Recognizing Sleep Disorders in a Primary Care Setting

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As many as one third of the general population suffers from some form of sleep disorder. Although sleep disorders are widespread in society, few patients present with overt sleep complaints; they instead present with symptoms of fatigue, excessive sleepiness, and impaired waking function. Untreated sleep disorders, particularly insomnia, can lead to potentially life-threatening automobile crashes and industrial accidents. In addition, poor motor, mental, and cognitive function at home, work, and school can negatively impact a patient's quality of life. Therefore, physicians must maintain a high index of suspicion for sleep disorders whenever they see patients, and they must ask sleep-related questions during office visits for acute conditions, chronic conditions, and annual physical examinations. Today's "24/7" society experiences sleep disorders in ever-increasing numbers, and people who work shifts are at risk for developing circadian rhythm sleep disorder, particularly shift work sleep disorder. Physicians must engage their patients in a discussion of their occupations and sleeping habits in order to detect and treat sleep disorders.

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PREVALENCE OF SLEEP DISORDERS

The sleep disorders most commonly seen in primary care include insomnia, hypersomnia, narcolepsy, breathing-related sleep disorder, and circadian rhythm sleep disorder (which includes shift work sleep disorder). Of these, insomnia is the most common sleep disorder worldwide. Prevalence rates for insomnia vary greatly, possibly because of differences in definitions and study populations; nonetheless, population surveys indicate a 1-year prevalence of 30% to 45% in adults.[1] Consistent with this estimate, a 2002 poll conducted by the National Sleep Foundation[2] found that 35% of the respondents reported difficulty falling or staying asleep, waking too early and not being able to get back to sleep, or waking feeling unrefreshed every or almost every morning. More than half (58%) reported experiencing symptoms of insomnia at least a few nights a week (Figure 1).

Although sleep disorders, particularly insomnia, are widespread in society, patients remain underdiagnosed and undertreated. The National Sleep Foundation[2] found that only 6% of respondents were diagnosed with insomnia and even fewer, 4%, were treated for it. Sleep apnea was diagnosed in 4%, but only 2% were treated; restless legs syndrome was diagnosed in 4%, but only 1% were treated. Of 1707 managed care organization enrollees who responded to a survey[3] during an office visit, only 0.9% reported visiting a physician specifically for sleep problems, despite the fact that 34.2% of these patients reported symptoms of insomnia. One important implication drawn from this study is that 1 in 3 patients seeking health care are likely to have insomnia with daytime dysfunction but are unlikely to be seeking care for that specific problem. Overall, few patients present with overt sleep complaints, but many present with symptoms like fatigue, excessive sleepiness, and impaired waking function that could indicate a possible sleep disorder. Because sleep disorders are so prevalent, primary care providers must maintain a high index of suspicion for sleep disorders and their consequences.

The consequences of untreated insomnia can be grave. Sleepiness at inappropriate times can lead to potentially life-threatening automobile crashes and industrial accidents. Each year in the United States alone, for example, automobile accidents due to drivers falling asleep at the wheel number more than 100,000, resulting in more than 40,000 injuries and 1550 deaths.[4] Further, poor motor, mental, and cognitive function at home, school, and work can significantly impact the patient's quality of life.

Patients with sleep disorders are also high utilizers of medical services, possibly owing to the fact that they are more sickly. Simon and VonKorff[5] reported that 10% of 1962 consecutive patients screened for insomnia in a primary care setting reported major current insomnia. Analysis of data from this study suggested 25% higher costs for those with current insomnia versus those without

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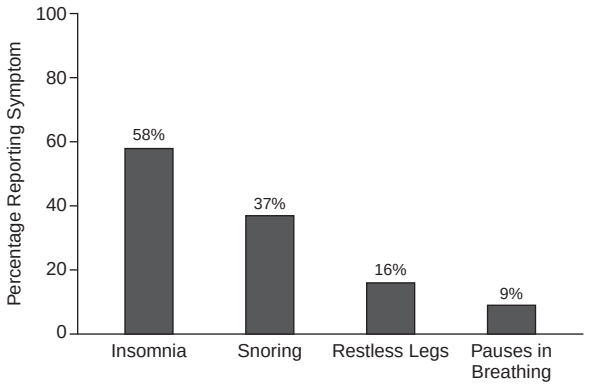
Figure 1. Prevalence of Symptoms of Sleep Disorders in the General Population[a]



[a]Reprinted with permission from the National Sleep Foundation.[2] Based on the percentage of people reporting symptoms a few nights a week or more.

insomnia. Further, both disability rates and the amount of time spent in bed or with limited activity due to illness were higher in the group with insomnia versus the group without insomnia. The primary care provider should try to identify sleep disorders in any patient regardless of the stated reason for an office visit.

