

Clinical and Polysomnographic Sleep Features in Irritable Bowel Syndrome

Shahram Samadi^{*}, Seyed Mohammad Mireskandari

Department of Anesthesiology and Intensive Care, Imam Khomeini Hospital Complex, Tehran University of Medical Sciences, Tehran, Iran

Received: 01 Dec. 2019 Accepted: 20 Dec. 2019

Citation: Samadi S, Mireskandari SM. **Clinical and Polysomnographic Sleep Features in Irritable Bowel Syndrome.** *J Sleep Sci* 2020; 5(1): 40-41.

I read with great interest the article titled ‘Tracing the relationships between sleep disturbances and symptoms of irritable bowel syndrome’ by Moradian Shahrabaki et al. The authors conducted an interesting cross-sectional study about the correlation between irritable bowel syndrome (IBS) and sleep quality which may also apply to other sleep features. They found an inverse relationship between the severity of symptoms of IBS and sleep quality (1). This finding is consistent with other studies that revealed IBS as one of the medical conditions commonly comorbid with insomnia (2). IBS is associated with restless legs syndrome/Willis-Ekbom disease (RLS/WED) at a significantly high rate (3). Several diseases such as IBS with psychosomatic symptoms and signs have lower frequency in patients with sleep-disordered breathing (SDB) as the Apnea-Hypopnea Index (AHI) increases (4). Moreover, inspiratory flow limitation (IFL) is a common finding in polysomnography (PSG) of patients with IBS and intriguingly, continues positive airway pressure (CPAP) improves IFL and patients’ symptoms (5). IBS is associated with sympathetic hyperactivation during wakefulness that could increase the activity of sympathetic nervous system (SNS). Heart rate variability (HRV) indirectly represents SNS activity during PSG. Increased morbidity has been associated with decreased HRV (6).

The authors raise the point that improving sleep habits can have a role in ameliorating IBS symptoms and psychological distress (1). Patients with IBS experience poor sleep quality, have de-

creased slow-wave sleep (SWS), and have fragmented sleep in their PSG (7). Focus of related recent studies is beyond the clinical correlations of poor sleep quality and IBS; they searched pathophysiologic associations of IBS and sleep recorded parameters in PSG (8-12). So, I would like to suggest to the authors that they conduct a prospective study about all the above clinical and PSG variables in patients with IBS referred from gastrointestinal clinic to sleep clinic.

Conflict of Interests

Authors have no conflict of interests.

Acknowledgments

None.

References

1. Moradian Shahrabaki M, Vahedi H, Sadeghniai-Haghighi K, et al. Tracing the relationships between sleep disturbances and symptoms of irritable bowel syndrome. *J Sleep Sci* 2016; 1: 101-8.
2. Schutte-Rodin S, Broch L, Buysse D, et al. Clinical guideline for the evaluation and management of chronic insomnia in adults. *J Clin Sleep Med* 2008; 4: 487-504.
3. Trenkwalder C, Allen R, Hogl B, et al. Restless legs syndrome associated with major diseases: A systematic review and new concept. *Neurology* 2016; 86: 1336-43.
4. Amdo T, Hasaneen N, Gold MS, et al. Somatic syndromes, insomnia, anxiety, and stress among sleep disordered breathing patients. *Sleep Breath* 2016; 20: 759-68.
5. Gold AR. Functional somatic syndromes, anxiety disorders and the upper airway: A matter of paradigms. *Sleep Med Rev* 2011; 15: 389-401.
6. Camilleri M. Physiological underpinnings of irritable bowel syndrome: Neurohormonal mechanisms. *J Physiol* 2014; 592: 2967-80.

* **Corresponding author:** S. Samadi, Department of Anesthesiology and Intensive Care, Imam Khomeini Hospital Complex, Tehran University of Medical Sciences, Tehran, Iran
Tel: +98 21 61192828, Fax: +98 21 66581537
Email: shsamadi@yahoo.com

7. Rotem AY, Sperber AD, Krugliak P, et al. Polysomnographic and actigraphic evidence of sleep fragmentation in patients with irritable bowel syndrome. *Sleep* 2003; 26: 747-52.
8. Abdulahad S, Huls H, Balikji S. Irritable bowel syndrome, immune fitness, and insomnia: Results from an online survey among people reporting sleep complaints. *Sleep and Vigilance* 2019; 3: 121-9.
9. Lee SK, Yoon DW, Lee S, et al. The association between irritable bowel syndrome and the coexistence of depression and insomnia. *J Psychosom Res* 2017; 93: 1-5.
10. Burr RL, Gu H, Cain K, et al. Tryptophan metabolites in irritable bowel syndrome: An overnight time-course study. *J Neurogastroenterol Motil* 2019; 25: 551-62.
11. Irwin C, McCartney D, Desbrow B, et al. Effects of probiotics and paraprobiotics on subjective and objective sleep metrics: A systematic review and meta-analysis. *Eur J Clin Nutr* 2020.
12. Heitkemper MM, Han CJ, Jarrett ME, et al. Serum tryptophan metabolite levels during sleep in patients with and without irritable bowel syndrome (IBS). *Biol Res Nurs* 2016; 18: 193-8.