

REM Sleep and its Neurophysiological Features in Psychiatric Disorders

Inge Leandro *

Department of Psychiatry, University of Michigan, Michigan, USA

DESCRIPTION

Rapid Eye Movement Sleep (REMS) and its neurophysiological features and brain activation patterns include emotional memory integration, impact on resolution, emotional processing, integration, stabilization and processing of pre-transformed memory. It has been shown to support many cognitive and psychological adaptive functions like memory and implicit or motor learning and heuristic creativity. However, the exact functioning of REMS remains elusive and the physiological processes of REMS and the associated dream states may have more complex functional significance than proposed so far. These latter features are associated with lesser-known adaptive processes. First, REMS and dreams were proposed to create a natural virtual model of the world aimed at facilitating predictive coding or Bayesian inference/complexity reduction in wakefulness. Second, dreams associated with the recurring outbreak of REMS include previously encoded and integrated memory, hypothesis testing residues, associated emotions, basic needs, and individual genetic characteristics. Third, REMS dream states are for psychological activity guided by environmental changes or subject views and approaches, depending on personal needs, without predicting a clear prognosis of the outcomes, but with a regular consideration of the outcomes in the process of active behavior - the so called search activity, which acts differentially in relation to norm and psychopathology.

From a developmental point of view, it should be noted that infants have a significantly higher REMS ratio than adults, which decreases during childhood and adolescence. This developmental reduction in REMS has been suggested to aid brain maturation through stimuli and genetic programming generated within neural assembly.

Collectively, the above REMS and dream functions are cognitive, emotional, and psychosocial, with the timing and proportion of REMS, and the deviation of the physiological REMS signature and dream state either during maturity or later. It strongly suggests that it may lead to impaired adaptation. This can, in turn, lead to the emergence of various psychotic disorders and psychopathological conditions. The nightmare of REMS can be a predictor of many mental states in adolescence, and brain activation patterns during arousal and REMS are common in

adolescence compared to normal developing children. Very similar in psychiatric disorders, suggesting a dreamy arousal in these patients. Next, Sleep-Disordered Breathing (SDB) and RLS were shown to predominate during REMS, especially in childhood psychiatric disorders and aging. This leads to fragmentation of REMS, but the exact consequences of daytime behavior are not even better understood. Similarly, REMS Behavioral Disorder (RBS) associated with PLM and RLS, which is most common in the elderly with Parkinson's disease or Alzheimer's disease, can also exacerbate REMS and its dream state. However, so far, it is unclear whether the behavioral disorders of REMS disorders such as SDB, PLM, RLS, and RBD are disease-specific, drug-induced, or simply due to REMS fragmentation.

Treatment approaches for neuropsychiatric and mood and sleep disorders can also result in confusion and/or reduction of REMS and therefore can interfere with its natural function for successful adaptation. For example, dopamine agonists, selective serotonin and norepinephrine reuptake inhibitors significantly reduce REMS. Psychotherapeutic approaches have been shown to be useful in the treatment of sleep disorders and related psychopathological conditions, such as lucid dreaming, normal REMS-EEG signatures and brain activity and associated dream states have changed. However, full REMS functionality is essential for regular functionality aimed at supporting REMS and related dreams.

CONCLUSION

Deviant changes in REMS can certainly affect its natural functional importance for successful adaptation. Such deviations from the REMS pattern can occur for the following reasons: (1) Inappropriate maturation of the sleep-wake cycle, especially a decrease in developmental REMS. (2) REMS-specific disorders, especially those related to developmental psychopathology and age-related pathology. (3) Pharmacotherapy or psychotherapy approaches in the treatment of sleep and neuropsychiatric disorders (lucid dreaming). However, some of the negative effects of these REMS deviations are often overlooked in sleep medicine. By drawing the attention of sleep medicine specialists to these problems, it may be possible to improve the management of neuropsychiatric disorders associated with REMS abnormalities.

Correspondence to: Inge Leandro, Department of Psychology, University of South Carolina, Carolina, USA, E-mail: ing.ledro@psy.edu

Received: 03-May-2022; **Manuscript No.** JSDT-22-18221; **Editor assigned:** 06-May-2022; **Pre QC No.** JSDT-22-18221 (PQ); **Reviewed:** 20-May-2022; **QC No.** JSDT-22-18221; **Revised:** 27-May-2022; **Manuscript No.** JSDT-22-18221 (R); **Published:** 03-Jun-2022, DOI: 10.35248/2167-0277.22.11.372.

Citation: Leandro I (2022) REM Sleep and its Neurophysiological Features in Psychiatric Disorders. *J Sleep Disord Ther.* 11:372.

Copyright: © 2022 Leandro I. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution and reproduction in any medium, provided the original author and source are credited.