

NURSE'S VOICE FROM THE FIELD

Addressing Sleep Problems among Children and Teens in Primary Care

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Etiology and Prevalence

The National Sleep Foundation advised 10-13 hours of sleep for preschoolers and 9-11 hours for school-aged children (Agostini & Centofanti, 2021). Unfortunately, sleep insufficiency is a norm among US adolescence (Honaker & Meltzer, 2016). Sleep problems among adolescents range from 15 to 44% (Lewien et al., 2021). Sadly, 72.7% of students reported an average sleep of < 8 hours on school nights (Kansagra, 2020). The National Sleep Foundation gathered parental reports specifying that 69% of children have difficulties falling and staying asleep a few times a week, and 51% of adolescents report problems initiating sleep at least once a week (Trosman & Ivanenko, 2021). Additionally, the prevalence for obstructive apnea is 1-3%; insomnia is as high as 20-30% (Honaker & Meltzer, 2016), delayed sleep-wake phase disorder is as high as 14% (Kansagra, 2020), and narcolepsy has a prevalence of 0.2% among adolescents (Trosman & Ivanenko, 2021).

Insomnia is the most endorsed sleep problem. Conversely, 1 in 5 young children reports experiencing the symptoms. At the same time, epidemiologic studies indicating high prevalence rates, sleep disorders remain underdiagnosed by providers and parents alike. A study conducted by Meltzer et al. (2010) reviewed the medical records of 15 4957 patients (0-18 y/o) from a well-child visit clinic and discovered that only 3.7% of the sample with sleep disorders. It is, therefore, evident that pediatric sleep disorders continue to be neglected in primary care.

A representative sample of US adolescents studied by Johnson et al. (as cited in Himelfarb & Shatkin, 2021) diagnosed with insomnia 52.8% had a co-occurring psychiatric disorder. Traditionally, sleep problems were predicted as a symptom of other disorders. However, a review conducted by Scott et al.

(2021) suggested that it is also a risk factor for the new onset of psychiatric disorders. In a meta-analysis of 25 studies from 1996-2020 conducted by the authors, sleep problems increase the odds of developing a mood disorder or psychotic disorder in adolescence (OR 1:88; 95% CI: 1.67, 2.25), bipolar disorders (OR:1.72), and depressive disorders (OR:1.72). Therefore, routinely screening for sleep disorders is essential in early determining psychiatric disorders among the youth.

Similarly, technological advances have pushed increased use among adolescents over the past decades. Its effect on sleep habits and sleep efficiency has sparked interest among researchers' (Himelfarb & Shatkin, 2021). For instance, Schweizer et al. (2016) found out that adolescents with smartphones have a shorter sleep duration than their peers without smartphone. In addition, Himelfarb & Shatkin (2021) learned that bright lights from the screens of gadgets cause physiologic arousal that has adverse effects on sleep. In addition to this, Gradisar et al. (2013) conducted a large poll and discovered that 72% of adolescents who reported using a cellphone in the hour before bed complained of difficulty falling asleep and reports unrefreshed sleep. 57% of these adolescents leave their cellphone on overnight. The authors concluded that 1 in 10 of these adolescents reports inability to maintain sleep a few nights per week.

Family Management

Parents play an essential role in determining and recognizing sleep problems in their children. However, they are more likely to discuss medical problems than behavioral concerns during clinic visits. Parental knowledge about pediatric sleep may be limited (Meltzer et al., 2010). Owens & Jones (2011) surveyed parents of children 3 months – 12 y/o attending a pediatric primary care general sleep knowledge questionnaire. A

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measure of 10 true/false items. Surprisingly, only a mean score of 4.4 was obtained. The finding translates to 76% of parents underestimated the endorsed sleep range for their child's age group.

Interestingly, Peltz and colleagues (2019) conducted a study of teens with their parents. The dyadic approach asks teenage participants to journal their sleep duration, daytime energy levels, and depressive symptoms. Meanwhile, parents completed an assessment about their enforcement of sleep-related rules (i.e., bedtime, cessation of electronic media usage, prohibiting afternoon/evening caffeine consumption). Outstandingly, this simple, timeworn solution of enforcing sleep-rules generated longer sleep durations and was indirectly associated with lessening adolescents' depressive symptoms. Therefore, promoting bedtime limit-setting is recommended to support adolescents' well-being.

