

LETTERS TO THE EDITOR

## The world war against the COVID-19 outbreak: don't forget to sleep!

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The World Health Organization declared the new coronavirus disease, COVID-19, an international public health emergency concern. Governments in various countries have taken several protective measures to limit exposure to the virus, such as closing borders and schools, cancelling travel, and issuing travel warnings, and providing guidance about working from home and social distancing.<sup>1</sup>

The first line of care for those who are possibly infected is conducted by health professionals who extend an incredible effort to attend to the population. In a related effort, scientists and public health leaders have been working almost uninterruptedly to find the best form of treatment for those infected and create a strategy to prevent the virus' spread. As a result, fatigue, stress, and sleep deprivation are common.

Sleep is linked to the body's defense system and promotes inflammatory homeostasis. Conversely, sleep debt impairs immune responses by disrupting circadian rhythms, provokes a negative impact on endocrine profile and on some cytokines (specifically IL-1, IL-6 and TNF- $\alpha$ ), and is associated with diseases and immunosuppression.<sup>2-4</sup> Although there are no studies that associate increased diagnosis of COVID-19 with sleep debt, immunosuppression induced by sleep deficits can increase the risk of developing opportunistic diseases and worsen the clinical condition caused by COVID-19.

Another relevant point to be highlighted is the reduced response during the log phase of antibody production after influenza vaccination.<sup>5</sup> In the current environment influenza vaccination is of great importance in the process of excluding other possibilities during the investigation of suspected COVID-19 cases.

So far there is no vaccine available. Based on impairments caused by sleep debt, we suggest that sleep hygiene be included in the World Health Organization COVID-19 technical guidance to the general public and to health care workers. It is important to keep a consistent sleep schedule, get at least 7 hours of sleep, not go to bed unless sleepy, establish a relaxing bedtime routine, keep the bedroom quiet and at a comfortable cool temperature, turn off electronic devices at least 30 minutes before bedtime, not eat a large meal before bedtime, exercise regularly (moderate intensity), avoid consuming caffeine in

the late afternoon or evening, avoid consuming alcohol before bedtime, ensure adequate exposure to natural light, and nap no longer than 30 minutes.<sup>6</sup>

### CITATION

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