

Yoga in Neuro-Psychiatry

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DESCRIPTION

Yoga is one of the commonest forms of complementary and alternative medicine therapies, which is increasingly being practiced worldwide. It is an ancient Indian practice with its roots in Hindu religion based on the principles of mind-body medicine. The word “yoga” comes from the Sanskrit “yuj,” meaning “yoke” or “union.” The three essential elements of yoga are: asanas (postures), pranayama (breathing exercises), and dhyana (meditation). These three components are practiced through multiple steps comprising of yama (moral codes, self-control), niyama (self-purification and process for maintaining morality), asana (posture), pranayama, (breath control), pratyahara (governing sense), dharana (concentration), dhyana (meditation), and samadhi (supreme contemplation and meditation). Yoga has been used to treat a variety of body ailments including neurological and psychiatric disorders. Multiple studies have documented the beneficial effects of yoga suggesting numerous mechanisms of its action. The asanas are the aerobic component and may stimulate the central nervous system release of endorphins, monoamines, and brain-derived neurotrophic factor (BDNF) in the hippocampus. The pranayama and dhyana components may regulate the emotional responses by reducing the sympathetic and increasing the parasympathetic tone and improve the cognitive functioning by increasing the EEG synchrony and coherence. An increase in melatonin and decrease in cortisol have been associated with the meditative component of yoga. A rise in melatonin promotes sleep, stimulates immune system and reduces blood pressure. Numerous studies have found a positive correlation between levels of cortisol, negative effects, and depression. Different forms of yoga have shown effectiveness in treatment of many chronic diseases such as cancer, asthma, diabetes, arthritis, fibromyalgia, cardiac problems etc. where stress is considered to play an important role. Though the studies are limited by their sample sizes and methodology discrepancies, yoga has shown benefit for an array of neuropsychiatric disorders. Three non-randomized and two randomized controlled trials (RCTs) have assessed the effects of yoga in patients with epilepsy.

Three RCTs have demonstrated effectiveness of yoga in curbing headache frequency, intensity and duration in migraineurs. Another RCT has shown improvement in vascular endothelial functioning in migraine subjects receiving yoga compared to controls. One RCT have shown no significant effect of yoga in migraine for the primary outcome variables as compared to conventional care. Multiple sclerosis (MS) is a debilitating and demyelinating disease that damages the myelin sheath surrounding the spinal cord. The first reported RCT of yoga in MS demonstrated that yoga improved fatigue to a comparable traditional aerobic exercise regime but either was not able to have any improvement in cognitive functioning. A later RCT reported yoga to be beneficial in improving attention but not in fatigue (which also was improved in the sport climbing group), mood, spasticity or other executive functioning. A RCT found yoga therapy to be more effective in improving balance, walking endurance, fatigue, depression and anxiety in MS as compared to controls but did not differ from treadmill training. Pranayama, hatha and raja yoga was shown in a RCT to improve physical pain and quality of life of women with MS. An exploratory study reported improvement in functional strength, balance, and peak expiratory flow in patients with MS receiving Anand yoga. A single RCT exhibited that yoga was more effective than wrist splinting in improving grip strength, pain reduction and mending Phalen's sign in patients with carpal tunnel syndrome. Multiple studies have been conducted for evaluating the effect of yoga on depression. There have been 3 RCTs assessing the role of yoga in post-traumatic stress disorder (PTSD). Yoga breath intervention was observed to be more beneficial compared to wait-listed controls in reducing post traumatic.

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Received: 01-Mar-2022, Manuscript No. JYPT-22-28901; **Editor assigned:** 03-Mar-2022, Pre QC No. JYPT-22-28901 (PQ); **Reviewed:** 17-Mar-2022, QC No. JYPT-22-28901; **Revised:** 24-Mar-2022, Manuscript No. JYPT-22-28901 (R); **Published:** 31-Mar-2022. DOI: 10.35248/2157-7595.22.12.353.

Citation: Anand KS, Verma R (2022) Yoga in Neuro-Psychiatry. J Yoga Phys Ther. 12:353.

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