. He spends approximately nine to eleven hours in bed each night (2100-0800) and estimates he is sleeping roughly four to five hours. He reports taking 60-120 minutes to fall asleep and will often have 1-2 awakenings lasting for 120-180 minutes. He states the sleep has worsened in the last several months because he feels he awakens around 0500 and "dozes in and out" until he gets out of bed at 0800. He recently read an article about CBTI and self-referred to an outpatient sleep center that specifically had an insomnia and behavioral sleep medicine program.

He was diagnosed with a major depressive episode three months ago by an inpatient psychiatrist. He presented to the emergency room after exacerbation of depressed mood left him feeling hopeless and suicidal. He was hospitalized for five days at which time he began a trial of antidepressant medication (sertraline, 50mg) which he discontinued a week after the hospitalization. He also did not engage in any psychotherapy during the hospitalization. He continues to endorse depressed mood, anhedonia, fatigue, difficulty concentrating, disturbed sleep and passive suicidal ideation.

During his intake appointment, he met criteria for both insomnia disorder and major depressive episode. A safety plan was discussed and he agreed to present to the emergency room if he began to have active thoughts of self-harm. He was amenable to a course of treatment specifically targeting the insomnia but refused a referral for psychotherapy or psychopharmacological treatment for depression. He had failed to establish outpatient psychiatric care and had discontinued the antidepressant medication prescribed during his inpatient hospitalization.

TREATMENT

He completed five sessions of CBTI (see table 1). He maintained a daily sleep diary [11] throughout the course of treatment and attended twice monthly appointments at the sleep center. He received extensive psycho-education about the nature

Table 1: Treatment Components of Cognitive Behavioral Therapy for Insomnia.

Treatment Component	Goal
Sleep Restriction	Reduces time in bed to increase sleep drive and more closely aligns average total sleep time with time in bed.
Stimulus Control	Strengthens the bed as a cue for sleep
Cognitive Restructuring	Addresses maladaptive beliefs about sleep and adherence to treatment
Relaxation Techniques	Reduces hyperarousal
Correct Circadian Placement	Aligns time in bed window with person's circadian chronotype (schedule permitting)
Sleep Hygiene	Addresses substances, environment, exercise that may be disrupted to sleep

of insomnia and the physiological factors that regulate sleep in an effort to increase knowledge about what can positively and negatively impact sleep quality and quantity and to provide rationale for behavioral recommendations. He implemented two weeks of sleep restriction and instituted a nightly routine one hour prior to anticipated bedtime during which he practiced progressive muscle relaxation and other relaxation and mindfulness techniques to help calm his mind and prepare his body for sleep. Over the course of treatment, he learned cognitive techniques to challenge some of his sleep-interfering thoughts and slow his racing mind. He began to focus less on chasing sleep and more on allowing his mind and body to rest during the agreed upon time. Relapse prevention and treatment gains were reviewed during the last session. He experienced significant improvement in sleep quality and quantity. Patient also reported moderate improvement in his mood (he was engaging in activities he once enjoyed and was receiving outside feedback from his family and co-workers that he appeared much more engaged and happy).

Following a successful course of CBTI, he was open to a referral for an outpatient psychologist who specialized in CBT for depression. He also established care with an outpatient psychiatrist to revisit if psychotropic medication was an appropriate treatment option at that stage.

DISCUSSION

As previously discussed, the co-occurrence of insomnia and depression is well-documented and represents a serious public health problem. The above case report and recent literature increasingly suggests, treatment of insomnia with CBTI can result in improvements in depressed mood even when depressive symptoms are not specific targets of the intervention [9, 10, 12, 13] but also decreased suicidal ideation per patient report and frequency per score on the Personal Health Questionnaire (Question 9 "Thoughts that you would be better off dead or hurting yourself in some way" at the start of CBTI treatment the frequency was "every day" and at the end of treatment the patient endorsed "not at all") [14]. In several randomized controlled trials evaluating the efficacy of CBTI, researchers have found improvements in depression, anxiety and overall quality of life in

participants following a course of CBTI treatment [9,10,12] but have not touched upon the impact on suicidal ideation if present.

Insomnia may be a residual symptom of a depressive episode or a risk-factor for the later development of a depressive episode. Interventions targeting insomnia may play both a preventative as well as an active treatment role for patients suffering with or at risk of developing psychological distress [12,13]. Given the frequency with which psychological symptoms and insomnia co-occur, it is important to consider referral for insomnia treatment whether or not the psychological distress is fully resolved. In addition, certain patients (as in the case discussed above) may be more amenable to short-term insomnia targeted treatment than treatment targeting depression or psychological distress, more generally. Though it is not generally expected that this sleep-targeted intervention will completely eliminate the comorbid psychiatric disorder and ongoing psychiatric treatment may well be indicated, the literature clearly suggests that patients can experience an improvement in mood when their sleep disturbance is resolved and demonstrated in this case a significant reduction in suicidal ideation. It is also reasonable to argue that with improvement in sleep, patients may be better able to cope with any residual psychological distress. Furthermore, a successful course of treatment may provide a foundation on which a skilled clinician can build a patient's motivation to engage in treatment targeting depression or other psychological distress. Ideally, optimum outcome may be expected when CBTI is combined with an evidence-based treatment for depression.

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Cite this article

Siebern A, Blair B (2014) *Cognitive Behavioral Treatment of Insomnia and Impact on Depression outcome. Ann Psychiatry Ment Health* 2(2): 1008.