

Sleep and cancer incidence in Alberta's Tomorrow Project cohort

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Abstract

Study Objectives

Few studies have examined associations between sleep duration with combined and site-specific cancers within the same cohort. Additionally, no study to date has assessed associations between sleep timing midpoint and cancer incidence. Therefore, we aimed to investigate associations between self-reported sleep duration and sleep timing midpoint with combined and site-specific cancer incidence in Alberta's Tomorrow Project (ATP) cohort.

Methods

The sleep duration analysis included 45,984 Albertans aged 35–69 years recruited from 2001–2015. Sleep timing midpoint (wake-time – ½ sleep duration) was assessed in a subset of ATP participants ($n = 19,822$). Incident cancer cases were determined through linkage with the Alberta Cancer Registry in June 2017. Cox proportional hazard regression models evaluated the effects of sleep duration and sleep timing midpoint on combined and seven site-specific cancers.

Results

A total of 2,428 and 1,322 incident cancer cases were observed in the sleep duration and sleep timing analyses, respectively. Reporting >9 h of sleep/night versus 7–9 h of sleep/night was associated with an increased incidence of non-Hodgkin lymphoma (hazard ratio [HR] = 2.14, 95% confidence interval [CI]: 1.14–4.01; $p = 0.02$) and hematological (HR = 1.70, 95% CI: 1.03–2.82; $p = 0.04$) cancers. A later sleep timing midpoint (>4 h 8 min) versus an intermediate sleep timing midpoint (3 h 47 min–4 h 8 min) was associated with an increased incidence of combined (HR = 1.20, 95% CI: 1.04–1.37; $p = 0.01$) and breast (HR = 1.49, 95% CI: 1.09–2.03; $p = 0.01$) cancers.

Conclusions

Sleep duration and sleep timing may play a role in cancer etiology. Studies including objective sleep assessments are needed to corroborate these findings.

[cancer incidence](#), [cohort study](#), [sleep duration](#), [sleep timing](#)

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