



Review Article

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ROLE OF YOGA IN ACHIEVING MENTAL HEALTH: A REVIEW

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Abstract

The mental health is the significant means of leading meaningful life filled with joy and inner harmony. It is a positive concept linked to the social and emotional well-being of individuals and communities. The concept is traditionally defined, but usually associated with the pleasure of life, capability to manage stresses and grief, the accomplishment of goals and potential and a sense of connection to others. The word 'yoga' is derived from *Sanskrit* and means 'to yoke' or join. The concentration is on the union of mind and body or the harmonic synchronization of body, breath, and mind. *Yoga* is an ancient Indian practice and a mode of life that comprises regulated breathing, maintaining various postures and meditation that help to achieve, preserve and promote physical, mental, emotional, social and spiritual health. It is gaining admiration globally as an accessible, acceptable, eco-friendly and cost-effective practice for mind and body. *Yoga* is a systematic technique of calming down the mind which consists of - *Yama* (moral disciplines), *Niyama* (purificatory practices), *Asana* (postures), *Pranayama* (controlled nostril breathing), *Pratyahara* (self-analysis), *Dharana* (attention/concentration), *Dhyana* (meditation), and *Samadhi* (detached awareness of self) intended achievement of self-realization or the inner divine state. This paper summarizes the effects of *yoga* on various components of mental health by emphasizing on the evidence stated in review articles. *Yoga* is testified to decrease stress and anxiety, improves autonomic functions by triggering neuro-hormonal mechanisms by the suppression of sympathetic activity. The consistent practice of *yoga* is an antidote for the several of the psychosomatic disorders.

Key words: *Yoga*, mental health, *pranayama*, stress

Introduction

According to *Ayurved* (*Sushrut Samhita, Sutrasthanam,15/41*) the equilibrium of three *doshas* (*Vata, Pitta and Kapha*), *Agni* (Digestive component), *Dhatu*s (all the body tissues components) and all *Malas* (the excretory functions) along with a pleasant *Mana* (mind), *Indriya* (controlled senses) and *Aatma* (soul or spirit) contribute for the health. World Health Organization has defined Health as a state of well-being in which every individual realizes his or her own potential, can cope with the normal strains of life, can work effectively and successfully, and is able to make an input to his or her community.^[1] The mental health is not just the absence of mental illness. The good mental health can facilitate to keep problems in perspective. For mental well-being the clarity of thought, self-determination, contentment and a healthy self-confidence are necessary factors. In the current era greater physical and emotional burden is frequently placed upon several areas of life. Consequently, many people suffer from physical and mental disorders like stress, anxiety, depression, insomnia etc. In Indian Philosophy it is mentioned that, *Yoga is 'Chitta Vritti Nirodhah'*- *Yoga* is a technique to calm down the mind or the restraint of the alteration of the mind-stuff.^[2]

Mental health disorders include Cognitive and Emotional problems like anxiety, depression, stress, guilt, fear, anger, confusion etc. Behavioural troubles such as changes in attitude, social withdrawal etc. Somatic problems like Migraines, loss of appetite, fatigue, insomnia etc. It is estimated that probably 20 percent of youth experience a mental health problem every year.^[3] There is a higher prevalence of specific mental disorders among distinctive groups such as depression is more common in women and all mental disorders have higher prevalence rates among people living in poverty.^[4]

The word '*Yoga*' is derived from the Sanskrit word '*yuja*' or '*yujir*' meaning 'to unite' or 'to integrate'. Hence the meaning of word '*yoga*' is 'union' or 'yoke' or 'joining'. Originally, *yoga* was a way for joining a regular imperfect human being with the divine principle, or God. The goal was to unite the mind, the body and the spirit. The Patanjali Sutras stated that '*Yoga* is the practice of quieting the mind'.^[5] The mind can be trained to relax through deep breathing and become focused while holding the breath through the practice of *yoga*. This practice

results in mind control. Performing *yoga*, not just the physical portion, but also immersing oneself on to the mental aspect of it, can support improve mental health.^[6]

Yoga is a blend of physical postures (*asanas*), breathing exercises (*pranayama*), and meditation techniques (*dhyana*) that promote physical and mental health. The physical postures and breathing exercises are designed to improve physical strength, flexibility, and relaxation whereas meditation techniques are used to enhance concentration focus, and reduce stress. The eight dimensions of *yoga* that help individuals to be stress free, relaxed and calm comprise of *Yama* (moral codes), *Niyama* (self-discipline), *Asana* (postures), *Pranayama* (controlled breath practices promoting life force), *Pratyahara* (sensory transcendence for self-analysis), *Dharana* (concentration or attention), *Dhyana* (meditation), *Samadhi* (detached awareness of self or state of bliss).

