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Posted: January 27, 2010 09:28 AM

How Much Sleep Do We Actually Need?

How much sleep do we need?

The most frequent question a sleep researcher hears is "how much sleep do we need." It has been said that the invention of the electric light greatly reduced sleep time from its "natural" level. However, the direct evidence for this is questionable. Our distant ancestors slept on rocks, dirt, unheated caves or trees. Variations in temperature went far outside our comfort zone, and unregulated light levels, insects, rain, snow, noises, hunger, untreated pain and predation by "lions, tigers and bears" -- not to mention other humans -- would have disturbed sleep far beyond what most of us experience in the 21st century.

In the modern world, humans in middle class households typically have soft clean sleeping surfaces, temperature and light regulation and are in most cases free from insect or animal intrusion. However, cable TV, the Internet and various forms of electronic entertainment and lifestyle choices now provide incentives to stay awake rather than sleep. But what are the consequences of sleep duration, for overall health. Will sleeping loss shorten your life? Is more sleep associated with better health and longer lifespan?

Several scientific studies have addressed these issues directly. In one of the largest such studies, conducted by the American Cancer Society, more than one million individuals, males and females over a wide age range, were asked about their sleep time (1). Five years later it was determined which of these individuals had died. The investigators then compared reported sleep time in the deceased individuals with that of those who were still alive. The major findings were quite surprising. Adults who reported that they had slept seven hours a night were least likely to have died. Those who sleep less than seven hours had a slightly increased probability of death. Of those, only the very few individuals with reported sleep time of four or three hours were much more likely to have died than those with seven hours of sleep. On the other hand, individuals with nine or more hours of sleep were much more likely to have died.

At least 14 other studies have reported the same results (2-15), i.e. that both long and short sleep durations are correlated with poor health and shortened lifespan, with most studies reporting a greater risk associated with long sleep. Both very short and long sleep durations were associated with increased rates of heart attacks, diabetes, obesity and other pathologies. A few of these studies used laboratory recordings of sleep instead of the self-reported sleep durations of the earliest studies, with the same results. It can be proposed that some of the individuals with long sleep time were ill and that the long sleep was an unsuccessful attempt to cope with this illness. An alternate hypothesis is that the long sleep itself was maladaptive, analogous to the effect of excessive food consumption. Studies have not yet been done to determine if reducing the sleep of long sleepers has health benefits.

Exclusion of those who are overweight, snore, use sleeping pills or other drugs and of a number of other variables did not eliminate or substantially decrease these relations between sleep durations and health.

There are exotic diseases characterized by decreased sleep (one called Fatal Familial Insomnia) and increased sleep (one called Sleeping Sickness). It is unclear if the changes in sleep have any role in the death that can result from these disorders.

So, getting back to the question in the title, how much sleep do YOU need, some commonsense rules can be applied. If you go to sleep and awaken without the intervention of alcohol, caffeine or other drugs and are alert and attentive during the day, you shouldn't worry inordinately about sleep duration. For example, some people naturally sleep six hours and others naturally sleep eight hours.

Individuals in both categories may show a performance impairment if they are sleep deprived by one or two hours, but this will also vary across individuals, i.e. some of us can function much better than others after sleep deprivation, even compared with those who have the same "natural" amount of sleep (16).

However, if you are persistently sleepy during the day, you may have a sleep disorder. If your bed partner reports interrupted snoring during the night (see [here](#)) you may have sleep apnea, a deadly disease that can be very effectively treated and you should immediately see a physician. However if there are no such problems, one should not lie awake at night worrying that because one's "significant other" sleeps more than you or that you need to see a doctor for sleeping pills (these will be the subject of a later post).

Further information and links at [available here](#).

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