Pediatric insomnia: Review and recommendations

Insomnia, characterized by difficulty falling or staying asleep, is the most commonly reported sleep problem among children and adolescents. Nonetheless, pediatric insomnia is not typically assessed and is generally left untreated. One study found that primary care practitioners only diagnosed 3.7% of children with sleep problems, well below the 25% epidemiological estimates. Pediatric insomnia is a significant public health concern, with vast effects upon mood and anxiety, academic achievement, and psychosocial functioning. Accurate assessment, diagnosis, and appropriate, evidence-based treatment of insomnia are crucial in fostering positive developmental outcomes for children and adolescents. The authors conducted a comprehensive literature review to establish assessment and treatment recommendations for pediatric insomnia.

Appropriate treatment of sleep difficulties begins with an accurate assessment. Recent estimates suggest that only about one-third of pediatricians ask their patients directly about their sleep habits. As a first step in the assessment process, clinicians are encouraged to have patients and their caregivers complete a sleep diary, which provides longitudinal data of a child's sleep habits (http://yoursleep.aasmnet.org/pdf/sleepdiary.pdf). If a patient is unable to complete a sleep diary, practitioners can gather information about a child's sleep using the BEARS sleep-screening tool. "BEARS" is an acronym for a validated survey that addresses common sleep irregularities, such as bedtime problems, excessive daytime sleepiness, irregular awakenings, regularity and duration of sleep, and snoring or sleep disordered breathing. Given the high frequency and under identification of pediatric sleep disorders, every child or adolescent should be assessed for sleep difficulties using validated methods such as a sleep diary or BEARS.

Once practitioners identify insomnia or other sleep problems in children, they often will prescribe medication as the first line of treatment. According to one national study of child and adolescent psychiatrists, the most commonly prescribed medications are: Alpha-2 agonists (e.g, clonidine and guanfacine) (81%), trazodone (78%), selective serotonin reuptake inhibitors (SSRIs; 56%), atypical antipsychotics (52%), anticonvulsants (42%), short-acting hypnotics (41%), and tricyclic antidepressants (TCAs; 34%). Melatonin, a dietary supplement, was also commonly recommended (>33%) to alleviate symptoms of insomnia. Although no medication is FDA approved for the treatment of pediatric insomnia, studies show that melatonin and clonidine are sometimes effective. Still, however, given their general lack of demonstrated efficacy for the treatment of pediatric insomnia, medications should not be first line treatment.

By contrast, behavioral interventions focused on cognitive behavior therapy and improving sleep hygiene are generally effective for children and adolescents suffering from insomnia. Improving sleep hygiene requires lifestyle changes that increase sleep quality and duration, while decreasing daytime sleepiness. Some of these changes include circadian stabilization (e.g., maintaining a regular bedtime and wake time), no napping, and no activities that increase in bodily temperature (e.g. exercise or long hot baths or showers) within four hours of bedtime.

Cognitive behavior therapy (CBT) is an evidence-based treatment that aims to change behavior by identifying maladaptive thoughts and teaching behavioral skills. Cognitive behavior therapy for insomnia (CBT-I) is a multifaceted intervention that addresses the physiological, behavioral, environmental, and psychological factors that typically perpetuate symptoms of insomnia. The first step in CBT-I is educating the child and their caregivers about sleep and maladaptive sleep patterns. The practitioner then utilizes a series of CBT-I treatment components, including stimulus control, sleep restriction, cognitive therapy, sleep hygiene, behavioral relaxation, and relapse prevention (Tab. 1).

Stimulus Control	Practice breaking conditioned arousal and strengthening the conditioned response between the bedroom and sleep
Sleep Restriction	Practice limiting the time allowed in bed to the patient's average reported actual sleep time and subsequently slowly increasing the time allowed in bed as sleep efficiency improves
Cognitive Therapy	Practice targeting beliefs and thoughts that directly interfere with sleep by increasing arousal in bed or indirectly by interfering with adherence to stimulus control and sleep restriction
Sleep Hygiene Education	Practice consistent wake and sleep times, limit caffeine intake, avoid alcohol later in the day, incorporate daily exercise, and keep the bedroom dark, quiet and at a comfortable temperature
Relaxation Techniques	Practice diaphragmatic breathing, progressive muscle relaxation, and visual imagery to reduce psychic and somatic anxiety related to sleep

Tab. 1. CBT-I Components
Adapted from: Siebern, A.T. & Manber, R.M. (2011). New developments in cognitive behavioral therapy as the first-line treatment of insomnia. Psychology Research and Behavior Management, 4, 21-28.

As previously noted, pediatric insomnia has a tremendous effect on children, adolescents, and their

families, requiring increased recognition among both clinicians and caregivers. If the recommended treatment steps herein are insufficient, the practitioner is encouraged to refer the child to a sleep specialist.

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