

# Truck drivers who fail to adhere to sleep apnea treatment have higher crash rate

March 21 2016

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Credit: Vera Kratochvil/public domain

Truck drivers with obstructive sleep apnea (OSA) who failed to adhere

to treatment had a rate of preventable crashes five times higher than that of truckers without the ailment, according to researchers from Harvard T.H. Chan School of Public Health, University of Minnesota, Morris, Brigham and Women's Hospital (BWH) and colleagues.

The study—which looked at the results of the first large-scale employer program to screen, diagnose, and monitor OSA treatment adherence in the U.S. trucking industry—will be published online March 21, 2016 in the journal *Sleep*.

The findings suggest that commercial truck [drivers](#) should be regularly screened for [sleep apnea](#) and required to treat it if they have it in order to continue driving, according to Stefanos Kales, associate professor in the Department of Environmental Health at Harvard Chan School, Chief of Occupational Medicine at Cambridge Health Alliance, and senior author of the study. "Mandating screening, diagnosis, and treatment would reduce large truck and bus accidents, and therefore deaths and injuries among the motoring public," he said.

"It's estimated that up to 20% of all large truck crashes are due to drowsy or fatigued driving, which would account for almost 9,000 fatalities and up to 220,000 serious injuries," Kales said. OSA—a disorder in which sleep is disrupted by repeated stops and starts of breathing—is the most common cause of excessive daytime sleepiness or fatigue, and has been linked with negative impacts on attention, working memory, vigilance, and executive functioning. People with OSA can be treated with a machine that delivers pressurized air, via a mask that fits over the nose, to keep the throat open during sleep and thus promote uninterrupted breathing.

Although commercial truck drivers undergo a biennial examination to determine their medical fitness to safely operate a vehicle, there are currently no mandatory standards for OSA screening or diagnosis, in part

because there have been no large-scale studies evaluating the crash risk of commercial drivers diagnosed with OSA.

In the new study, researchers analyzed the results of an OSA screening, diagnosis, and treatment program that was implemented by a major North American trucking firm, beginning in April 2006. They compared a control group of 2,016 drivers unlikely to have OSA with a group of 1,613 drivers with OSA. Of the latter group, 682 fully adhered with requirements to use company-provided pressurized air machines, 571 partially adhered to the treatment, and 360 never adhered. For each group, the researchers also looked at data on serious preventable crashes in which the driver was found at fault.

They found that drivers with OSA who didn't adhere to treatment had a rate of preventable crashes five-fold greater than that of the control group which had similar driving experience. They also found that drivers with OSA who were fully compliant with the company-mandated treatment had a crash rate no different than that of the control group.

Kales noted that the U.S. Federal Motor Carrier Safety Administration is currently considering the possibility of mandating sleep apnea screening for truck drivers and requiring treatment for those with a positive diagnosis. "The regulations have been highly contested and debated for more than 10 years," he said. "This is a major [public health](#) issue and our findings may be the first in a decade to actually push the federal government to mandate sleep apnea screening for these drivers. In addition, the findings are also arguably generalizable to operators of airplanes, buses, ships, trains, and other modes of public transport."

"Given that the risk of heart disease, cancer, diabetes, dementia and premature death are similarly increased in people with untreated [obstructive sleep apnea](#), regulatory agencies worldwide owe it to [truck drivers](#) and to the motorists who share the road with them to require

objective screening, diagnostic testing, and [treatment](#) adherence monitoring for all commercial drivers," said co-author Charles A. Czeisler, chief of the Division of Sleep and Circadian Disorders at Brigham and Women's Hospital and Baldino Professor of Sleep Medicine at Harvard Medical School in Boston.

**More information:** "Non-Adherence with Employer-Mandated Sleep Apnea Treatment and Increased Risk of Serious Truck Crashes," *Sleep*, March 21, 2016

Provided by Harvard T.H. Chan School of Public Health

Citation: Truck drivers who fail to adhere to sleep apnea treatment have higher crash rate (2016, March 21) retrieved 13 May 2024 from <https://medicalxpress.com/news/2016-03-truck-drivers-adhere-apnea-treatment.html>

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