

Letter to Editor

Integrating Acupuncture and Deep Relaxation for Insomnia: A Neurophysiological Perspective

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Dear Editor,

We read with great interest the article titled “Effect of Acupuncture Needling on Anmian Point with Deep Relaxation Technique for Insomnia – Randomized Control Trial” by Dhanalakshmi and Swathi [1]. The study's results, indicating improved sleep quality and reduced stress through a two-week intervention combining Anmian point acupuncture and deep relaxation technique (DRT), provide valuable evidence for the integrative management of insomnia.

Acupuncture, long recognized in traditional Chinese medicine, is now understood through neurobiological mechanisms involving somatosensory afferents projecting to brain centres like the hypothalamus and brainstem [2]. This stimulation modulates neurotransmitters such as serotonin and GABA, which are essential for sleep regulation. Moreover, acupuncture modulates the hypothalamic-pituitary-adrenal (HPA) axis, thereby reducing stress-induced hyperarousal and restoring homeostasis [3].

Insomnia is often characterized by heightened sympathetic activity and diminished parasympathetic tone, a condition referred to as “sympathoneural hypertonicity”. This state contributes to poor sleep initiation and maintenance, and is reflected in elevated beta and gamma EEG activity during non-REM sleep [4]. By reducing sympathetic outflow and enhancing vagal tone, acupuncture offers a promising therapeutic option [5].

In addition to acupuncture, the study's inclusion of DRT adds another vital component. Slow, diaphragmatic breathing, central to DRT, activates the parasympathetic nervous system and facilitates a state of cardiorespiratory synchronization (CRS). Breathing at a frequency of 0.1 Hz (approximately six

breaths per minute) has been shown to reduce heart rate variability, promote melatonin secretion, and improve subjective sleep quality [6, 7]. These mechanisms directly support better sleep continuity and onset. Moreover, combining acupuncture with DRT likely yields synergistic effects by addressing both the physiological and cognitive aspects of insomnia. While acupuncture modulates neurochemical and neuroendocrine responses, DRT helps reduce hyperarousal and promotes relaxation through vagal activation, which also contributes to improved cognition [8].

We appreciate the authors' effort in presenting this integrative therapeutic approach. Future studies could strengthen this approach by assessing the long-term efficacy of combining acupuncture with deep relaxation techniques and employing objective measures such as EEG and neuroimaging to further elucidate the underlying neurophysiological mechanisms.

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