



Sleep Bruxism as a Contributing Factor to Morning Headache: A Response to Recent Commentary

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Dear Editor,

We sincerely thank the authors for their thoughtful and insightful comments on our recent review of morning headache.^{1,2} We greatly appreciate their interest in our work and their valuable contribution in highlighting the potential role of sleep bruxism (SB) as an underrecognized factor in morning headache.

We agree that SB is an important and often overlooked sleep-related motor activity that may contribute to morning headache. Repetitive masticatory muscle activity during sleep may cause muscle overload and activate myofascial pain mechanisms. In addition, SB has been associated with microarousals and transient autonomic activation, which may disrupt sleep architecture and lower the nociceptive threshold, potentially contributing to headache upon awakening.^{3,4}

We also acknowledge emerging evidence from polysomnographic and observational studies suggesting an association between SB and wake-up headache.⁴ The interaction between SB and obstructive sleep apnea (OSA) is also clinically relevant, as the two conditions share mechanisms such as sleep fragmentation and autonomic dysregulation.^{5,6} From a neurological perspective, incorporating SB into the diagnostic framework for morning headache may improve clinical evaluation, particularly in patients with otherwise unexplained symptoms.

At the same time, we emphasize that current evidence remains insufficient to establish a clear independent causal relationship between SB and morning headache. Many studies have used cross-sectional designs, and heterogeneity in SB assessment methods may influence the observed associations. Therefore, SB may be better conceptualized as one component of a multifactorial model of morning headache rather than as a standalone etiology.^{7,8}

In addition to SB itself, SB frequently coexists with temporomandibular disorders (TMD), a well-recognized cause of orofacial pain and headache.⁹ Clinical features such as jaw pain, joint sounds, and restricted mandibular movement may indicate underlying TMD, which may itself contribute to morning headache. Notably, laboratory-based polysomnographic studies suggest that pain outcomes may be more strongly associated with coexisting TMD than with SB alone.⁷ Therefore, TMD should be carefully assessed before morning headache is attributed directly to SB.

In conclusion, we appreciate the authors' important perspective and agree that SB should be considered in the broader diagnostic approach to morning headache. As neurologists, we will incorporate SB assessment into the clinical evaluation when appropriate. However, comprehensive assessment, including evaluation for OSA, insomnia, and TMD, remains essential, and further research is

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needed to clarify the independent role of SB in headache pathophysiology.

We thank the authors again for their valuable comments and for contributing to a more nuanced understanding of this clinically relevant topic.

AVAILABILITY OF DATA AND MATERIAL

Not applicable.

AUTHOR CONTRIBUTIONS

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CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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