

How Sleep Deprivation Compromises Health

Weight

If you've tried dieting and exercise, but can't seem to shed those excess pounds, try sleeping in. A study of almost 10,000 American adults aged 32-49 discovered that sleeping less than seven hours a night significantly increases the chance of being obese. The same is true for children: a study found that kids who were overweight slept less and had poorer quality sleep than normal-weight kids. The reason behind this: when deprived of sleep, appetite--regulating hormones leptin and ghrelin get out of whack, causing you to feel hungry even when you've had plenty of calories.

Blood Sugar

New research shows that getting just three nights of poor quality sleep in a row can cause your body to develop a resistance to insulin—the hormone that shuttles sugar out of the blood and into the cells. Insulin resistance is one of the defining factors of metabolic syndrome and can lead to the development of diabetes. A study of nine healthy men and women aged 20-31 used a series of noises to deprive participants of deep sleep. After three nights of shallow sleep, eight out of nine of the volunteers had developed insulin resistance. These findings build on previous study results, which showed that restricting sleep to four to six hours a night created a pre-diabetic state in study subjects after just six nights.

Immunity

One of the best ways to prevent colds and flu is getting enough sleep. In a recent study, participants snorted nasal drops containing a cold--causing virus. Then, researchers monitored how much the participants slept to see if there was an association between lack of sleep and lowered resistance. There was and it was strong. Those who slept less than seven hours a night were almost three times as likely to come down with a cold as those who got eight hours or more. It didn't matter whether study subjects felt rested or not; what mattered was the actual amount of sleep they got.

Heart Health

Getting an extra hour of sleep a night may provide benefits to cardiovascular health similar to lowering systolic blood pressure by 17 mm Hg. That's the conclusion of a new study which measured the rate of arterial calcification—a predictor of cardiovascular disease—among 495 middle-aged adults and compared it with the number of hours they slept. Among people who slept less than five hours a night, 27% developed calcification of the arteries over a five-year period. That figure plunged to 6% for those who snoozed more than seven hours.

Need more evidence that hearts need sleep? When the clock is turned back at the end of daylight savings time, affording us an extra hour of sleep, there's a 5% drop in heart attack deaths and hospitalizations.

Memory and Learning

College students may be tempted to stay up the night before a final to cram, but research shows that's not a wise idea. Sleep researcher Matthew Walker has discovered that sleep actually helps the brain concretize what it learned the day before, improving learning and memory. In one of his studies, Walker had students learn a series of random numbers, such as 4.1.3.2.4. Students who learned the sequence in the morning and then were tested 12 hours later performed the same as they had at the time of learning. But when subjects learned the sequence a night, slept on it, and were tested again in the morning, their performance actually increased 20-30%. Other studies have found similar results. At least six hours of sleep appear to be required to have a memory-enhancing effect.

Breast Cancer

A large study of almost 24,000 Japanese women found that women who got by on six hours of sleep or less per night had a 62% higher risk of getting breast cancer than women who slept just one hour more. Researchers suspect that melatonin, the hormone secreted during nightly sleep, is the connection between sleep and cancer. Previous research has shown that women who have the highest levels of melatonin have the lowest risk of cancer.

Lifespan

Get by on just six or fewer hours a night of shut eye and you could be increasing our risk of dying 70% compared to people your same age who allow themselves to rest seven or eight hours, according to a study that tracked the sleep habits and mortality of 7,000 Americans for nine years.

Another study of 82,000 nurses found that women who routinely slept less than six hours a night had an increased risk of death, as well as women who slept nine hours or more. It may be that eight is the perfect number.

It can be difficult to make enough time for eight hours of sleep per night. Surveys indicate that while the average American slept eight hours in 1960, by 2008 that number had dropped to 6.7 hours. We tend to feel as though sleep is a luxury. Yet, as endocrinologist Eve Van Cauter stated in a CBS News story, "There's no other mammal that sleep deprives itself than the human."

Written by Sara Lovelady

The Wellness Advisor

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