

The Impact of Yoga on Chronic Illness: Real Stories and Benefits in 2024

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Abstract: Yoga stands out as the most widely embraced complementary health practice among adults in the United States. Rooted in ancient Indian philosophy, it is a holistic mind and body discipline. This practice integrates physical postures, controlled breathing, and meditative exercises, providing practitioners with a distinctive mind-body experience. While the health advantages of physical activity are well recognized, recent years have seen a growing interest from exercise neuroscientists in the active attention aspects of breathing and meditation. As scientific research increasingly supports the physical and mental health benefits of yoga, this article seeks to summarize the existing knowledge regarding yoga practice and its documented positive impacts on brain structure and function, as evaluated through MRI, FMRI, and SPECT imaging techniques. The article reviewed 11 studies that investigated the influence of yoga on brain structures, functionality, and cerebral blood flow. The findings collectively indicate a beneficial effect of yoga on the structure and/or function of key brain areas, including the hippocampus, amygdala, prefrontal cortex, cingulate cortex, and brain networks such as the default mode network (DMN). These studies provide encouraging preliminary evidence that behavioral interventions like yoga may help counteract age-related and neurodegenerative declines, particularly in regions known to experience significant age-related atrophy.

Keywords: Yoga, Chronic Illness, Indian Philosophy, Beneficial Effect.

1. INTRODUCTION:

The origins of yoga can be traced back over 2000 years to ancient India, where it emphasizes the integration of the mind, body, and spirit through physical movements, meditation, and breathing techniques. Throughout its extensive history, various schools of yoga have developed each highlighting different aspects of the practice. Despite their diverse philosophies and exercise combinations, they all share a fundamental goal of harmonizing the mind and body. Yoga gained significant traction in Western society during the late 20th century. Although the earliest scientific investigations into yoga can be found in studies from 1948, there has been a remarkable surge in research publications since the 2000s (refer to Fig. 1). While yoga's roots are deeply embedded in religious traditions, contemporary society primarily embraces it for its relaxation benefits, including meditation and breathing exercises, as well as its physical aspects, such as stretching and strengthening poses. The National Center for Complementary and Integrative Health (NCCIH) reports that yoga is the most widely practiced form of complementary therapy, with over 13 million adults participating, and 58% of them citing health maintenance as their motivation for practice. One factor contributing to the growing popularity of yoga is its adaptability, allowing it to be taught at various intensity levels. A systematic review conducted by Larson-Meyer assessed the metabolic energy expenditure associated with Hatha yoga, the most commonly practiced style in the United States. The findings indicated that while certain yoga poses can be energetically demanding (exceeding 3 METS), most yoga sessions are classified as "light-intensity physical activity" (2–2.9 METS) according to the American College of Sports Medicine. In comparison to traditional aerobic and anaerobic exercises, yoga's low-impact and adaptable nature provides a suitable option for individuals with movement restrictions or clinical conditions.

The term yoga fundamentally signifies the regulation of mental fluctuations and a connection with the universal, highlighting its emphasis on both spiritual and mental health, which transcends mere physical wellness. The practice of

yoga has roots that trace back to pre-Vedic times. Approximately 2,500 to 3,000 years ago, the esteemed Sage Patanjali synthesized practical and theoretical aspects of yoga into a coherent framework, drawing primarily from Samkhya and Vedic philosophies. During Patanjali's era, physical postures, or Asanas, were indeed practiced, but they were not prioritized; the primary focus was on meditation, leading to the incorporation of only a few postures that facilitated meditative practices. Notably, the Patanjali yoga sutras do not mention any specific asanas by name. Subsequent sages who followed Patanjali sought to modify yoga practices by introducing more physical elements, as engaging in movement is often perceived as more accessible than concentrating solely on mental processes. Despite the introduction of additional physical components under the guise of asanas, the ultimate aim remained unchanged: to control mental fluctuations, with physical postures serving as a supportive framework. This distinction is evident in the manner of asana practice, which is characterized by slow movements, synchronized breathing, and a heightened awareness of each action. Conceptually, the eight limbs of Patanjali Yoga illustrate a hierarchical, albeit not strictly sequential, approach to progressively elevating consciousness from the gross to the subtle. The rigorous practice of these eight rungs leads to self-realization, which is the primary goal of yoga. An analytical exploration of these rungs and their purpose reveals the depth of yoga's philosophy.

