



Kesavan Kutty, MD

Editorial

Americans sleeping less; physicians should be familiar with problems and treatments

By Kesavan Kutty, MD, FACP, FCCP

Rapid evolution of technology has been the greatest catalyst to our understanding of sleep. Increasing understanding has shown that sleep is really a consequence of a highly coordinated release or inhibition of many neurotransmitters in the brain. From a clinical standpoint, disordered sleep tends to assume one of the following prototypes: excess sleep (excessive somnolence), inadequate sleep (insomnia), abnormal behavior during sleep (parasomnia), or sleep that tends to be out of synchrony with the conventional pattern for that age and/or occupation (circadian rhythm abnormality).

Considering that an average adult would spend almost one third of a typical day asleep, it seems logical to think that clinical problems of sleep and its regulation must be common. Indeed, recent telephone interviews of a random sample of 1010 American adults showed this to be the case.¹ Alarming enough, it showed that Americans were sleeping less. For example, the average subject in this study slept 6.9 hours every weeknight and 7.5 hours during a weekend night. Persons getting less sleep were more likely to be younger, men, adults with children in the household, or shift-workers.

Doctor Kutty is a Professor of Medicine, The Medical College of Wisconsin, and he is Chairman of Medicine, St. Joseph Regional Medical Center in Milwaukee, Wis. He is also a member of the *Wisconsin Medical Journal's* Editorial Board.

Having seen our grandparents taking catnaps and our older colleagues fall asleep during conferences, many of us respectfully embraced the conventional wisdom that “nodding off” was part of “getting old” when press reports surfaced in the 1980s that President Reagan tended to “nod off” during morning White House briefings. However, this conventional wisdom was shattered when troublesome sleepiness was found to be more common among the young than the senescent.¹ Over one third of adults (37%) also reported that they were so sleepy during the day that they were unable to carry out their daily activities a few days or more every month; for almost 16%, this level of daytime sleepiness is the norm. The practicing physician needs to be aware of an approach to the patient with excessive somnolence; in this issue of *WMJ*, Drs Ruggles and Hoffman present a working concept of such an approach (p 21).

Snoring is perhaps the most common affliction during sleep. Once brushed aside as anything from novelty to nuisance, accumulating data show snoring as an important harbinger of ill health. Two recent studies show snoring in middle-aged women to be an independent predictor for hypertension and diabetes mellitus.^{2,3} Snoring, upper airway resistance syndrome, sleep apnea, and obesity-hypoventilation syndrome all form a spectrum of sleep-disordered breath-

ing (SDB). A landmark Wisconsin study has shown that SDB is common.⁴ While there is no “cure” for sleep apnea, it is largely treatable. Dr Stevenson and Drs Meyer and Tucker-Woodson cover treatment of these conditions in their respective articles in this issue of *WMJ* (pps 25 and 28). In his review on parasomnias, Dr Leo addresses abnormal movement during sleep—anything from periodic limb movement of sleep to frank sleepwalking (p 32).

A discussion on insomnia has not been presented in this symposium. Difficulty falling asleep, interrupted sleep, premature awakenings with inability to get back to sleep, and waking up feeling unrefreshed represent broad patterns of this problem. Perhaps this could be the subject of a future symposium in the *WMJ*.

References

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Terminology of Sleep: A glossary of terms

Term	Meaning
Apnea	Cessation of airflow for ≥ 10 seconds.
Apnea-hypopnea index (AHI)	See Respiratory Disturbance Index (RDI).
Cataplexy	Loss of postural muscle tone (falling attacks) while emotional (laughing or crying).
Central apnea	No airflow and no respiratory effort.
Central sleep apnea	Condition where most episodes of apnea are central in origin; generally in association with some neurological disorder.
Hypopnea	Airflow decrease by $\geq 50\%$ plus $\geq 4\%$ drop in O_2 saturation or arousal on electroencephalography (EEG).
Maintenance of Wakefulness	Measures amount of time a test (MWT) person is able to stay awake in an environment conducive to sleep.
Mixed apnea	Begins as central apnea but becomes obstructive in the same cycle.
Multiple Sleep Latency Test (MSLT)	Measures time to sleep onset, as measured by EEG, in an environment conducive to sleep. The test has the advantage of being able to overcome the motivation to stay awake.
Obesity-hypoventilation syndrome	Obesity, obstructive sleep apnea syndrome and daytime hypercapnia (>45 mm Hg). Morbid obesity, pulmonary hypertension, right heart failure and hypoventilation (i.e., hypercapnia).
Obstructive apnea	Apnea with continued respiratory effort.
Obstructive sleep apnea syndrome	RDI > 15 events per hour of sleep plus symptoms during daytime and nighttime.
Parasomnias	Abnormal behavior/activity during sleep (e.g., sleep walking, nocturnal seizures, enuresis, etc.).
Polysomnogram (PSG)	A recording of sleep events, typically during a night of sleep, using many sources: electrooculography (EOG), EEG, electromyography (EMG), electrocardiogram (ECG), oximetry, and recording of snoring, nasal, and oral airflow measurements, and abdominal and chest wall movement.
Respiratory Disturbance Index (RDI)	Sum of all apneas and hypopneas divided by number of hours of sleep (i.e., number of apneas and hypopnea events per hour of sleep).
Upper airway resistance syndrome	Increased upper airway resistance that manifests progressively louder (crescendo) snoring that ends in an arousal with sudden decrease in upper airway resistance and cessation of snoring. Generally no disturbances in oxygenation. Repeated arousals fragment sleep, leading to daytime somnolence.

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