Abstract:

To examine the relationship between symptoms of insomnia and sleep duration and incident total (non-fatal plus fatal) strokes, non-fatal strokes, and fatal strokes in a large cohort of men and women from the general population in Germany. In four population-based MONICA (monitoring trends and determinants in cardiovascular disease)/KORA (Cooperative Health Research in the Region of Augsburg) surveys conducted between 1984 and 2001, 17,604 men and women (aged 25 to 74 years) were asked about issues like sleep, health behavior, and medical history. In subsequent surveys and mortality follow-ups, incident stroke cases (cerebral hemorrhage, ischemic stroke, transient ischemic attack, unknown stroke type) were gathered prospectively until 2009. Sex-specific hazard ratios (HR) and their 95% confidence intervals (CI) were estimated using sequential Cox proportional hazards regression models. During a mean follow-up of 14 years, 917 strokes (710 non-fatal strokes and 207 fatal strokes) were observed. Trouble falling asleep and difficulty staying asleep were not significantly related to any incident stroke outcome in either sex in the multivariable models. Among men, the HR for the association between short (≤10 hours) daily sleep duration and total strokes were 1.44 (95% CI:
1.01-2.06) and 1.63 (95% CI: 1.16-2.29), after adjustment for basic confounding variables. As for non-fatal strokes and fatal strokes, in the analyses adjusted for age, survey, education, physical activity, alcohol consumption, smoking habits, body mass index, hypertension, diabetes, and dyslipidemia, the increased risks persisted, albeit somewhat attenuated, but no longer remained significant. Among women, in the multivariable analyses the quantity of sleep was also not related to any stroke outcome. In the present study, symptoms of insomnia and exceptional sleep duration were not significantly predictive of incident total strokes, non-fatal strokes, and fatal strokes in either sex.