2. Types of Yoga :

Raja Yoga, Bhakti Yoga, Karma Yoga, and Jnana Yoga each serve distinct purposes and emphasize different aspects of practice. Raja Yoga primarily emphasizes self-discipline and control. In contrast, Bhakti Yoga centers around emotional devotion and connection. Karma Yoga is concerned with the actions performed by individuals and the consequences those actions have on their lives. Lastly, Jnana Yoga is dedicated to the pursuit of knowledge and enlightenment through introspection and self-study. Collectively, the overarching aim of these yoga forms is to elevate and expand consciousness while eliminating detrimental habits in both mental and physical realms. Research conducted by Herrick & Ainsworth (2000) indicates that Hatha Yoga, a component of Raja Yoga, is the most widely practiced form of yoga. Approximately 1800 years ago, Maharshi Patanjali introduced Ashtanga Yoga, which comprises eight limbs or steps (Mehrtash et al., 2015). These limbs include Yama (universal ethics), Nyama (ethical observance), Asana (postures), Pranayama (breath regulation), Pratyahara (sense withdrawal), Dharna (focus), Dhyana (meditation), and Samadhi (deep concentration).

Mindfulness and Movement: Integrating Meditation into Your Yoga Routine in 2024: Recent research has indicated that stress may be a fundamental factor contributing to various health issues, including depression, anxiety, and high blood pressure (Yaribeygi et al., 2017). Over the last five decades, there has been a significant rise in the popularity of meditation and yoga as effective complementary therapies alongside traditional medical treatments (Rajagopalan et al., 2022). Many individuals engage in yoga to enhance their physical strength and flexibility, while also benefiting from increased energy, focus, and alertness. Numerous studies highlight that yoga promotes overall wellness by fostering healthy habits, balance, quality sleep, mental and emotional well-being, and effective stress management (Earthweb, 2023). Originally a revered practice in India, yoga is gaining traction in Western cultures. A recent survey by Yoga Alliance and Yoga Journal revealed that the number of Americans practicing yoga surged by over 50% in the past four years, reaching more than 36 million in 2016, up from 20.4 million in 2012. The survey also indicated that 90% of Americans are aware of yoga, with one in three having tried it at least once, and over 15% having practiced it in the past six months. Furthermore, more than a third of Americans expressed a keen interest in exploring yoga within the upcoming year. While yoga is primarily practiced by women (70%), the number of men participating has more than doubled, rising from 4 million in 2012 to 10 million in 2016. Additionally, the number of American adults aged 50 and older practicing yoga has tripled in the last four years, reaching 14 million (Harvard Health Publishing, 2016).

3. From Mat to Life: The Impact of Yoga on Personal Wellness in 2024 :

Yoga has gained significant traction as a therapeutic approach for enhancing health and addressing various medical conditions (Woodyard, 2011). Research has explored its therapeutic benefits, particularly concerning lifestyle-related diseases. Notably, yoga interventions can mitigate four primary risk factors associated with chronic lifestyle diseases: obesity, hypertension, hyperglycemia, and elevated cholesterol levels. Additionally, yoga has demonstrated a beneficial impact on coronary artery disease and has been shown to enhance exercise capacity while lowering inflammatory markers in patients with chronic heart failure who have an ejection fraction of 25%. Furthermore, yogic practices have proven effective in managing diabetes and bronchial asthma (Malarvizhi et al., 2019). The development and implementation of yoga interventions tailored to specific health issues are progressing rapidly, with a notable increase

in randomized controlled trials (RCTs) aimed at utilizing yoga for health improvement since 2004. Despite the surge in RCTs, findings remain inconclusive (Elwy et al., 2014). Nevertheless, systematic reviews indicate that yoga holds promise for enhancing health outcomes in individuals suffering from chronic low back pain (Cramer et al., 2013). In recent years, yoga has emerged as a vital complementary therapy sought by numerous cancer patients and survivors, transcending cultural boundaries (Groessl et al., 2015). The health benefits of yoga are numerous, including improved overall wellness through stress reduction and healthy habits, enhanced sleep quality and balance, boosted emotional and mental health, assistance in managing stress, anxiety, and depression, increased balance and flexibility, promotion of strength and stamina, heightened concentration, improved quality of life, and encouragement of better self-care practices.

