

Sleep too much or too little and you might get sick more, scientists find

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A good night's sleep can solve all sorts of problems—but scientists have now discovered new evidence that sleeping well may make you less vulnerable to infection. Scientists at the University of Bergen recruited medical students working in doctors' surgeries to hand out short questionnaires to patients, asking about sleep quality and recent infections. They found that patients who reported sleeping too little or

too much were more likely also to report a recent infection, and patients who experienced chronic sleep problems were more likely to report needing antibiotics.

"Most previous observational studies have looked at the association between sleep and infection in a sample of the general population," said Dr. Ingeborg Forthun, corresponding author of the study published in *Frontiers in Psychiatry*. "We wanted to assess this association among [patients](#) in primary care, where we know that the prevalence of [sleep problems](#) is much higher than in the population at large."

Studying sleep in the doctor's office

Evidence already exists that sleep problems raise the risk of infection: in a previous study, people deliberately infected with rhinovirus were less likely to catch a cold if they reported healthy sleep. Sleep disturbances are common and treatable, and if a link to infection and a mechanism can be confirmed, it might make it possible to cut down on antibiotic use and protect people against infections before they happen. But experimental studies can't reproduce real-life circumstances.

Forthun and her colleagues gave [medical students](#) a questionnaire and asked them to hand it out to patients in the waiting-rooms of the general practitioners' surgeries where the students were working. 1,848 surveys were collected across Norway. The surveys asked people to describe their [sleep quality](#)—how long they typically sleep, how well they feel they sleep, and when they prefer to sleep—as well as whether they had had any infections or used any antibiotics in the past three months. The survey also contained a scale which identifies cases of chronic insomnia disorder.

Risk of infection raised by a quarter or more

The scientists found that patients who reported sleeping less than six hours a night were 27% more likely to report an infection, while patients sleeping more than nine hours were 44% more likely to report one. Less than six hours' sleep, or chronic insomnia, also raised the risk that you would need an antibiotic to overcome an infection.

"The higher risk of reporting an infection among patients who reported short or long sleep duration is not that surprising as we know that having an infection can cause both poor sleep and sleepiness," said Forthun.

"But the higher risk of an infection among those with a chronic insomnia disorder indicate that the direction of this relationship also goes in the other direction; poor sleep can make your more susceptible to an infection."

Although there was some potential for bias in the sense that people's recall of sleep or recent health issues is not necessarily perfect, and no clinical information was collected from the doctors who subsequently saw the patients, the [study design](#) allowed for the collection of data from a large study group experiencing real-world conditions.

"We don't know why the patients visited their GPs, and it could be that an underlying health problem affects both the risk of poor sleep and risk of [infection](#), but we don't think this can fully explain our results," said Forthun.

She continued, "Insomnia is very common among patients in [primary care](#) but found to be under-recognized by general practitioners.

Increased awareness of the importance of sleep, not only for general well-being, but for patients' health, is needed both among patients and general practitioners."

More information: The association between self-reported sleep problems, infection, and antibiotic use in patients in general practice,

Frontiers in Psychiatry (2023). [DOI: 10.3389/fpsyt.2023.1033034](https://doi.org/10.3389/fpsyt.2023.1033034)

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