CAPSULE COMMENTARIES

Capsule Commentary on Kok et al., Risk of Autoimmune Disease in Adults with Chronic Insomnia Requiring Sleep-Inducing Pills: A Population-Based Longitudinal Study

Danya M. Qato, PharmD, MPH, PhD

Department of Pharmaceutical Health Services Research, University of Maryland School of Pharmacy, Baltimore, MD, USA.

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This cohort study by Kok et al. utilized population-based claims data from Taiwan to quantify the potential linkage between chronic insomnia and autoimmune disorders.[1] The researchers employed survival analysis to compare the odds of incident autoimmune disease diagnoses in a 1:3 propensity score-matched group of enrollees with chronic insomnia requiring pharmacotherapy versus a comparison group without chronic insomnia.

Though limited in size and duration, previous studies have hinted at a relationship between chronic sleep deprivation and autoimmune disorders.[2] While the natural history of autoimmune disorders is still being unraveled, we know that there is heterogeneity in their life course and pathophysiology.[3] The 12 years of data in this study allowed researchers greater scope for identifying the full spectrum of incident autoimmune disease development, and is a study strength. In addition, the authors excluded subjects with an autoimmune disorder diagnosis in the first year of the study, reasonably ensuring that disease onset began after exposure.

In this study, chronic insomnia was associated with an adjusted hazard ratio of 1.7 (95 % confidence interval, 1.5–1.9) for subsequent autoimmune disease development. The authors conclude that there is a 70 % increased risk of future autoimmune disorder in enrollees with chronic insomnia and speculate that the causal link is the impact of chronic insomnia on neuroimmunological functioning. This conclusion should be tempered by the fact that insomnia is often underdiagnosed and undertreated,[4] resulting in potential misclassification of the exposure and thus misestimation of the hazard ratio. Perhaps more importantly, in order to appreciate the magnitude of the difference in risk, hazard ratios should be interpreted in the context of time.[5] The authors did not provide information on the median time to disease development to enable readers to compare time to diagnosis between the groups. While this information may not change the direction of the findings, it will impact the interpretation and the urgency with which the study results are communicated to concerned patients most at risk for developing autoimmune disorders. Despite these limitations, this work reaffirms the critical need for providers to focus attention on sleep disturbance as a potential predictor of disease.

Corresponding Author: *Danya M. Qato, PharmD, MPH, PhD; Department of Pharmaceutical Health Services Research, University of Maryland School of Pharmacy, Baltimore, MD, USA (e-mail: danyaqato@gmail.com).*

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