James D. Whitworth, PhD and Brian K. Crownover, MD, FAAFP
HQ Air Armament Center
Family Medicine Residency,
Eglin Air Force Base, Fla

William Nichols, MLS
Eglin Air Force Base,
96th Medical Group,
Eglin Air Force Base, Fla

FAST TRACK

Stimulus control and sleep hygiene are effective treatments for insomnia

Which nondrug alternatives can help with insomnia?

Evidence-based answer

Cognitive behavioral therapy (CBT) interventions—particularly stimulus control and sleep hygiene—are well-validated, effective treatments for chronic insomnia that are equivalent or superior to pharmacological interventions (strength of recommendation: **A**, based on systematic reviews). The long-term efficacy of CBT interventions, and their successful implementation by primary care physicians (as compared with behavioral science providers), is unclear.

Clinical commentary

Can I provide these interventions without a referral?

A large proportion of people in my patient population are shift workers, so chronic insomnia plays a large role in my daily workload, both directly and indirectly. This summary tells me that I have a proven and equally efficacious alternative to drugs for these sufferers—which is great.

However, I was disappointed to see that none of the CBT interventions were performed by family physicians in the office. So the good news is that I have a nondrug intervention for insomnia; the bad news is I don't know if it's something I can provide without a referral. Maybe it's time for some practice-based research to see if that is possible.

John D. Hallgren, Lt Col, USAF, MC
Uniformed Services University of the Health Sciences, RAF Menwith Hill, UK

Evidence summary

Approximately 10% to 15% of adults complain of chronic insomnia, best defined as difficulty initiating or maintaining sleep 3 or more nights per week for 6 months or longer, with secondary impairments in daytime functioning, including fatigue and disturbed mood.[1–3]

Behavioral and psychological treatments have emerged as increasingly popular adjunctive interventions to pharmacotherapy and as independent interventions for chronic insomnia. No evidence exists that behavioral treatments have adverse effects.[1]

Sleep hygiene, relaxation training, and cognitive therapy improve sleep

CBT interventions are based on the notion that distorted thoughts about sleep and learned behavior patterns hyperarouse the central nervous system and deregulate sleep cycles, resulting in chronic insomnia.[4] CBT interventions combine empirically tested behavioral, cognitive, and educational procedures to alter faulty beliefs and attitudes, modify sleep habits, and regulate sleep-wake schedules.[3]

These interventions include stimulus control, sleep hygiene, sleep restriction, relaxation training, and cognitive

therapy.[5] These methods can be used separately; however, they are increasingly being used together to treat the complexities of individual patients.[5]

Five recent high-quality randomized control trials (RCTs) confirmed findings from earlier RCTs that CBT methods improve sleep.[5] Compared with those given a placebo or placed on a waiting list, CBT-treated patients in these RCTs reported clinically significant improvements in sleep onset latency, sleep efficiency, time awake after sleep onset, and total sleep time. In one RCT, 64% of CBT patients had improvements in sleep efficiency and time awake after sleep onset, compared with 8% who improved with a placebo intervention (number needed to treat [NNT]=1.8).[5] Further, sleep onset latency for primary care patients with chronic insomnia was decreased from 61 to 28 minutes, compared with 74 to 70 minutes for a waiting-list group.[5] The maintenance of sleep gains from CBT beyond 1 year is unknown since no published RCT clinical trials to date have lasted longer than 12 months.[1]

An important related meta-analysis of 21 studies validated behavior therapy, and revealed CBT reduced sleep onset latency by an additional 8.8 minutes over medication (95% confidence interval, 0.17–1.04 minutes).[6] Although not superior on other outcomes, behavior therapy produced similar short-term results to pharmacotherapy across all other sleep measures, without attendant medication side effects.

Stimulus control is the most effective CBT intervention

A recent systematic review with meta-analysis of 37 clinical investigations determined that stimulus control was the most effective CBT intervention.[3] Stimulus control consists of 5 basic instructions (**TABLE**) designed to help the patient reassociate sleep stimuli (ie, bed/bedroom) with falling asleep and establishing consistent sleep-wake schedules. These 5 instructions are frequently used in combination with CBT sleep hygiene techniques (**TABLE**) and can be easily integrated into the office setting.[3,4]

Among the CBT techniques, stimulus control and sleep hygiene are the least time-consuming and may be more easily applied in the primary care setting; however, minimal research has been done into the specific incorporation of CBT into primary care settings.

Researchers conducting a single-blind randomized group study in a Veterans Affairs primary care clinic concluded that an abbreviated CBT approach with two 25-minute sessions effectively improved participant sleep onset latency, and time awake after sleep onset.[7] Researchers reviewed participants' sleep

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TABLE

Patient needs a good night's sleep? Offer this advice

STIMULUS CONTROL INSTRUCTIONS[3]

- Don't go to bed until you are sleepy
- Use the bed/bedroom only for sleeping (don't read, watch TV, eat, or worry)
- Get out of bed when unable to sleep after 15 minutes; do something relaxing and avoid stimulating activity/thoughts
- Arise from bed at the same time every day
- Do not nap during the day

SLEEP HYGIENE INSTRUCTIONS[4]

- Sleep only as much as you need to feel refreshed during the following day
- Exercise regularly
- Make sure your bedroom is comfortable and free from disturbing light and noise
- Make sure your bedroom is at a comfortable temperature during the night
- Eat regular meals and do not go to bed hungry
- Avoid drinking too many fluids in the evening
- Reduce your caffeine intake
- Avoid drinking alcohol—especially in the evening
- Avoid smoking at night when you are having trouble sleeping
- Don't try too hard to fall asleep
- Put the clock under the bed or turn it so you can't see it

FAST TRACK

Cognitive behavioral therapy reduced sleep onset latency by an additional 8.8 minutes over medication, according to one meta-analysis

Bipolar diagnosis

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sive symptoms for a history of hypomanic or manic symptoms, and consider an underlying mood disorder in those with vague or nonspecific somatic symptoms or reverse vegetative symptoms (eg, hypersomnia and hyperphagia). Their recommendations also emphasized screening for family history of bipolar disorder when there were clinical concerns.[8] ■

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Insomnia

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logs and a behavioral health provider offered patients a condensed education on sleep hygiene, stimulus control, and sleep restrictions strategies. The study was limited because of small sample size (<25). Generalizability to practice is restricted because sessions were conducted by a behavioral health provider, not a family physician.

FAST TRACK

The APA recommends cognitive behavioral therapy as the treatment of choice for chronic insomnia

Recommendations from others

The Agency for Healthcare Research and Quality recommends CBT as an effective treatment in the management of chronic insomnia.[8] It also recommends that further large-scale RCTs be conducted to establish CBT's effectiveness across subsets of the population of individuals with chronic insomnia (ie, gender, age, shift workers, and those with psychiatric illnesses).

The American Psychological Association (APA) recommends CBT as the "treatment of choice" for chronic insomnia, with 70% to 80% of patients showing a treatment response.[9] ■

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