

Sleep Watchers

Winter 2021

Dear Colleague,

We hope this quarter's newsletter finds everyone in good health and spirits. As always we genuinely appreciate your support and look forward to continuing to help you improve the quality of life for your patients.

Please let us know if you would like to see a specific topic covered in our next issue. It is our goal to provide as much information as possible to better serve your patients. We appreciate the trust you place in us by allowing us to participate in the care of your patients.

Best Regards,

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Indiana Sleep Center

Sleep and Immunity in Times of COVID-19

Eduardo de Sousa, Martins E Silva
Rev Associated Med 2020 Sep 21;66 Suppl 2 143-147

The purpose of this study was to analyze how the COVID-19 (SARS-CoV-2) pandemic and its social restriction measures affect sleep quality and the immunological system. An integrative bibliographical review was carried out using scientific articles

from the last five years, from the PUBMED databases, with the descriptors: Sleep; Quarantine; COVID-19; Immunity; Mental Health. Besides the books "Oxford textbook of sleep disorders", "Cellular and molecular immunology", and "Treaty of Infectology".

Sleep affects immunity. This happens through the regulation of immunological markers and their cells. Therefore, the COVID-19 pandemic can promote sleep disturbances and harm the immune system function. Sleep exercises a direct influence on immunity maintenance and immunological response. *Circadian rhythm alterations, associated with the psychological problems imposed by the COVID-19 pandemic compromise the quality of sleep and, for that reason, the immune system.*

Obstructive Sleep Apnea and Risk of COVID-19 Infection, Hospitalization and Respiratory Failure

Matthew B Maas, Minjee Kim et al.
Sleep Breath 2020 Sep 29;1-3

The purpose of this investigation was to study the relationship between OSA and risk of COVID-19 infection and disease severity, identified by the need for hospitalization and progression to respiratory failure. The authors queried the electronic medical record system for an integrated health system of 10 hospitals in the Chicago metropolitan area to identify cases of COVID-19. Comorbidities and outcomes were ascertained by ICD-10-CM coding and medical record data. The authors evaluated the risk for COVID-19 diagnosis, hospitalization, and respiratory failure associated with OSA using appropriate statistical analysis, adjusting for diabetes, hypertension, and BMI to account for potential confounding in the association between OSA, COVID-19 hospitalization, and progression to respiratory failure.



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Risk of COVID-19 Infection...continued

The authors identified 9405 COVID-19 infections, among which 3185 (34%) were hospitalized and 1779 (19%) were diagnosed with respiratory failure. OSA was more prevalent among patients requiring hospitalization than those who did not (15.3% versus 3.4%) and among those who progressed to respiratory failure (19.4% versus 4.5%). After adjustment for diabetes, hypertension, and BMI, OSA was associated with increased risk for hospitalization (OR 1.65) and respiratory failure (OR 1.98). Patients with OSA experienced approximately 8-fold greater risk for COVID-19 infection compared to a similar age population receiving care in a large, racially, and socioeconomically diverse healthcare system. Among patients with COVID-19 infection, OSA was associated with increased risk of hospitalization and approximately double the risk of developing respiratory failure.

Why are Women Prone to Restless Legs Syndrome?

Mary V Seeman
Int J Environ Res Public Health 2020 Jan 6;17(1):368

Restless legs syndrome is a relatively common neurologic disorder considerably more prevalent in women than in men. It is characterized by an inactivity-induced, mostly nocturnal, uncomfortable sensation in the legs and an urge to move them to make the disagreeable sensation disappear. Some known genes contribute to this disorder and the same genes contribute to an overlapping condition-periodic leg movements that occur during sleep and result in insomnia. Dopamine and glutamate transmission in the central nervous system are involved in the pathophysiology, and an iron deficiency has been shown in region-specific areas of the brain.

A review of the literature shows that pregnant women are at particular risk and that increased parity is a predisposing factor. Paradoxically, menopause increases the prevalence and severity of symptoms. This implies a complex role for reproductive hormones. *It suggests that changes rather than absolute levels of estrogen may be responsible for the initiation of symptoms. Both iron (at relatively low levels in women) and estrogen (at relatively high oscillating levels in*

women) influence dopamine and glutamate transmission, which may help to explain women's vulnerability to this condition. The syndrome is comorbid with several disorders (such as migraine, depression, and anxiety) to which women are particularly prone. This implies that the comorbid condition or its treatment, or both, contribute to the much higher prevalence in women than in men of restless legs syndrome.

Prevalence of Depression, Anxiety, and Insomnia Among Healthcare Workers During the COVID-19 Pandemic

Sofia Pappa, Vasiliki Ntella, et al.
Brain Behav Immun 2020 Aug;88:901-907

C COVID-19 pandemic has the potential to significantly affect the mental health of healthcare workers (HCWs), who stand in the frontline of this crisis. It is, therefore, an immediate priority to monitor rates of mood, sleep and other mental health issues in order to understand mediating factors and inform tailored interventions. The purpose of this review is to synthesize and analyze existing evidence on the prevalence of depression, anxiety and insomnia among HCWs during the Covid-19 outbreak. A systematic search of literature databases was conducted up to April 17th, 2020. Two reviewers independently assessed full-text articles according to predefined criteria. Risk of bias analysis was used to estimate the prevalence of specific mental health problems.

Thirteen studies were included in the analysis with a combined total of 33,062 participants. Anxiety was assessed in 12 studies, with a pooled prevalence of 23.2% and depression in 10 studies, with a prevalence rate of 23%. A subgroup analysis revealed gender and occupational differences with female HCPs and nurses exhibiting higher rates of affective symptoms compared to male and medical staff respectively. Finally, insomnia prevalence was estimated at 39% across 5 studies. *Early evidence suggests that a considerable proportion of HCWs experience mood and sleep disturbances during this outbreak, stressing the need to establish ways to mitigate mental health risks and adjust interventions under pandemic conditions.*

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