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Opinion Article

The Role of Polysomnography and Home Sleep Apnea Testing in the Modern Diagnosis of SRBDs

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DESCRIPTION

Sleep-Related Breathing Disorders (SRBDs) represent a group of complex and increasingly prevalent conditions that significantly affect both the quality and quantity of sleep. These disorders disrupt the normal respiratory pattern during sleep and are often underestimated in both clinical and public awareness, despite their profound implications for overall health and well-being. My opinion is that SRBDs, which include conditions such as obstructive sleep apnea, central sleep apnea, and hypoventilation syndromes, deserve a more prominent position in the conversation surrounding public health. The underdiagnosis and undertreatment of these disorders is not just a medical issue but a public health challenge that requires urgent attention from policymakers, medical professionals, and society at large.

The hallmark feature of most sleep-related breathing disorders is a disturbance in ventilation during sleep that can lead to intermittent hypoxia, frequent arousals, and alterations in sleep architecture. These disturbances, while occurring during a state of unconsciousness, have far-reaching effects on daytime functioning and long-term health. One might think of sleep as a passive and restful state, but it is in fact a highly active and restorative process. When breathing is repeatedly interrupted or becomes inefficient during sleep, the brain and body are deprived of the oxygen and restorative processes they need. This dysfunction affects every organ system and significantly elevates the risk of cardiovascular disease, metabolic disorders, neurocognitive decline, and even early mortality.

Another issue that cannot be overlooked is the accessibility and affordability of diagnostic services for SRBDs. The gold standard for diagnosing sleep-related breathing disorders remains in-lab polysomnography, a comprehensive sleep study that is both expensive and logistically challenging for many patients. While Home Sleep Apnea Testing (HSAT) has expanded access and provided a more cost-effective alternative, it is not suitable for all cases, particularly those involving complex comorbidities or central sleep apneas. In my opinion, there needs to be a broader initiative to subsidize or provide public insurance coverage for sleep studies, especially for high-risk populations. This should be accompanied by efforts to increase the number of trained sleep specialists and clinics, particularly in underserved areas where such services are scarce.

From a therapeutic perspective, the management of SRBDs has advanced significantly over the last two decades, yet the focus remains overly narrow. Continuous Positive Airway Pressure (CPAP) therapy is considered the cornerstone treatment for obstructive sleep apnea and has proven to be effective in reducing apneas, improving sleep quality, and mitigating cardiovascular risks. However, adherence to CPAP is notoriously low, often due to discomfort, inconvenience, or lack of proper education and follow-up. In my view, the over-reliance on CPAP as a one-size-fits-all solution is problematic. Patients need individualized treatment plans that consider the severity of the disorder, lifestyle factors, anatomical considerations, and personal preferences. Alternative therapies such as mandibular advancement devices, positional therapy, surgical interventions, and even newer neurostimulation technologies should be presented as viable options rather than afterthoughts.

Equally important is the role of lifestyle interventions in the management of SRBDs. Obesity is a major risk factor for obstructive sleep apnea, and weight loss has been shown to significantly reduce apnea severity. Yet, weight management is often treated as a secondary recommendation rather than an integral part of treatment. Incorporating structured weight loss programs, nutritional counseling, and physical activity into the management plans of SRBD patients could enhance outcomes and reduce reliance on mechanical interventions. Moreover, avoiding alcohol, sedatives, and maintaining good sleep hygiene should be emphasized as essential elements of therapy. In this respect, a more holistic and multidisciplinary approach is essential, involving not just pulmonologists and sleep specialists but also dietitians, physiotherapists, and behavioral health professionals.

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