

Are Your Medications Keeping You Awake?

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COMMENTARY

Sleep is a precious commodity that most Americans don't get nearly enough of, and it is the first thing to go when we are stressed for time. Therefore, most folks are walking around with sleep deficits and then turn to caffeine, power drinks, or medications to give them that push to finish the day. Compounding this problem are the many prescription medications used for common ailments that have profound effects on sleep architecture. Often the very things folks are taking to get them through the day can be the very things keeping them awake at night.

When we lecture on sleep, we ask the audience to show by hands how many hours they sleep per night. In a group of 30 people, there might be one hand for eight hours or more, three hands for seven hours, and the rest are for six hours or less. These results are consistent with what we see in our sleep practice and with the reported national average. Most folks sleep less than six hours a night.

We normally sleep through four to five 90-minute cycles each night. Each cycle consists of sleep stages of varying lengths. The first half of the night is dominated by NREM sleep (non-rapid eye movement), which includes the semi-deep and deep sleep. Both are responsible for moving the short-term memory to more long-term storage in the brain, muscle relaxation, cell detoxification, and the production of essential good hormones like growth hormone and the Leptin hormone, which is responsible for satiety. The second half of the night is heavy with REM sleep (rapid eye movement), the stage at which active sleep and dream sleep occur. Though the body is paralyzed during this period, memory processing and creative problem-solving take place.

A quick look at a patient's hypnogram—a graph summary of sleep stages—gives me a good idea about his or her current medications. Many common medications affect the sleep cycle and disrupt the sleep architecture. We sometimes guess which medications a patient takes, and more often than not, we guess his or her medications correctly.

That leads me to Janet, a typical patient experiencing sleep disorders. She is a middle-aged woman with multiple health

issues who takes several medications, including an antidepressant, a mood stabilizer, a blood pressure medication (beta blocker), a morning stimulant, and a bedtime sedative. Janet's main issue was having unrefreshing sleep. The combination of her medications was profoundly affecting her sleep architecture, depriving her of the essential deep and REM sleep she needs to provide her with revitalizing sleep.

Many medications adversely affect sleep quality. Approximately four percent of American adults use prescription sleep aids (hypnotics). These medications promote sleep by suppressing the central nervous system. In addition, they reduce deep and REM sleep and are known to cause memory impairment. They can often transform simple snoring to a more serious condition called sleep apnea. Because over-the-counter sleep aids, used by ten or twenty percent of Americans, have a long life in the body, they can lead to daytime sleepiness and cognitive impairment. Antihistamines can also cause daytime drowsiness. Sedatives used for anxiety have another side effect, a decrease in REM sleep. Antidepressants called serotonin re-uptake inhibitors (SSRIs), used by one in ten Americans, decrease deep and REM sleep. Prescribed stimulants, used by 16 million adults, can contribute to insomnia. And some blood pressure medications, like the beta blocker Janet uses, sometimes cause nightmares and sleep disturbances.

So our concern as a sleep specialist is the culmination of all these factors—factors that lead to serious sleep disorders and bring patients to our practice. We have a large segment of the U.S. population taking medications that affect the way they sleep, impair short-term and long-term memory, decrease muscle relaxation, and suppress hormones that support the immune system and decrease obesity. Complicating these matters is the fact that most Americans do not get the recommended seven to eight hours of sleep per night.

Between the effects of medications and the lack of sleep, how do we have any chance to give our body the rest it requires to accomplish what we need to do as individuals and as members of an ever more complex society? What is happening to our well-being and collective intelligence? Unfortunately, in this overworked, stressed-out, highly medicated, and over-caffeinated society, sleep is a disappearing commodity with truly detrimental effects on our bodies.

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