

Comment on “Chronic Low Back Pain and Sleep Disturbance in Adults in the US: The NHANES 2009-2010 Study”

TO THE EDITOR:

The article written by Ye Tong and others on the association between chronic low back pain (CLBP) and sleep disorders in American adults, published in the 2024 issue of the journal *Pain Physician*, analyzes data from the National Health and Nutrition Examination Survey (NHANES) from 2009-2010 (1). The study concludes that there is a significant association between sleep disorders and the increased risk of CLBP, emphasizing the necessity of comprehensive management strategies that consider the role of sleep disorders in CLBP. This study provides us with a new perspective on understanding the link between CLBP and sleep disorders, offering new directions for future research. While recognizing the value of this study, we would like to express the following opinions.

First, the study design is rigorous, using propensity score matching to control for the key variable of age, which increases the credibility of the results. However, as a cross-sectional study, its conclusions cannot be used to infer causal relationships, which is an important limitation of the study. Therefore, we suggest that subsequent research could conduct Mendelian randomization studies to explore the potential causal association between CLBP and sleep disorders (2).

Second, the authors included demographic characteristics, body mass index, hypertension, diabetes, cardiovascular disease, cancer, energy intake, physical activity, smoking, and drinking as covariates to adjust for potential confounding factors, which is commendable. However, despite the multivariable adjustments made in the study, there may be unadjusted confounding factors that could affect the relationship between CLBP and sleep disorders. Therefore, we suggest further expanding the range of covariates. Upon reviewing the NHANES database, we found that there are data

on depression scores (3), chronic kidney disease (4), and arthritis (5), which could influence the association between CLBP and sleep disorders. Considering these confounding factors could affect the stability and reliability of the results. A more comprehensive assessment could be conducted to further enhance the credibility of the study's conclusions.

In summary, this study is a high-quality study that provides a comprehensive and in-depth analysis of the relationship between CLBP and sleep disorders. This study undoubtedly offers new clues for understanding the complex relationship between CLBP and sleep disorders. It may promote the development of new prevention and treatment strategies, potentially having a profound impact on clinical practice, public health policy, and future research directions. Our suggestions are only to further improve the already outstanding research results, and we eagerly look forward to the authors continuing to produce high-quality research in future studies.

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