Assessment Tools

Polysomnography is the gold standard for assessing and diagnosing sleep disorders (Marcus, as cited in Lewandowski et al., 2011). Also, Actigraphy is reliable on pediatric populations (Acebo as cited in Lewandowski et al., 2011). However, both are lab-based and do not measure sleep habits. Therefore, numerous tools aid practitioners in assessing sleep habits.

Lewandowski et al. (2011) reviewed 21 measures for evidence-based criteria and found that only 6 assessments [Infant Sleep Questionnaire (12-18 months); Pediatric Daytime Sleeping Scale (11-15 y/o); Brief Infant Sleep Questionnaire (0-29months); Children Sleep Habits Questionnaire (4-10 y/o); Pediatric Sleep Questionnaire (2-18 y/o); and the Sleep Disturbance Scale (5-15 y/o)] were well-established due to its multidimensionality. However, the disadvantage of these measures is failing to address the diversity of populations and not permit cross-informant comparisons (e.g., parents, teachers). Most of these assessment tools mentioned are mostly subjective according to the parent/ adult responses and mainly used in the clinical setting. Moreover, they have complicated scoring instructions, and the tools themselves are challenging to obtain. Thus, it may be a barrier in their use.

The user-friendly BEARS (Bedtime problems, Excessive daytime sleep, Awakenings, Regularity, and duration of sleep, and Snoring) help providers identify sleep problems in primary care. This validated tool includes a set of both parent-oriented and child-oriented questions that can be used as routine screening (Owens & Dalzell, 2005). Afterward, when at least 2 problems were identified in the domains of the tool, accompanying screening tools may be considered. Additionally, a record of a sleep diary may provide precise information about patients' sleep (Himelfarb & Shatkin, 2021). Perhaps, informing parents about this simple and inexpensive practice can further help track sleep

duration, sleep habits, and sleep factors that may help primary care providers and behavior health consultants.

Collaborative Care Approaches

The American Academy of Pediatrics (2014) suggested that delaying school start times can be effective for children to attain recommended sleep duration. Therefore, to countermeasure the epidemic of sleep-deprived children, school districts are urged to start classes no earlier than 8:30 am, predominantly middle and high schoolers. This action can drastically help with a wide range of potential benefits for students' physical and mental health, safety, and academic achievement. However, only about 14 percent of US high schools have heeded the recommendation to date (Anderton, 2020).

Furthermore, school-based intervention programs with a framework of motivational interviewing provided results that improve students' motivation to change sleep-related behaviors, regularize students out-of-bed times, and encouraged students with delayed sleep times to increase average sleep time to 9 hours (Cain et al., 2011). Likewise, sleep education programs to as little as 50-minute classes over 4 weeks and parental inclusion of 2-3 minute information videos can help increase sleep knowledge of students and parents, help students avoid sleeping in on weekends, and understand the role of bright light exposure on days (Bonnar et al., 2015).

Brief therapies such as the CBT-I demonstrated benefits among adolescents in numerous trials. Sleep hygiene education, a component of CBT-I, educates patients and parents about various practices that interfere with sleep (Hunter et al., 2017). Next to this, the second line of treatment for many providers is pharmacologic interventions. Melatonin, a dietary supplement, has demonstrated to advance the sleep phase, advance the secretion of natural melatonin by 1.18 hours, and decrease sleep latency among adolescents (van Geijlswijk et al., as cited in Kansagra, 2020). According to Himelfarb & Shatkin (2021), providers should always intervene first with weekly sessions of CBT-I for pediatric sleep problems. If unsuccessful, medications can be used in conjunction with behavioral interventions.

Family Support Approaches

Today, the overuse of technology is the culprit of adequate sleep (Agostini & Centofanti, 2021). Parents setting boundaries surrounding technology use in the evening and limiting technology in the bedroom can be beneficial. In a study conducted by Bowers & Moyer (2020), it was learned that children who reported having rules at home about restricting technology use at certain times were more likely to report earlier weekday waketimes. Therefore, guidelines can be instructed to parents on imposing technology hours before bed for their children.

Summary and Recommendations

Pediatric sleep problems are undiagnosed epidemics. Early screening and understanding sleep hygiene correlates are equally important. Parental involvement in sleep hygiene measures (i.e., bedtime habits on technology use) can start at home. Also, collaborative efforts with parents and schools highlighting prevention interventions can be a focus in population health.

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