International Yoga Day 2024: **Yoga for self and society**, this year marks the 10th Widespread Day of Yoga with the subject “Yoga for Self and Society.” Yoga, a transformative sharpen, talks to the concordance of judgment skills and body, the alter between thought and movement, and the solidarity of limitation and fulfillment. It planning the body, judgment skills, soul, and soul, publicizing a all including approach to prosperity and well-being that brings peace to our excited lives. Its control to change over is what we celebrate on this exceptional day. yoga is an old-fashioned physical, mental and otherworldly sharpen that started in India. The word ‘yoga’ gathers from Sanskrit and infers to put through or to connect together, symbolizing the union of body and awareness. These days it is practiced in numerous shapes around the world and continues to create in ubiquity. Recognizing its all comprehensive offer, on 11 December 2014, the Joined together Nations broadcasted 21 June as the all inclusive Day of Yoga by assurance 69/131. The All inclusive Day of Yoga focuses to raise mindfulness around the world of the various benefits of practicing yoga. The draft assurance building up the around the world Day of Yoga was proposed by India and upheld by a record 175 portion states. The recommendation was to start with displayed by Prime Serve Narendra Modi in his address in the midst of the opening of the 69th session of the Common Get together, in which he said: “Yoga is an invaluable favoring from our outdated tradition. Yoga epitomizes solidarity of judgment skills and body, thought and action ... all including approach [that's] beneficial to our prosperity and our well-being. Yoga isn't nearly worked out; it may be a way to discover the sense of solidarity with ourselves, the world and the nature.” The determination notes “the importance of individuals and populaces making more profitable choices and taking after way of life plans that cultivate great health.” In this regard, the World Prosperity Organization has besides encouraged its portion states to help their citizens diminish physical idleness, which is among the leading ten driving causes of passing around the world, and a key risk figure for non-communicable diseases, such as cardiovascular illnesses, cancer and diabetes. But yoga is more than a physical development. Inside the words of one of its most celebrated experts, the late B. K. S. Iyengar, “Yoga creates the ways of keeping up a adjusted demeanor in day-to-day life and contributes ability within the execution of one’s actions.”



International Yoga Day 2024: Yoga for Self and Society

The Evolution of Yoga: Yoga signifies the union of individual consciousness with the Universal Divine Consciousness in a heightened state known as Samadhi. Originating from ancient Eastern traditions, yoga incorporates physical postures (asanas) and breathing techniques (pranayamas). It also includes a mental component focused on meditation and concentration, which aids in achieving the goal of unity between the self and the spiritual realm. Numerous empirical studies have shown that yoga positively influences various aspects of physical and mental health. Archaeological evidence and historical texts suggest that the practices outlined in yoga sutras date back to around 3000 BCE, with oral traditions indicating an even earlier origin. Historically, these sutras were transmitted orally by knowledgeable teachers to their students. Scholars believe that Patanjali, who lived between 400 BCE and 200 AD, organized and compiled these teachings. According to Patanjali, yoga consists of eight steps or limbs, each of which is vital and interconnected as components of a unified practice. While the focus here will be on the health benefits, the eight limbs of yoga are as follows:

1. Yama: Guidelines for restraint, self-discipline, and abstention
2. Niyama: Self-discipline, observances, and personal practices
3. Asana: Meditation posture
4. Pranayama: Breath regulation and expansion of prana
5. Pratyahara: Withdrawal of the senses, turning inward
6. Dharana: Focused concentration
7. Dhyana: Deep meditation
8. Samadhi: Profound absorption, elevated meditation, the state of complete concentration

The five yamas: The five yamas are principles of restraint that guide our interactions with the external world and with others. They apply to our thoughts, words, and actions. The five yamas are:

1. Ahimsa: nonviolence and non-harm. 2. Satya: truthfulness. 3. Asteya: non-stealing, which extends to not coveting what belongs to others. It also encourages us to take only what we need from nature, avoiding overconsumption that may deprive others. 4. Brahmacharya: living in a state of heightened awareness and consciousness of the divine, which often leads to celibacy as a natural outcome of this practice? 5. Aparigraha: non-possessiveness, freedom from attachment, and a lack of greed or desire for accumulation.

The five niyamas are practices for self-training that focus on our internal world. They relate to the body, senses, and mind, serving as methods for personal development. The five niyamas are as follows:

Shaucha: This refers to cleanliness and purity of both the body and mind, leading to the refinement of subtle mental aspects, resulting in joy, control over the senses, and the ability for self-realization.

