

Special Issue on

Neurophysiologic and Neuroimaging Findings in Sleep-Related Disorders and Circadian Disruption

CALL FOR PAPERS

We each nearly spent a third time of our life in sleep. Sleep is a necessary physical need in human life and plays an important feedback regulating role in awakening. Recent years, there is a growing public interest in sleep.

Sleep may allow the removal of free radicals accumulated in the brain during wakefulness and protect the structural stability of neuronal synapses. After sleep, the tired nerve cells and the biological characteristics of long-distance signal transmission recover normal physiological function. In general, the precise control of sleep process may be considered as the basis of normal life process such as blood, metabolism, immune, endocrine, and brain activity and is the key of plasticity forming, information processing, and function implementation. Conversely, a disturbed and/or interrupted sleep would adversely affect social and cognitive function, academic performance, psychomotor performance, and attentive ability and is associated with poor emotional and physical health, conduct problems, exaggerated neural reactivity, metabolic disorders, or pandemic diseases like obesity, diabetes, cardiovascular diseases, and even cancer.

Sleep has played a minor role as object of research for a long time. Yet, more and more researchers paid their attentions to the scientific interest in this topic over the last 20 years. For life in modern society, more and more peoples underwent an increased curtailment of daily sleep because of work overtime, exam preparation, night shift, shift working, and long-term working or driving, resulting in an increased incidence of sleep disorders. Recently, the scholars have achieved several important breakthroughs in multiple field of sleep.

Sleep does not take place only in one organ, and there is no singular brain region, rather sleep catches the whole organism. We assembled this special issue in the conviction that insufficient sleep must be associated with dysfunction in multiple brain regions or networks. Although there is surprising upsurge in neuroimaging findings in addressing the brain structural and functional changes associated with the sleep-related disorders and circadian disruption, it is still difficult to glean a consistent story about its neuropathology of brain alterations. Therefore, a more comprehensive understanding of brain structural and functional changes associated with the sleep-related disorders and circadian disruption is needed.

The current special issue will feature articles that address the relationships between sleep-related disorders and the brain structure and function using neurophysiology and neuroimaging methods, but not limited to this area. We invited leading experts in the field to summarize their special research in a way that should attract the broader readership of the journal. Together with these articles, we hope this special issue will contribute to a better understanding of the link between brain and sleep disorders and offer an up-to-date view on how sleep affects our brain. We believe that this special issue will stimulate discussions in a wider public involving not only those working in the field, since both conditions cause an extreme impairment of quality of life, in particular in those patients suffering from both conditions. We invite investigators to submit original research articles as well as reviews to this special issue.

Potential topics include but are not limited to the following:

- ▶ Insomnia
- ▶ Sleep restriction such as sleep deprivation
- ▶ Shift-work sleep disorders
- ▶ Hypersomnia
- ▶ Circadian disorders
- ▶ Short sleep
- ▶ Obstructive sleep apnea
- ▶ Behavioral and psychotherapeutic treatments for sleep disorders
- ▶ Sleep disorder in medical illness

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/bmri/neuroscience/nfsr/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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