

NAMS PRACTICE PEARL

Cognitive-Behavior Therapy for Sleep Disorders at Midlife

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Insomnia is a clinical disorder characterized as difficulty falling asleep, staying asleep, or waking too early. To meet diagnostic criteria for an insomnia disorder, these difficulties must be present for a minimum of 3 months and cause significant daytime impairment. Insomnia is common in women transitioning through menopause and frequently continues in the years after menopause. Cognitive-behavior therapy for insomnia (CBT-I) is a brief behavior treatment, with decades of evidence supporting its effectiveness across the adult lifespan, including midlife. This Practice Pearl highlights the rationale for CBT-I and describes treatment components, with specific considerations for its use in midlife women.

Perimenopausal and postmenopausal women are up to twice as likely to report dissatisfaction with their sleep compared with premenopausal women.¹ Women who report hot flashes are more likely to report insomnia. Insomnia is likely related to factors such as aging, hormone fluctuation, hot flashes, other sleep disorders, psychiatric and medical conditions, and psychosocial stressors. Insomnia can be part of the clinical presentation of persons suffering from other underlying psychiatric conditions such as depression and anxiety. Longitudinal studies have demonstrated an increased risk for depressive symptoms and major depressive disorder during perimenopause and the early postmenopause years.² It is therefore important to investigate the occurrence and severity of mood disorders and keep in mind the complexity of a woman's presentation.

Cognitive-behavior therapy for insomnia. Cognitive-behavior therapy for insomnia (CBT-I) is a short-term, skill-focused psychotherapy targeting maladaptive behaviors and cognitions contributing to chronic insomnia. The strong evidence for the efficacy of CBT-I led to its recognition as a first-line treatment by a National Institutes of Health Consensus Statement as well as by the American College of Physicians.^{3,4} Results suggest improvements after CBT-I are equivalent to those achieved during acute treatment with hypnotic medications, and its effects are more durable after treatment discontinuation.⁵ Efficacy of CBT-I also has been demonstrated in midlife women with insomnia symptoms, including those with hot flashes.⁶⁻⁷

Cognitive-behavior therapy for insomnia takes a systematic approach to addressing sleep-interfering behaviors and beliefs. Case conceptualization is based on Spielman's Three Factor model of insomnia,⁸ which posits that although insomnia usually begins with the combination of a *predisposition* (eg, high emotional reactivity) paired with a *precipitating* event (eg, vasomotor

symptoms, depression), the transition to chronic insomnia is usually *perpetuated* by increased sleep effort and compensatory strategies (eg, increasing time spent in bed). Increased effort to induce sleep in response to distress about poor sleep is thought to lead to conditioned arousal (whereby the bed becomes a cue for arousal rather than sleep) and maintains the sleep problem even after the causative factors are eliminated.

Components of cognitive-behavior therapy for insomnia. The core components of CBT-I are delivered across four to six sessions and consist of psychoeducation, sleep restriction, stimulus control, cognitive restructuring, and sleep hygiene education. Throughout treatment, patients are asked to keep a daily sleep log in which they report estimated bed and wake times, time to fall asleep, and length of time they spent awake during the night.

Psychoeducation. Psychoeducation increases a patient's ability to understand the rationale behind behavior recommendations and elicits patient investment to motivate behavior change. When considering how to tailor CBT-I to midlife women, it can be helpful to explain predisposing and precipitating factors in the context of midlife and menopause symptoms. Discussing common changes in mood and life stress that often accompany the menopause transition may be normalizing and destigmatizing.

Sleep-restriction therapy. Sleep-restriction therapy addresses the mismatch between the amount of time spent in bed and the amount of time spent asleep. The goal is to consolidate sleep by restricting the time spent in bed in order to build a patient's homeostatic drive for sleep. First, a patient's current sleep habits and schedule are assessed, including the time at which the patient gets into and out of bed, the total amount of time spent in bed (hours between getting into and out of bed), and sleep duration (time spent asleep). Bed and rise times are then prescribed by the provider on the basis of the patient's average sleep duration. For example, a patient with an average time in bed of 8.5 hours and average sleep duration of 7 hours would be prescribed a new time in bed of 7 hours (usually by making bedtime later). Continued completion of sleep logs allows for the monitoring of sleep and making adjustment accordingly. As sleep efficiency (calculated as a percentage of time asleep over time in bed multiplied by 100) increases, time in bed is lengthened in 15- to 30-minute increments over subsequent weeks until optimal sleep quality and quantity is achieved.

Stimulus control. Stimulus control applies principles of classic conditioning theory in order to strengthen conditioned associations between the bed and bedroom as cues for sleep. The bed and bedroom often become associated with frustration, intrusive thoughts, distress, and elevated physiologic arousal in patients having trouble sleeping. This, in turn, perpetuates the inability to sleep because the bed becomes associated with wakefulness. Stimulus control extinguishes the negative conditioned arousal response to the bed and bedroom. The patient is instructed to get into bed only when sleepy and get out of bed when unable to sleep for more than 15 minutes. Patients are encouraged to engage in quiet, relaxing activities away from the bed and bedroom until sleepy, at which time they return to bed. Consistent wake times and avoiding napping during the day further enhance treatment effects.