The *yoga*-based therapies result in enhanced attentiveness, potentiality, efficiency, self-awareness, positive personality, self-confidence, social skills and relationships, emotional competency, flexibility, sleep regularity and spirituality. *Yoga* is the science to control the mind. The disturbance in the mind is the real cause of the problem. This research paper highlights the effects of *yoga* on mental health.

Research work on effect of Yoga on mental health

The eight weeks of *yoga* practice resulted in significant improvements in symptoms of anxiety and depression in patients with major depressive disorder.^[7]

A meta-analysis of 32 randomized controlled trials showed that *yoga* interventions led to significant reductions in symptoms of depression, anxiety, and stress compared to control groups.^[8]

The practicing *yoga* for six months resulted in improvements in perceived stress and quality of life in breast cancer survivors.^[9]

A study demonstrated that mindfulness meditation improved psychological well-being and reduced psychological symptoms of stress related problems, illness and anxiety.^[10]

A study demonstrated that *Yogic* breathing relieved post-traumatic stress disorder and depression.^[11]

The Study explained a significant improvement in the scores of all sections of the Wechsler memory scale (WMS) which assessed (i) attention and concentration (digit span forward and backward), and (ii) associate learning following both Cyclic Meditation (CM) and Supine Rest (SR), but the magnitude of change was more after CM compared to after SR. The state anxiety scores decreased after both CM and SR, with a greater magnitude of decrease after CM. [12]

Studies illustrated increase in the spatial memory scores immediately before and after 45 minutes and also following ten days of different Pranayama practices. [13]

Integrated *yoga* program has also been shown significant reduction in mean salivary cortisol levels at 6.00 hrs, pooled diurnal mean cortisol, perceived stress along with significant reduction in anxiety, depression and significant improvement in positive affect, emotional function and cognitive function, and reduction in negative affect psychological distress, insomnia, fatigue and loss of appetite loss. [14]

Studies have demonstrated to lessen anxiety and depression among both healthy and diseased conditions. [15]

The *yoga* practices have been found to benefit emotionally distressed women. [16]

The study on 113 psychiatric patients, demonstrated that yogic practices help regulate mood. [17]

Yoga practices also result in decreased vulnerability to stress in healthy exercising adults. [18]

The *Yoga* and yogic practices have also been established to benefit the patients with cardiovascular disease allied with insulin resistance in diabetes [19], sleep [20], back pain [21], migraines. [22]

Researchers examining the breath work have reported that regular practicing of *Yoga* increases heart rate variability [23], decreases blood pressure levels [24] and decreases respiratory rates. [25]

The *Yoga* practices have been demonstrated advantageous emotional, psychological, behavioral, and biological effects [26] and significantly increased feeling of well-being. [27]

AHRQ-Healthcare Research and Quality Report (AHRQ) report stated that '*yoga* helped reduce stress.'^[28]

A study showed that lifestyle modification based on *yoga* and stress management led to remarkable reduction in anxiety score within a period of ten days. (Gupta et al., 2006)

A randomized controlled trial showed that a six-week *yoga* intervention led to improvements in quality of life and well-being in patients with schizophrenia (Vancampfort et al., 2017).

One of the benefits of *yoga* is that it can be adapted to the specific needs of individuals with different mental health conditions. For example, persons with post-traumatic stress disorder (PTSD) may benefit from restorative *yoga* practices that focus on relaxation and grounding, while persons with anxiety may benefit from more vigorous *yoga* practices that improve physical activity and mindfulness.^[29]

These findings suggest that practicing *yoga* can have positive effects on mental health and overall well-being.

Discussion

It is essential for health care authorities, health instructors and the alike, to be mindful of the potential of *yoga* as a vital component of a personal holistic i. e. physical, mental and spiritual wellness strategy.

Proposed mechanism of action of *Yoga* on mental health

i. The regulation of the autonomic nervous system (ANS).

