

CBT-I Addresses Root Causes of Insomnia, Not Just Symptoms

By: Sleep Institute
Publish date: July 7, 2025

CBT-I ushers in a new level of promise for patients with insomnia as a true treatment that is non-invasive and free of pharmacological interactions.

Insomnia affects hundreds of millions globally,¹ disrupting their daily lives and increasing health and workplace risks for them. While drug therapies have historically dominated treatment approaches, cognitive behavioral therapy for insomnia (CBT-I) is reshaping the field. As an evidence-based, non-pharmacological approach, CBT-I offers a long-lasting solution for patients, clinicians, healthcare systems, and employers alike.

| Understanding CBT-I

CBT-I is a structured, time-limited psychological intervention specifically designed to address the behavioral and mental factors that cause and sustain insomnia.²

The core components of CBT-I typically include sleep restriction therapy (SRT), stimulus control therapy (SCT), cognitive restructuring, psychoeducation, and relaxation therapy. These work together to realign sleep patterns, reduce sleep-related anxiety, and restore healthy sleep-wake cycles. Recent research indicates that sleep restriction therapy and stimulus control therapy are the most effective elements of CBT-I.² SRT improves sleep efficiency by limiting time in bed and gradually increasing it as sleep improves. SCT strengthens the association between bed and sleep by promoting consistent habits, such as going to bed only when sleepy.²

What makes CBT-I even more impactful is its durability. Its benefits are often observed to persist long after treatment ends, unlike the shorter-term relief provided by sleep medications.³

| Growing evidence

CBT-I is widely recognized in the medical community as the first-line treatment for insomnia.² It is a safe and effective treatment, delivering lasting sleep improvements for patients.

For patients with COMISA (comorbid insomnia and sleep apnea), some studies have shown that starting CBT-I before beginning positive airway pressure (PAP) therapy leads to better PAP adherence and greater improvement in insomnia symptoms compared to starting PAP without prior CBT-I.^{4,5} While another study found that combining CBT-I with PAP therapy didn't significantly increase adherence to PAP, it still showed that the combination was more effective than PAP alone in improving insomnia symptoms in COMISA patients.⁶

CBT-I has also shown effectiveness across various age groups. A recent meta-analysis focused on adolescents reported significant improvements in sleep quality, such as falling asleep faster, getting more total sleep, and achieving better sleep efficiency. Notably, these benefits persisted even after the treatment had ended.⁷

Digital transformation: Scaling access to CBT-I

Traditionally, CBT-I is delivered by sleep-trained psychologists or therapists over the course of 6 to 10 weekly sessions.⁸ However, the emergence of fully automated digital CBT-I (dCBT-I) programs has offered a scalable solution to the limited availability of trained providers. These digital programs make treatment more accessible by eliminating the need for direct therapist involvement.⁹

Evidence-based dCBT-I programs typically combine techniques like sleep hygiene, sleep restriction, stimulus control, relaxation or mindfulness, and cognitive therapy over several weeks.^{9,10} Some programs are fully self-guided, offering users open access to all features with minimal or no structured guidance. Others provide automated, step-by-step guidance, unlocking features as users progress. A third kind is designed to complement care from sleep providers or therapists, offering flexibility for both guided and semi-independent use.¹⁰

Multiple European countries—Germany, Sweden, France, Switzerland, the United Kingdom and the Netherlands—offer dCBT-I treatment programs backed by at least one randomized controlled trial.¹¹

A 2025 study of fully automated digital CBT-I across multiple clinical trials found that it had moderate to large effects on the severity of insomnia when compared to control groups. While not as effective as therapist-assisted CBT-I, digital versions still had a meaningful impact across most comparisons.⁹

Healthcare system benefits

For many healthcare systems, which are experiencing resource constraints and healthcare provider shortages, dCBT-I is a sustainable solution to the insomnia burden without the required involvement of a psychotherapist as in CBT-I. dCBT-I is characterized by low risk and strong therapeutic benefits. Moreover, it typically involves a limited number of sessions with enduring benefits, reducing the need for continuous care. Enabling reimbursement for digital treatments like dCBT-I could have far-reaching benefits for patients and payers.

Addressing the productivity impact

Insomnia is closely linked to reduced workplace productivity, leading to both absenteeism (missed workdays) and presenteeism (lower performance while at work).¹⁴

Multiple studies have shown that CBT-I not only improves sleep but also leads to meaningful workplace benefits. One randomized controlled trial found that digital CBT-I significantly boosted both work productivity and daily activity levels in addition to improving insomnia.¹² Another study reported a clear reduction in presenteeism among workers who received CBT-I, with participants showing improved ability to function effectively on the job.¹³

Additionally, an economic evaluation of internet-based CBT-I tailored for employees dealing with insomnia and work-related stress showed reduced symptoms along with lower costs from absenteeism and presenteeism.¹⁴

Together, these findings demonstrate CBT-I's ability to enhance workplace performance, reduce missed workdays, and deliver cost savings, thereby making it a practical and effective tool for organizations aiming to improve employee well-being and productivity.

