

Ontarians had poor sleep quality in early days of pandemic, study finds

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A new study co-authored by Western University researchers found Ontario adults experienced poor sleep quality during the early months of the COVID-19 pandemic.

The study, published in *Sleep Medicine* in March 2022, is part of a larger longitudinal study focusing on chronic disease among Ontario adults during the pandemic. It included 2,192 participants between the ages of 30 and 59, the highest at-risk group for chronic disease, like obesity and diabetes.

The findings provide insights into the sleep patterns of Canadians during the early stages of the COVID-19 lockdown and can help health-care providers be better prepared to treat sleep issues in the future, especially during a pandemic.

Authors of the study include Western researchers Katie Shillington, Shauna Burke, Patricia Tucker and Jennifer Irwin, in the Faculty of Health Sciences; Victor Ng from Schulich Medicine & Dentistry; and Leigh Vanderloo, research fellow at the Hospital for Sick Children in Toronto.

The study used the Pittsburgh Sleep Quality Index (PSQI) to determine the quality of respondents' sleep, with a score of above five out of 21 indicating poor sleep quality. Participants in the study had a global PSQI score of 7.57, with 63.95 percent of them being classified as "poor sleepers." By using logistic regression analyses, the authors of the study found that women and individuals over the age of 40 had the highest odds of sleeping poorly.

What made the study unique was noting the various sleep disturbances from respondents that may be attributable to poorer sleep quality. The top three self-reported sleep disturbances included general fear and anxiety (8.4 percent), children (6.9 percent), and mind wandering/overthinking (4.9 percent). Fear and anxiety about COVID were at 3.1 percent, the sixth highest factor cited by participants.

Women's perspective

Katie Shillington, the lead author, noted a limitation of the study was the sample used was primarily [female participants](#), making up 89.6 percent of respondents.

"It's not necessarily representative of the general population of Ontario as a whole because of the skewed data towards females," said Shillington.

Researchers have found there are issues that affected women's concerns during the COVID-19 pandemic, including childcare options, employment opportunities and career progression. Many participants in the study described stress related to working from home. Despite the shift of parents sharing household responsibilities, those tasks have "disproportionately" fallen on mothers during the pandemic with women's employment being more negatively affected.

While most of the participants got more than seven hours of sleep a night, the quality of the sleep was found to be poor. The Canadian Society of Exercise Physiology recommends seven to nine hours of "good quality" sleep to help prevent the onset of chronic disease.

Getting enough sleep (both quantity and quality of sleep) was a problem in Canada before the pandemic started. It is unknown how the impact of mandates and public health measures impacted lifestyle-related health behavior in Canada, including the quality of sleep, as there is a small amount of research done in that area.

However, signs in other countries have shown that lockdowns had a negative impact on the quality of sleep. The researchers cited a 2020 study from Italy that found, before the lockdown, 40.5 percent of respondents experienced poor sleep. This jumped to 52.5 percent during the pandemic lockdown a month later. The study notes it can be "anticipated that Canadian populations will also have experienced sleep

difficulties" due to lockdowns.

Sleep and screen time

One interesting factor was that screen time was not a "primary sleep concern" for those in Ontario. With the prevalence of lockdowns and having to isolate, it would be assumed screen time would increase and affect sleep. Screen time has also been associated with shorter sleep duration and poorer sleep efficiency. Shillington suggests because of the age group (30 to 59), there would not be as much screen time compared to [younger people](#), or it did not affect sleep as much as it did in other countries.

"That one was really interesting," said Shillington. "If we look at the work that's being conducted in other areas, like the ones in Italy and China, they found that there was an increase in [screen time](#), and that was contributing to a lack of sleep. But we didn't find that in our study."

The prioritization of sleep has declined internationally over the last century due to people placing a greater importance on work, commuting and technology use. Even before the [pandemic](#), Canadians were already having sleep issues, with at least half of them having trouble falling and/or staying asleep. According to a 2017 study published in *Obesity Reviews*, 43 percent of Canadian men and 55 percent of Canadian women between 18 and 64 reported difficulties falling and/or staying asleep.

The [longitudinal study](#) includes three time points: a baseline of April to July 2020, immediately following the first provincial reopening in July and August 2020, and a one-year follow up in August 2021.

More information: Katie J. Shillington et al, Not so sweet dreams: adults' quantity, quality, and disruptions of sleep during the initial stages

of the COVID-19 pandemic, *Sleep Medicine* (2021). [DOI: 10.1016/j.sleep.2021.02.028](https://doi.org/10.1016/j.sleep.2021.02.028)

J.-P. Chaput et al, Interactions between sleep, movement and other non-movement behaviours in the pathogenesis of childhood obesity, *Obesity Reviews* (2017). [DOI: 10.1111/obr.12508](https://doi.org/10.1111/obr.12508)

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