Yoga creates change in the neurophysiology of the body.^[30] *Yoga* practice has been shown to modulate the ANS by increasing parasympathetic activity and decreasing sympathetic activity. This change in the ANS balance results in reduction in the physiological symptoms of stress like increased heart rate and blood pressure.^[31] Furthermore, *yoga* practice has been exposed to improve emotion regulation and cognitive processes, like attention and memory, which may contribute to the improvements in mental health.^[32]

The *yoga* counteracts stress and lessens autonomic arousal. [33] of the autonomic nervous system (ANS) including the sympathetic nervous system.[34] The yoga practices help the sympathetic and the parasympathetic nervous systems to function effectively in response to stress instead of becoming hypo-reactive or hyper-reactive. [35]

ii. The release of endogenous opioids and other neurochemicals

It is postulate that *yoga* is effective since it positively alters brain neurochemistry.[36]

One more potential mechanism is through the release of endogenous opioids and other neurochemicals like serotonin and gamma-aminobutyric acid (GABA), which are related to the regulation of mood and anxiety.[37] The physical postures and breathing exercises in *yoga* have been revealed to regulate the release of some neurotransmitters that result in improvements in mood and reduced anxiety.

Melatonin is believed to regulate mood and sleep patterns.[30] The study demonstrated that after practicing yoga participants showed increased melatonin levels.[38]

Serotonin is also believed to improve mood state.[30] The study [39] explained that serotonin regulates both psychological and cardiovascular responses to stress in people with anxiety.

Lower GABA levels have been found in people with depression [40] and anxiety.[41] In a study it was reported that the physical postures of yoga raise GABA activity levels in the brain, therefore decreasing anxiety and depressive symptoms.[36]

iii. Formation of new neural pathways

Some studies have shown that yoga-based exercises are accountable for formation of new neural pathways. In their study, it is found that [42,43] *yogic* practices influence resonance circuitry which increases thickness in medial prefrontal cortex and insula, particularly right side leading to empathy, interoception and attunement to self and others, logical and intuitive processing .[44]

It has been reported that *Yoga* and yogic practices have an influence on the functioning of Hypothalamus and stress response which are accountable for regulating heart rate, respiration, blood pressure and blood sugar. The yogic practices have an influence on

anterior cingulate cortex and hippocampus by having an impact on relaxation response which aid good decision-making, emotion, memory and empathy. It has been reported that *yoga* and *yogic* practices stimulate physical strength, increased flexibility and reduced physical tension. [45]

The researchers have argued that Yogic practices induce brain changes leading to greater activation in left than right prefrontal cortex.[46]

In a clinical sample, these practices were related with alleviating the problems of depression and anxiety by increasing GABA levels [36] and helped the individuals in stress response by affecting Amygdala.⁴⁷

iv. Psychological mechanisms

The researchers have also postulated some psychological mechanisms through which *yoga* and *yogic* practices affect human well-being. The self-perception theory or facial feedback hypothesis [48] argues that voluntary changes in facial expression and motor behaviors also lead to consonant psychological changes.

Conclusion

Yoga meets the triple aim of improving physical health, improving mental health and reducing cost. It seems that deep slow breathing in combination with movement and posture and other aspects of *yoga* are at the core of *yoga's* capability to bring people a greater sense of peacefulness. The main psychological benefits of *Yoga* are to tranquil the mind, to lessen stress and anxiety, to boost concentration and mental clarity, to attune people to the environment, to encourage positive thoughts and self-acceptance and to promote flexibility followed by the spiritual benefits in which awakening the spirit, promotion of interdependence between mind, body, and spirit, developing healthy spiritual awareness, rising the concept of oneness of all things and linking personal energy to divine energy are included. The findings of research work done by scholars suggest that practicing *yoga* routinely can have significant positive effects on mental health such as decrease in symptoms of depression, anxiety, and stress, as well as improvements in overall well-being and quality of life. These effects are achieved probably because of the modulation of the autonomic

nervous system, the release of endogenous opioids and other neurochemicals, and improvements in emotion regulation and cognitive processes. Larger-scale and more rigorous research is extremely encouraged since yoga may have potential to be applied as a safe, relatively cost-effective, and advantageous supportive/adjunct treatment in mental disorders and *Yoga* interventions could ideally be evidence-based, research projects could be multi-disciplinary and preferably including both quantitative and qualitative research methodologies for progress of the field of *Yoga* research.

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