Santosh: This involves being content and accepting what you currently have, fostering inner joy and happiness.

Tapah: Through ascetic practices or sensory training, this niyama promotes the elimination of mental impurities and mastery over the body and sensory functions.

Svadyaya: This is the practice of self-study, contemplation of sacred texts, and reflection on scriptures, which helps connect with the underlying truth of existence.

Ishvarapranidhana: Surrender to the supreme source. That helps to accomplish the state of samadhi i.e. high concentration. (Asana) Practice body-fitting postures for long periods of meditation. Any position i.e. face, neck, and chest must be in-line. Furthermore, motionless, comfortable and stable posture can be used for meditation. It is attained through relaxing attention or effort loosening to sit in such a particular posture and permitting focus to integrate with the infinite. Pranayama: Breath control practice and with the awareness of breathing (raising/decreasing) optimization techniques, pranayama practice can be done peacefully.

4. Influence of Yoga on Various Health Issues :

Depression, Stress, and Anxiety: Yoga is effective for both the prevention of and treatment for stress-related symptoms. Systematic reviews indicate that implementing yoga as a regular practice significantly benefits patients. Encouraging results have been noted in cases of obsessive-compulsive disorder. Kirkwood G et al. highlighted in their review "Yoga for Anxiety" that integrating yoga into patients' routines led to notable improvements in depressive disorders. Their findings included five randomized controlled trials employing different yoga techniques with varying levels of severity.

All studies reported positive outcomes. Furthermore, research involving clients on antidepressants who were only partially in remission showed significant reductions in symptoms of depression, anger, frustration, anxiety, and other neurotic signs. This study supports yoga as a complementary treatment for depression. In a specific study with 27 women and 10 men, 17 participants completed the intervention and assessment. Results indicated that moods improved significantly after participating in yoga sessions. Yoga appears to be a promising, cost-effective, and easily adoptable treatment for depression, generating numerous beneficial mental, psychological, and biological effects. Another study involved 24 self-referred women aged 30 to 38 who considered themselves mentally disturbed. They participated in a supervised non-randomized study in which they were offered one of two 3-month yoga programs. The findings showed that yoga reduced anxiety, stress, and salivary cortisol levels. Additionally, research conducted by Smith C. et al. involved 131 participants from South Australia with mild to moderate stress levels. They found that anxiety and performance improved over time following a 10-week yoga intervention. Yoga was found to be as effective as other methods for reducing tension and anxiety while improving health. Another study assessed the immediate cardiovascular effects of sukha pranayama on individuals with hypertension. Twenty-three hypertensive participants attending Yoga OPD at JIPMER were trained to practice sukha pranayama at a rate of 6 breaths per minute for 5 minutes. This pranayama consists of slow, deep, and conscious inhalation and exhalation of equal duration. Heart rate (HR) and blood pressure (BP) were measured before and immediately after the practice. Results demonstrated a statistically significant decrease in HR ($p < .05$) and a highly significant reduction in systolic BP, average arterial pressure, and rate-pressure product ($p < .001$). The findings indicated that hypertensive patients experienced reductions in HR and BP within just 5 minutes of practicing sukha pranayama at the specified rate. Thus, yoga also aids in alleviating depression. A systematic review by Jain S.C et al. reported on various yoga and hypertension research, encompassing 39 cohort studies, 30 non-randomized controlled trials, 48 randomized controlled trials, and 3 case reports, covering a total of 6,693 cases over periods ranging from 1 week to 4 years. Most studies indicated a decrease in BP.

Yoga effectively reduced blood pressure in both normotensive and hypertensive individuals. These studies suggest that yoga is a valuable alternative treatment for hypertension and should be included in clinical guidelines. The decrease in depression may be linked to changes in brain wave patterns and lower cortisol levels observed during yoga postures. In one study, practicing yoga daily led to increased alpha waves, indicating greater relaxation, along with reduced cortisol levels.

Overweight and Obesity: Being overweight and obese significantly increases the risk of diabetes, hypertension, and ischemic heart disease. Research indicates that yoga is beneficial in managing obesity. A study involving yoga asanas and pranayama training conducted by a certified instructor for three consecutive months, with one hour of practice each morning, resulted in reductions in body weight, body mass index (BMI), and waist-to-hip ratio. In a study by Balaji P.A. et al., 44 patients with uncomplicated type 2 diabetes aged between 40 and 55 years, with diabetes durations of 1 to 10 years, were selected. The participants were split into two groups of 22, forming a test group and a control group. The yoga instructor guided the test groups (T1 and T2) for one hour each morning over three months. The results showed a significant decrease in metabolic parameters, with $p < 0.001$ in fasting blood sugar levels for both T1 and T2 subgroups.

