Sleep problems and sleepiness increase the risk of motor vehicle accidents in adolescents

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A study in the Feb. 15 issue of the *Journal of Clinical Sleep Medicine* shows that sleepiness at the wheel and poor sleep quality significantly increase the risk of motor vehicle accidents in adolescents.

Results indicate that adolescent drivers were twice as likely to have had a crash if they experienced sleepiness while driving (adjusted odds ratio = 2.1) or reported having bad sleep (OR = 1.9). Eighty of the 339 students had already crashed at least once, and 15 percent of them considered sleepiness to have been the main cause of the crash. Fifty-six percent of students who had at least one previous crash reported driving while sleepy, compared with 35 percent of subjects who had not been in a crash.

Lead author Fabio Cirignotta, M.D., professor of neurology at the University of Bologna in Italy, said that the only effective countermeasure to drowsiness is to stop driving immediately, pull over to a safe place and nap for 10 to15 minutes.

"Commonly used countermeasures to fatigue, such as opening the window, listening to the radio, or drinking a coffee, are known to be short-lasting and, essentially, useless," said Cirignotta. "Moreover, if a subject perceives sleepiness, he or she would probably already have a reduced performance at the wheel, and nobody can safely detect the real instant when sleep is starting in order to stop driving at that time."

This cross-sectional study was conducted in 2004 and was supported by

the Italian Ministry of Education. Self-administered questionnaires were distributed to 339 students who had a driver's license and were in their last two years of attendance at one of seven high schools in Bologna. Students were between the ages of 18 and 21 years (mean 18.4 years), and 58 percent of them were male.

Questions concerned lifestyle habits, nocturnal sleep habits, symptoms suggesting sleep disorders, and a subjective report of daytime sleepiness. Driving habits and sleepiness at the wheel were evaluated by questions assessing the frequency and timing of car use and accidents, the perceived causes of vehicle crashes and the respondents' coping methods for dealing with sleepiness while driving.

Results show that students suffered from chronic sleep deprivation. Although they reported that their sleep need was a mean of 9.2 hours per night, the students reported sleeping for an average of only 7.3 hours on weeknights. Only six percent of students slept nine hours or more on weeknights, and 58 percent tried to catch up by sleeping nine hours or more on weekends.

Sleep problems also were commonly reported by the students. Forty-five percent woke up at least once during the night with trouble falling asleep again, 40 percent complained of difficulties in morning awakening and 19 percent reported bad sleep. The combination of chronic sleep loss and poor sleep quality had a negative effect on their alertness, as 64 percent of participants complained of excessive daytime sleepiness.

The study also found an increased risk of car accidents in men (OR = 3.3) and smokers (OR = 3.2). The authors suggested that the use of tobacco could be an indirect estimate of unhealthy lifestyle habits, as well as a method of counteracting sleepiness.

According to the authors, the study emphasizes the need for education

programs that target adolescents with information about improving sleep habits, the importance of sleep and the dangers of sleep deprivation.

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