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Getting less sleep associated with lower resistance to colds

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Individuals who get less than seven hours of sleep per night appear about three times as likely to develop respiratory illness following exposure to a cold virus as those who sleep eight hours or more, according to a report in the January 12 issue of *Archives of Internal Medicine*, one of the JAMA/Archives journals.

Studies have demonstrated that sleep deprivation impairs some immune function, according to background information in the article. Research indicates that those who sleep approximately seven to eight hours per night have the lowest rates of heart disease illness and death. However, there has previously been little direct evidence that poor sleep increases susceptibility to the common cold.

Sheldon Cohen, Ph.D., of Carnegie Mellon University, Pittsburgh, and colleagues studied 153 healthy men and women (average age 37) between 2000 and 2004. Participants were interviewed daily over a two-week period, reporting how many hours they slept per night, what percentage of their time in bed was spent asleep (sleep efficiency) and whether they felt rested. They were then quarantined and administered nasal drops containing the common-cold-causing rhinovirus. For five days afterward, the study participants reported any signs and symptoms of illness and had mucus samples collected from their nasal passages for virus cultures; about 28 days later, they submitted a blood sample that was tested for antibody responses to the virus.

The less an individual slept, the more likely he or she was to develop a

cold. Lower sleep efficiency was also associated with developing a cold—participants who spent less than 92 percent of their time in bed asleep were five and a half times more likely to become ill than those whose efficiency was 98 percent or more. Feeling rested was not associated with colds.

"What mechanisms might link sleep to cold susceptibility? When the components of clinical illness (infection and signs or symptoms) were examined separately, sleep efficiency but not sleep duration was associated with signs and symptoms of illness. However, neither was associated with infection," the authors write. "A possible explanation for this finding is that sleep disturbance influences the regulation of pro-inflammatory cytokines, histamines and other symptom mediators that are released in response to infection."

The results suggest that seven to eight hours of sleep per night is a reasonable target, they conclude.

Source: JAMA and Archives Journals

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