Hypertension: Thirty-three hypertensive patients aged 35 to 65 from the Government General Hospital in Pondicherry received treatment from medical officers. Four key factors were assessed: systolic and diastolic blood pressure, pulse rate, and body weight. The participants were divided into three groups: the experimental group-I practiced yoga techniques, the experimental group-II received medical therapy from the hospital's physician, and the control group did not receive any intervention. The yoga sessions lasted one hour each morning and evening over a period of 11 weeks. Regular yoga practice has been found effective in managing blood pressure in hypertensive patients. Hypertension is a prevalent non-communicable disease that leads to significant morbidity and mortality due to complications related to the heart, brain, and kidneys. Yoga has shown a considerable antihypertensive effect, alongside methods such as biofeedback, relaxation techniques, psychotherapy, and transcendental meditation.

A study was conducted involving twenty-five patients with significant hypertension. Out of these, twenty patients (Group A) did not receive any antihypertensive medication, while five patients (Group B) had previously been treated with various antihypertensive drugs before their inclusion in the study. All participants were properly shown how to perform "Shavasana," and this practice continued for six months. Statistically significant reductions in both diastolic and systolic blood pressure were observed in both groups. Additionally, there was a notable decrease in the amount of antihypertensive medication prescribed to patients in Group B. In Group A, 65 percent of patients were able to manage their blood pressure solely through Shavasana, without the need for medication. However, blood pressure levels in patients who ceased practicing yoga rose significantly back to pre-Shavasana levels. Therefore, incorporating yoga

(specifically Shavasana) into hypertension treatment may significantly lower the need for antihypertensive drugs, and in some cases, completely eliminate their use, proving to be a beneficial approach for managing hypertension. Furthermore, yoga has shown positive effects on patients with mild to moderate hypertension. After three months of regular yoga practice for one hour each session, participants experienced reductions in blood pressure, blood glucose, cholesterol, and triglycerides, alongside improvements in overall well-being and quality of life. Another group at risk also demonstrated reduced resting systolic and diastolic blood pressure after twenty weeks of yoga practice.

5. CONCLUSION:

Yoga plays a significant role in enhancing mental well-being and offers therapeutic advantages as a standalone or supplementary treatment for various physical and neuropsychiatric conditions. It likely fosters lasting happiness, which may lead to new desires and eventually to a sense of fulfillment. Yoga aids in restoring health affected by the pressures of competition and the drive to meet high expectations. Additionally, it promotes social equity and encourages adequate rest. Therefore, it can be concluded that practicing yoga is a vital tool for improving all aspects of health—spiritual, physical, social, and mental—while also promoting harmony with nature and supporting environmental preservation.

REFERENCES:

1. Ren K, Gong X, Zhang R, Zeng X, Zhan J, Liu J. Investigation and analysis of the prevalence of idiopathic scoliosis among primary and secondary school students in Zigong city. *Sichuan Med J* 2014;35:853-5.
2. Konieczny MR, Senyurt H, Krauspe R. Epidemiology of adolescent idiopathic scoliosis. *J Child Orthop* 2013;7:3-9.
3. Ceballos Laita L, Tejedor Cubillo C, Mingo Gómez T, Jiménez Del Barrio S. Effects of corrective, therapeutic exercise techniques on adolescent idiopathic scoliosis. A systematic review. *Arch Argent Pediatr* 2018;116:e582-9.
4. Senkoylu A, Ilhan MN, Altun N, Samartzis D, Luk KD. A simple method for assessing rotational flexibility in adolescent idiopathic scoliosis: Modified Adam's forward bending test. *Spine Deform* 2021;9:333-9.
5. Seleviciene V, Cesnaviciute A, Strukcinskiene B, Marcinowicz L, Strazdiene N, Genowska A. Physiotherapeutic scoliosis-specific exercise methodologies used for conservative treatment of adolescent idiopathic scoliosis, and their effectiveness: An extended literature review of current research and practice. *Int J Environ Res Public Health* 2022;19:9240.