

Poor sleep in adolescents may increase risk of heart disease

October 1 2012

Adolescents who sleep poorly may be at risk of cardiovascular disease in later life, according to a study in *CMAJ* (*Canadian Medical Association Journal*).

"We found an association between sleep disturbance and cardiovascular risk in adolescents, as determined by [high cholesterol levels](#), increased BMI [[body mass index](#)] and hypertension," writes lead author Dr. Indra Narang, respirologist and director of [sleep medicine](#) at The Hospital for Sick Children (SickKids), Toronto, Ontario, with coauthors. "These findings are important, given that sleep disturbance is highly prevalent in adolescence and that [cardiovascular disease risk](#) factors track from childhood into adulthood."

Approximately 20% of adolescents have significant sleep problems, such as sleep disturbances or sleep deprivation. [Sleep disturbances](#) include frequent waking up during the night, early wakening, inability to fall asleep within 30 minutes, restlessness and bad dreams.

The study involved 4104 adolescents in the Healthy Heart Schools' Program in the Niagara region of Ontario that screens and identifies teens at risk of coronary vascular disease. A community partnership between Heart Niagara Inc. and researchers from SickKids looked at the link between poor sleep and indicators of cardiovascular disease risk such as high cholesterol levels, high blood pressure, high BMI and poor diet.

Participants slept an average of 7.9 hours on weeknights and 9.4 hours on weekends. Almost 20% (19.6%) of students reported poor quality sleep during the week, and 10.0% reported poor quality on weekends. Of the participants, 5.9% reported using medications to help them sleep.

Students recorded their [sleep patterns](#) and quality using the Pittsburgh Sleep Quality Index questionnaire. Trained staff collected data on BMI, cholesterol levels and blood pressure from participants and determined whether they had close relatives with a history of premature cardiovascular disease.

Students who consumed more fried foods, soft drinks, sweets and caffeinated drinks exercised less and had more screen time had higher sleep disturbance scores. A higher sleep disturbance score was associated with a higher cholesterol level, higher BMI, larger waist size, higher blood pressure and increased risk of hypertension. Shorter sleep duration was also associated with higher BMI and waist size but not increased cholesterol levels or blood pressure.

"In addition to these health risks, previous studies have shown that poor sleep also negatively impacts school performance. Parents should monitor caffeine intake, bedtimes and bedrooms overloaded with media," says Dr. Brian McCrindle, senior author and cardiologist at SickKids.

There is emerging evidence that poor sleep quality or inadequate sleep in adults is associated with an increased risk of cardiovascular disease. These new findings show that sleep disturbance in adolescents may significantly impact their cardiovascular risk in adulthood. Efforts to improve sleep habits early in life could be important for the prevention of cardiovascular disease.

More information: Paper:

www.cmaj.ca/lookup/doi/10.1503/cmaj.111589

Provided by Canadian Medical Association Journal

Citation: Poor sleep in adolescents may increase risk of heart disease (2012, October 1) retrieved 20 March 2024 from

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