DETECTION AND DIAGNOSIS

Typically, patients visit a primary care provider under 1 of 3 circumstances: (1) an acute visit (i.e., being seen for a specific reason), (2) a follow-up visit for a chronic condition, or (3) a visit for a complete physical examination or a routine annual checkup. At any visit, patients may mention feeling tired or fatigued, and the primary care provider should be prepared to ask about sleep habits and problems. Responses to questions that assess whether the patient goes to bed at the same time every night, has difficulty falling or staying asleep, or awakens feeling unrefreshed can provide insight into the next steps for diagnosing a sleep disorder.

Sleep assessment tools, such as the Epworth Sleepiness Scale (ESS), are easy to administer and typically take only a few minutes for patients to complete (for more information on assessment tools, see K. Doghramji's article elsewhere in this supplement[6]). By reviewing the individual responses as well as the overall score with the patient, the primary care provider gains an understanding of the degree of sleepiness the patient is experiencing, and the patient can see how his or her scores compare with the scores of healthy individuals. Patients who are reluctant to admit that they have a sleep disorder are more convinced about the probability that their symptoms are being caused by a sleep disorder when they see their scores.

Table 1. Possible Causes of Insomnia[a]

Psychiatric and psychological causes
Anxiety disorders
Depressive disorders
Major life events
Substance or alcohol abuse
Bedtime worrying
Conditioning (associating the bed with wakefulness)
Mania or hypomania
Medical conditions
Acute and chronic medical illnesses
Arthritis
Cardiovascular disease
Gastrointestinal disease
Asthma
Chronic obstructive pulmonary disease
Gastroesophageal reflux disease
Benign prostatic hypertrophy
Menopause
Pain from any source or cause
Drug or alcohol intoxication or withdrawal
Thyrotoxicosis
Dyspnea from any cause
Neurologic disease (Parkinson's, Alzheimer's)
Thyroid disorders
Side effects from medications, both prescription and nonprescription
Primary sleep disorders
Dyssomnias (e.g., primary insomnia, primary hypersomnia, narcolepsy, breathing-related sleep disorder, circadian rhythm sleep disorder)
Periodic limb movement disorder
Nocturnal myoclonus
Restless legs syndrome
Rapid eye movement behavior disorder
Parasomnias

[a]Based on Doghramji.[7]

Acute Condition

Many patients visit their doctors when they feel ill or have an acute condition. During such a visit, in addition to describing the condition that initiated the visit, a patient with a sleep disorder often complains of feeling tired or fatigued, lacking energy, or just feeling down or low. Patients rarely say that they actually are sleepy, crave sleep, or that they are sleep deprived. Recognizing the high prevalence of sleep disorders, the primary care provider must maintain a high index of suspicion when symptoms of tiredness or fatigue are stated. If a patient is sleepy, the next step is to determine if the sleepiness is a primary sleep disorder or secondary to a psychiatric problem or a medical condition (Table 1).[7] This determination can be accomplished by asking specific questions, such as "Are you having trouble getting to sleep?" "Do you have trouble staying asleep?" "Are you waking up either in the middle of the night or too early?" "Do you have difficulty falling asleep?" and finally, "Do you feel your sleep is unrefreshing?" In addition, to assess sleep craving, a good question may be, "If I were to leave you in this room and turn off the light, how long would it take for you to fall asleep?"

Sleep problems are common symptoms of psychiatric disorders such as anxiety, depression, bipolar disorder, and

posttraumatic stress disorder, any of which may be why a patient presents for an acute visit. A major life event may trigger sleep problems and an acute visit to the primary care provider. Medical problems are also important to consider when a patient mentions feeling tired or fatigued. Acute medical problems are primarily infectious, but they can also be related to pain. Chronic health problems, though, are more commonly the reason for an office visit.

Chronic Condition

The second group of patients seen in a primary care setting has an ongoing condition that requires regularly scheduled follow-up visits. Patients with chronic medical conditions such as asthma, gastroesophageal reflux disease, chronic pain, cardiovascular disorders like angina but especially heart failure, hyperthyroidism and hypothyroidism, menopause, benign prostatic hypertrophy, and substance or alcohol abuse may experience excessive sleepiness.[1] In addition to the disorders themselves causing sleep problems, it is important to review these patients' medications because drug side effects may include insomnia or drowsiness.

The primary care physician needs to ask about a patient's ability to fall or stay asleep and whether his or her sleep is refreshing. Patients who come to a follow-up visit and complain of inappropriate daytime sleepiness or difficulty falling or staying asleep may have a sleep disorder inherent to their medical condition. However, some sleep disorders—obstructive sleep apnea, restless legs syndrome, periodic limb movement disorder, narcolepsy, parasomnias, circadian rhythm sleep disorders—are primary medical conditions. Of the circadian rhythm sleep disorders, shift work sleep disorder is becoming prevalent, and primary care providers need to understand how to identify the source of sleep problems in patients with chronic conditions.