The future of CBT-I: Integration and innovation

CBT-I's increasing adoption marks a significant departure from how insomnia used to be perceived and treated. By addressing the underlying causes rather than merely alleviating symptoms, CBT-I is a sustainable and highly effective treatment option for insomnia.

Looking ahead, several key trends are shaping the future of CBT-I. One is the push to integrate brief behavioral treatments into primary care, a key step toward making evidence-based insomnia care more widely available. At the same time, advances in digital delivery are making CBT-I more scalable and convenient. As these models continue to evolve and primary care adoption grows, CBT-I is on track to be increasingly accessible to millions more people still struggling with insomnia.

References

- ¹ Lovato N, Lack L. Insomnia and mortality: a meta-analysis. *Sleep Med Rev*. 2019;43:71–78. <https://doi.org/10.1016/j.smrv.2018.10.004>
- ² Steinmetz L, Simon L, Feige B, et al. Network meta-analysis examining efficacy of components of cognitive behavioural therapy for insomnia. *Clin Psychol Rev*. 2024;114:102507. <https://doi.org/10.1016/j.cpr.2024.102507>
- ³ Muench A, Vargas I, Grandner MA, et al. We know CBT-I works, now what? *Fac Rev*. 2022;11:4. <https://doi.org/10.12703/r/11-4>
- ⁴ Alessi CA, Fung CH, Dzierzewski JM, et al. Randomized controlled trial of an integrated approach to treating insomnia and improving the use of positive airway pressure therapy in veterans with comorbid insomnia disorder and obstructive sleep apnea. *Sleep*. 2021;44(4):zsaa235. <https://doi.org/10.1093/sleep/zsaa235>
- ⁵ Sweetman A, Lack L, Catcheside PG, et al. Cognitive and behavioral therapy for insomnia increases the use of continuous positive airway pressure therapy in obstructive sleep apnea participants with comorbid insomnia: a randomized clinical trial. *Sleep*. 2019;42(12):zszl78. <https://doi.org/10.1093/sleep/zszl78>
- ⁶ Ong JC, Crawford MR, Wallace DM. Sleep apnea and insomnia: emerging evidence for effective clinical management. *Chest*. 2021;159(5):2020–2028. <https://doi.org/10.1016/j.chest.2020.12.002>
- ⁷ Mei Z, Cai C, Luo S, et al. The efficacy of cognitive behavioral therapy for insomnia in adolescents: a systematic review and meta-analysis of randomized controlled trials. *Front Public Health*. 2024;12:1413694. <https://doi.org/10.3389/fpubh.2024.1413694>
- ⁸ Sweetman A, Lack L, McEvoy RD, et al. Bi-directional relationships between co-morbid insomnia and sleep apnea (COMISA). *Sleep Med Rev*. 2021;60:101519. <https://doi.org/10.1016/j.smrv.2021.101519>
- ⁹ Hwang, J.W., Lee, G.E., Woo, J.H. et al. Systematic review and meta-analysis on fully automated digital cognitive behavioral therapy for insomnia. *npj Digit. Med*. 8, 157 (2025). <https://doi.org/10.1038/s41746-025-01514-4>
- ¹⁰ Shah S, Schutte-Rodin S, Paruthi S, et al. Digital cognitive behavioral therapy for insomnia: platforms and characteristics. *American Academy of Sleep Medicine*. Published March 6, 2024. Accessed May 13, 2025. <https://aasm.org/digital-cognitive-behavioral-therapy-for-insomnia-platforms-and-characteristics/>
- ¹¹ Schweitzer PK, Taranto-Montemurro L, Ojile JM, et al. The combination of aroxylbutynin and atomoxetine in the treatment of obstructive sleep apnea (MARIPOSA): a randomized controlled trial. *Am J Respir Crit Care Med*. 2023;208(12):1316–1327. <https://doi.org/10.1164/rccm.202306-1036OC>
- ¹² Kjørstad K, Sivertsen B, Vedaa Ø, et al. The effects of digital CBT-I on work productivity and activity levels and the mediational role of insomnia symptoms: data from a randomized controlled trial with 6-month follow-up. *Behav Res Ther*. 2022;153:104083. <https://doi.org/10.1016/j.brat.2022.104083>
- ¹³ Takano Y, Iwano S, Aoki S, et al. A systematic review of the effect of sleep interventions on presenteeism. *Biopsychosoc Med*. 2021;15:21. <https://doi.org/10.1186/s13030-021-00224-z>
- ¹⁴ Thiarth H, Ebert DD, Lehr D, et al. Internet-based cognitive behavioral therapy for insomnia: a health economic evaluation. *Sleep*. 2016;39(10):1769–1778. <https://doi.org/10.5665/sleep.6152>