Cognitive restructuring. Cognitive restructuring is designed to challenge maladaptive beliefs and attitudes maintaining insomnia. Worrying, faulty attributions, or unrealistic expectations of sleep increase emotional distress, exacerbating disturbed sleep (for example, "If I don't get my 8 hours of sleep, I'm useless"). Challenging unhelpful beliefs about sleep ultimately decreases sleep-related anxiety and arousal. The patient is encouraged to examine her thoughts through

guided discovery, viewing them as one of many possible interpretations instead of absolute truth (for example, “I don’t even know if I will have a hot flash tonight”). The goal is to replace these maladaptive cognitions with alternative interpretations that are more helpful and realistic (for example, “Even when I’m tired at work, I am still able to accomplish my goals”).

Sleep-hygiene education. Sleep-hygiene education addresses environmental and behavioral factors interfering with sleep and is most effective when used in conjunction with other components of CBT-I.¹⁰ Sleep-interfering factors that are addressed include caffeine and substance use (alcohol, nicotine), the bedroom environment (light, noise, temperature), and timing of daytime activities (eg, physical activity, meals). Identifying healthy sleep hygiene practices are particularly relevant for midlife women who also experience hot flashes and/or night sweats and may include wearing lighter pajamas to bed and keeping a second pair near the bed, lowering the thermostat, using a fan or cooling device, lighter bedding, and layering clothes and bedding.

Resources. Clinicians who suspect insomnia in their patients may consider referring them to a sleep medicine clinic or behavior sleep medicine provider for evaluation. The Society of Behavioral Sleep Medicine provides a list of board-certified sleep medicine provider members on their website (www.behavioralsleep.org/index.php/society-of-behavioral-sleep-medicine-providers/member-providers). For less-complex patients, clinicians may consider providing self-management resources developed by the US Department of Veteran Affairs for insomnia. These resources are freely available and accessible to the general public, including a self-management workbook (www.veterantraining.va.gov/insomnia/workbook.pdf) and a fully automated 6-week online CBT-I program, *Pathway to Better Sleep* (www.veterantraining.va.gov/insomnia/).

Pearls. Cognitive-behavior therapy for insomnia is an effective treatment for insomnia disorder across women’s lifespans, including during midlife and the menopause transition. It is considered the first-line approach to treating insomnia by the American College of Physicians. Given the relatively high prevalence rate of sleep complaints in midlife women, clinicians should ask about their patients’ sleep patterns and satisfaction with sleep as a part of routine care, and if needed, provide their patients with appropriate resources or referral.

References

1. National Institutes of Health. National Institutes of Health State-of-the-Science Conference statement: management of menopause-related symptoms. *Ann Intern Med* 2005;142:1003-1013.
2. Bromberger JT, Schott L, Kravitz HM, Joffe H. Risk factors for major depression during midlife among a community sample of women with and without prior major depression: are they the same or different? *Psychol Med* 2015;45:1653-1664.
3. National Institutes of Health State of the Science Conference statement on Manifestations and Management of Chronic Insomnia in Adults, June 13-15, 2005. *Sleep* 2005;28:1049-1057.
4. Qaseem A, Kansagara D, Forcica MA, Cooke M, Denberg TD; Clinical Guidelines Committee of the American College of Physicians. Management of chronic insomnia disorder in adults: a clinical practice guideline from the American College of Physicians. *Ann Intern Med* 2016;165:125-133.
5. Morin CM, Colecchi C, Stone J, Sood R, Brink D. Behavioral and pharmacological therapies for late-life insomnia: a randomized controlled trial. *JAMA* 1999;281:991-999.

6. McCurry SM, Guthrie KA, Morin CM, et al. Telephone-based cognitive behavioral therapy for insomnia in perimenopausal and postmenopausal women with vasomotor symptoms: a MsFLASH randomized clinical trial. *JAMA Intern Med* 2016;176:913-920.
7. Drake CL, Kalmbach DA, Arnedt JT, et al. Treating chronic insomnia in postmenopausal women: a randomized clinical trial comparing cognitive-behavioral therapy for insomnia, sleep restriction therapy, and sleep hygiene education. *Sleep* 2019;42:zsy217.
8. Spielman AJ, Caruso LS, Glovinsky PB. A behavioral perspective on insomnia treatment. *Psychiatr Clin North Am* 1987;10:541-553.
9. The NAMS Hormone Therapy Position Statement Position Statement Advisory Panel. The 2017 hormone therapy position statement of The North American Menopause Society. *Menopause* 2017;24:728-753.
10. Irish LA, Kline CE, Gunn HE, Buysse DJ, Hall MH. The role of sleep hygiene in promoting public health: a review of empirical evidence. *Sleep Med Rev* 2015;22:23-36.

Disclosures

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