Annual Physical Examination

The last reason patients visit their primary care providers is for a general physical examination. Most family physicians advise their patients to have a complete physical examination annually after the age of 40 years. The examination typically involves a review of systems and often begins with the central nervous system. This visit provides the physician with an opportunity to ask about sleep habits or problems with falling or staying asleep, waking too early, or any propensity to fall asleep during the day when one does not want to fall asleep. Sleep duration and interruptions, as well as the typical times the patient goes to sleep and wakes up, are important to note.

The propensity to fall asleep at certain times during the day, snoring, and other symptoms that could interfere with either getting to sleep or staying asleep should be assessed in patients during a physical examination. Sometimes it is necessary to question the bed partner because patients frequently are unaware that they are snoring or moving their limbs in an awkward way.

Table 2. DSM-IV Diagnostic Criteria for Circadian Rhythm Sleep Disorder[a]

A. A persistent or recurrent pattern of sleep disruption leading to excessive sleepiness or insomnia that is due to a mismatch between the sleep-wake schedule required by a person's environment and his or her circadian sleep-wake pattern.
B. The sleep disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.
C. The disturbance does not occur exclusively during the course of another Sleep Disorder or other mental disorder.
D. The disturbance is not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or general medical condition.
Shift work type: insomnia during the major sleep period or excessive sleepiness during the major awake period associated with night shift work or frequently changing shift work.

[a]Reprinted with permission from the American Psychiatric Association.[1]

Sleep habits are important to discuss with patients who express excessive sleepiness, especially to detect irregularities in their sleep-wake schedule. For example, some patients will go to sleep later and wake up later on weekends than they do during the week. This self-induced irregular sleep pattern can cause excessive daytime sleepiness. In addition, patients who work irregular or night shifts are at greater risk of developing sleep disorders, so questions regarding occupation and hours worked are important in detecting the cause of excessive sleepiness.

ASSESSMENT OF SHIFT WORK SLEEP DISORDER IN PRIMARY CARE

According to the National Sleep Foundation,[8] around-the-clock activities in today's 24-hours-a-day, 7-days-a-week society keep us from allocating enough time for sleep or put us on irregular schedules. Of nearly 100 million full-time workers surveyed by the U.S. Bureau of Labor Statistics,[9] more than 20 million worked shifts. Occupations that typically involve shift work include truck drivers, factory workers, power plant workers, hospital workers, and emergency workers such as firefighters and police officers. Shift workers are also employed at places that are open 24 hours a day, such as diners, convenience stores, supermarkets, and gas stations, to serve others who work shifts. Possible consequences of working nontraditional schedules are reduced quality of life and dysfunction in occupational, family, and social roles. Shift work is a risk factor for impaired job productivity and performance as well as sleepiness-related on-the-job accidents and motor vehicle accidents.

Shift work sleep disorder is a circadian rhythm sleep disorder (Table 2) that is characterized by insomnia during the usual major sleep period or excessive sleepiness

during the major awake period. The disorder is associated with night shift work or frequently changing shift work schedules.[1] Night shift schedules and rotating shift schedules are the most disruptive because they force sleep and wakefulness into atypical circadian patterns and prevent any consistent adjustment.

Not everyone who does shift work suffers from shift work sleep disorder. About a fourth of shift workers seem to experience symptoms associated with circadian rhythm sleep disturbance. The severity of the symptoms appears to be proportional to the frequency with which shifts are changed, the magnitude of each change, and the frequency of changing work times in a counterclockwise direction. However, even fixed-shift workers who must sleep during the day experience difficulties, since daytime noises and light often interfere with the quality of their sleep. In addition, these workers often change their sleep times for social or family events.

CONCLUSION

In summary, it is important for the primary care provider to understand that most patients will not complain specifically of sleep problems even though they say they are tired or fatigued. The consequences of untreated sleep disorders are grave. Physicians must maintain a high index of suspicion about the possibility of a sleep disorder and seize the opportunity during visits for acute events, regular follow-up visits, or yearly physical examinations to ask about sleep. Specific questions about one's occupation can reveal circadian rhythm problems associated with shift work. By recognizing that sleep problems are common and may be caused by medical conditions, psychological conditions, primary sleep disorders, or irregular work schedules, physicians can then take the first step in treating them.

Disclosure of off-label usage: The author has determined that, to the best of his knowledge, no investigational information about pharmaceutical agents has been presented in this article that is outside U.S. Food and Drug Administration–approved labeling.

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