Editorials

Insomnia: Advancements and Limitations of Current Management Strategies

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The relevance of the optimal management of insomnia will not be lost on the practicing primary care physician, given that up to 50% of adults report symptoms of acute or chronic insomnia.[1,2] Clinically, patients with insomnia have depressed mood, poor school and work performance, and self-reported reduced quality of life.[3,4] They also have an increased risk of cardiovascular diseases.[5] Economically, the condition generates direct and indirect costs of up to $100 billion each year.[2,6]

An article in this issue of *American Family Physician* discusses the management of chronic insomnia,[7] and we applaud the authors for their practical approach that emphasizes nonpharmacologic therapies. *Primum non nocere* ("first, do no harm") is a chief consideration in insomnia management. The longitudinal care provided by the family physician is a strategic advantage in management because the first step is a comprehensive assessment of medical history, medications, use of substances, sleep history, and sleep-related symptoms.[8]

The preferred first-line treatment for insomnia remains cognitive behavior therapy for insomnia (CBT-I).[9] Overall, the supporting evidence for treatment of chronic insomnia with CBT-I is stronger than that for pharmacologic therapy.[8] One caveat is that certain patients, such as those with suicidal ideation and comorbid insomnia or other extreme circumstances, may require judicious medical treatment up front to rapidly relieve symptoms.[10]

In-person CBT-I delivered by a psychologist is preferred. However, reimbursement and access issues have necessitated alternatives, including online modules, telemedicine, and self-directed therapy. Smartphone apps for insomnia behavioral interventions are rapidly proliferating, but interfaces vary, and the apps are often poorly studied.[11,12] Perhaps the best-validated and most used app is CBT-i Coach from the U.S. Department of Veterans Affairs.[11,13]

Given the limitations in access to CBT-I, it is critical for physicians to become familiar with its five domains (cognitive restructuring, stimulus control, sleep hygiene, relaxation therapy, and sleep restriction). Particularly, sleep restriction and stimulus control should be emphasized. Sleep restriction improves sleep efficiency, or how much time in bed is spent sleeping. Stimulus control is a set of measures that emphasizes the use of the bed for sleep and reduces associations with it being a cue for wakefulness. Ideally, physicians providing behavioral interventions such as CBT-I in the office should seek additional training in this domain and establish relationships with local and regional CBT-I providers.[14-16] Exercise improves sleep duration and quality and should also be discussed with patients.[17]

Guidelines on pharmacotherapy for insomnia are based on the best evidence available, which is typically rated as weak by the GRADE system due to methodologic issues related to conflicts of interest and variable outcomes that are difficult to pool.[8] When medications are required, physicians should limit pharmacotherapy to drugs labeled by the U.S. Food and Drug Administration for insomnia and at approved dosages. Although the overall rate of sleep aid prescriptions is decreasing, the variety of available agents is increasing.[8]

Notably, the effectiveness and safety of approved medications were tested in short-term placebo-controlled randomized trials involving adults with chronic insomnia (defined by sleep disturbances and associated daytime symptoms three or more times each week for three or more months despite adequate opportunity and circumstances for sleep). The long-term effectiveness of these drugs has not been well established.

Use of benzodiazepines for chronic insomnia should be avoided in favor of newer pharmacologic options that show less potential for harm.[8] The Beers Criteria recommend caution with both benzodiazepines and nonbenzodiazepine

receptor agonists in patients older than 65 years.[6,18] There is an emerging role for dual orexin receptor antagonists in the management of insomnia; a recent network meta-analysis showed a favorable outcome in sleep parameters as well as safety and tolerability.[19] This development is exciting, although it remains unclear whether this class of drugs will have better outcomes than previously approved medications, such as nonbenzodiazepine receptor agonists.

Consensus is lacking on when to use over-the-counter sleep aids. Guidelines do not recommend routine use of diphenhydramine, melatonin, L-tryptophan, or valerian for sleep onset or maintenance.[8] When melatonin is used, it is best for adjusting circadian rhythm rather than directly inducing sleep. Recent studies emphasize the variability of endogenous melatonin levels among patients and the variability of melatonin quantity in each supplement despite labeled amounts.[20]

Optimizing the management of other comorbid chronic medical illnesses that contribute to insomnia, such as asthma, chronic obstructive pulmonary disease, heart failure, depression, and anxiety, is required in addition to behavioral and pharmacologic therapies. There is much hope for patients with chronic insomnia given the expanding pipeline of medications and access to CBT-I. Family physicians are well positioned to make strides in improving this condition.

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