

The mind after midnight: Study shows disrupted sleep increases risk for suicide and homicide

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An analysis by researchers in the Department of Psychiatry at the University of Arizona College of Medicine—Tucson showed that risks for death by suicide and homicide peak at night, with nocturnal wakefulness, age, alcohol use and relationship conflicts being especially prevalent as contributing factors.

Nearly 19% of suicides and 36% of homicides occur at night. Suicide and [homicide](#) share little in common, but their highly concordant overnight risk patterns suggest a common feature: nocturnal wakefulness.

"Disrupted sleep may acutely impair rational thought, which can drive [impulsive behaviors](#) in vulnerable individuals," said first author Andrew Tubbs, MD, Ph.D., a researcher in the Sleep and Health Research Program at the UArizona College of Medicine—Tucson's Department of Psychiatry.

"Our analysis of 15 years of data across the U.S. showed that there is a five-fold greater risk for suicide and an eight-fold greater risk for homicide between 2 a.m. and 3 a.m. when adjusting for the number of people who are awake and capable of suicide or homicide."

The paper, "Risk for Suicide and Homicide Peaks at Night: Findings From the National Violent Death Reporting System, 35 States, 2003–2017," was [published](#) May 29 in *Journal of Clinical Psychiatry*.

"The fact that these overnight risk patterns apply to both suicide and

homicide are striking," said the study's senior author Michael Grandner, Ph.D., an associate professor of psychiatry, director of the Behavioral Sleep Medicine Clinic and a BIO5 Institute member.

"In our review of more than 78,000 suicides and 50,000 homicides, we can find some insight into why nocturnal wakefulness—what we are calling 'the mind after midnight'—carries a distinct risk for dysregulated behaviors."

The authors' mind after midnight hypothesis proposes that nocturnal wakefulness deteriorates the brain's complex decision-making functions and reduces rational thinking during a time when negative mood is at its peak, positive mood is at its lowest, and risk/reward processing is distorted.

The findings supported that hypothesis. Nighttime risk was greater among adolescents and [young adults](#), people who were intoxicated with alcohol, and those experiencing current partner conflict, conflict, but not among those who used cannabis or were currently depressed.

Individuals aged 15–24 years experienced a three-fold greater nighttime risk for suicide, while there was an unexpected [suicide](#) risk among older adults at 6 a.m. Risk for homicide did not vary by age, though young adults accounted for more than half of all homicide victims.

"Few studies have examined time-of-day trends in [violent crime](#)," Tubbs said. "Future studies could clarify what exactly is happening in the brain to predispose people to these sorts of risks and whether evidence-based strategies to improve sleep and reduce nighttime [wakefulness](#) can help reduce the risks and prevent these tragic outcomes."

More information: Andrew S. Tubbs et al, Risk for Suicide and Homicide Peaks at Night, *The Journal of Clinical Psychiatry* (2024).
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