

# Sleep Disorders, Depression, and Chronic Pain: Clinical Implications for Multidisciplinary Integrated Treatment [Letter]

Huimin Du<sup>1</sup>, Tong Wu<sup>2</sup>

<sup>1</sup>Department of Otolaryngology, First Affiliated Hospital of Huzhou University, Huzhou, Zhejiang People's Republic of China; <sup>2</sup>Department of Otolaryngology, Xinjiang Medical University Affiliated First Hospital, Urumqi, People's Republic of China

Correspondence: Huimin Du, First Affiliated Hospital of Huzhou University, Huzhou, Zhejiang, 313000, People's Republic of China, Email huimindu@naver.com

## Dear editor

We carefully reviewed the article “The Combined Effect Between Sleep Disorders and Depression Symptoms on Chronic Low Back Pain: A Cross-Sectional Study of NHANES” by Jiang et al.<sup>1</sup> We commend the authors for exploring the intersection of sleep disorders and depression symptoms in relation to chronic low back pain (CLBP). However, as readers, we identified some areas that warrant further discussion and improvement.

Firstly, the categorization of sleep disorders in the study is somewhat broad. The authors combined all types of sleep disorders into a single group without distinguishing between specific conditions such as obstructive sleep apnea (OSA), insomnia, or circadian rhythm disorders, which may have distinct impacts on CLBP. It is worth noting that the NHANES dataset contains specific questionnaires related to OSA,<sup>2,3</sup> making it feasible to analyze this subtype separately. Given the varying pathophysiological mechanisms underlying different sleep disorders, distinguishing these categories could provide a more nuanced understanding of their individual effects on chronic pain.

Secondly, while the article's approach of dividing participants into four groups based on the presence or absence of depressive symptoms and sleep disorders is a valid method to analyze their combined effects, it may overlook a potential mediation effect. Specifically, depression could act as a mediator between sleep disorders and the outcome variable, CLBP. In this case, sleep disorders might exacerbate depressive symptoms, which in turn could influence the onset and severity of chronic low back pain.<sup>4</sup> Future research should explore whether depression serves as a mediating factor between sleep disorders and CLBP, as understanding this potential mediation pathway could provide more targeted intervention strategies and deepen our comprehension of the complex relationship between these variables.

In our clinical practice as otolaryngologists, we often encounter patients with sleep-disordered breathing who also experience chronic pain and psychological challenges. The findings of this study highlight the critical need to consider the complex interplay between sleep quality, pain, and mental health. By focusing on improving sleep quality—particularly through the treatment of common conditions like obstructive sleep apnea (OSA)—there is potential to not only alleviate pain symptoms but also reduce the prevalence of depressive symptoms.

Finally, we would like to express our appreciation to Hao Jiang and colleagues for their valuable contribution to the understanding of the relationship between sleep disorders, depression symptoms, and chronic low back pain. We look forward to seeing further research on individualized and multidisciplinary intervention strategies in this field.

## Data Sharing Statement

No datasets were generated or analyzed during the current study.

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## Disclosure

The author declares no competing interests in this communication.

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