



## Review Article

## Yoga intervention in health and lifestyle modification

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## ABSTRACT

Yoga is a holistic health medicine that forms the integral part of AYUSH. The word Yoga means “union”; union of mind body and spirit i.e. union between us and the cosmic spirit of creation. The five principles of Yoga are Asanas, Pranayama, Nourishing diet, Meditation and relaxation. The Yogic practices modulate physiological responses to stressors. Yoga is beneficial for children, adults and elderly. The objective of Yoga is to improve the immunity and prehabilitation of vulnerable population viz children, elderly and those with co-morbid conditions such as Diabetes Mellitus, Hypertension, Obesity, Stress and Anxiety. A Common Yoga Protocol was developed by team of Yoga Gurus that is being widely performed on International Yoga Day i.e. 21<sup>st</sup> June of every year. Yoga develops psychophysiological health, emotional harmony and manage stress.

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## 1. Introduction

AYUSH is an acronym of Ayurveda, Yoga, Naturopathy, Unani, Siddha, Sowa Rigpa and Homeopathy. They are seven Indian systems of medicine (ISM) prevalent and practiced in India and some neighbouring Asian countries with few exceptions in developed countries. They are based on medical philosophies and represent a way of healthy living.

The Ministry of AYUSH looks into the seven indigenous alternative medicine system of India. It is purposed with developing education, research, propagation of Indian System of Medicine. The National Rural Health Mission is launched to integrate AYUSH practitioners in National Health Programmes. Off late among the seven indigenous system, there is greater emphasis on Yoga. Yoga goes by many names- “God”, “The Universe”, “Spirit” and “The Divine”. The history of Yoga tradition starts with “Yoga Sutra” written by Patanjali, a renowned yoga teacher and

Hindu philosopher. Yoga has now entered the Western mainstream through the work of Swami Vivekananda, who popularized oriental Hindu Philosophy in late 19<sup>th</sup> and early 20<sup>th</sup> century.

Yoga is a Sanskrit word meaning union.<sup>1</sup> It is Hindu spiritual and self-discipline method of integrating the body, breath, mind. Yoga is rich treasure of physical and mental techniques to create physical and mental well-being. The purpose of yoga is to achieve highest potential experience enduring health and happiness and improve the quality of life.

Yoga involves the exercise of all the types of muscles of the body. The associated internal pressure such as intrathoracic and intrabdominal pressure changes form the basis of yoga system of health. The nature of yoga as psychoneurophysical. Yoga asanas cover the entire human anatomy from the top of head to the tip of the toes. Anyone who practices yoga soon begins to appreciate the depth and breadth of benefits like relaxation and softening of inner tension and blockages, body-mind equilibrium and energetic light heartedness.

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Studies conducted revealed that 1hr/day of yogic practices for a period of 6 months leads to increase in parasympathetic activities and autonomic stability. Yoga should be performed on exercise mat, well ventilated room in peaceful surroundings, at day break time. All exercises should be performed slowly, gently smoothly and not to the point of exhaustion as it has predisposition to cause musculoskeletal injury, arrhythmia, fluctuations of haemodynamic parameters and thromboembolism due to intimal tear in weak and physically unfit individuals. In fact the yogic practices should be learned first with the help of yoga therapist and then performed.

The basic yoga methods can be divided into

1. Asanas or body posture
2. Pranayama or breathing exercises
3. Meditation and voluntary concentration of thoughts
4. Deep relaxation

Asanas means posture and involves adoption and maintenance of a particular posture of body for a set period of time that is steady and comfortable. The asanas begin with Surya Namaskar or salutation to sun followed by series of asanas Padmasana, Dhanurasana, Vajrasana, Bhujangasana, Halasana, Pawanmuktasana, Shavasana, Shalabhasana, Padahasthasana, Trikonasana, Vrikshasana, Paschimottanasana, Mayurasana and Shirshasana.

## 2. Pranayama

Prana means for life energy and yama for control while ayama for expansion. The Pranayama literally means "Control of Prana". It is not just breathing exercise but through pranayama breath affects the constellation of energy i. e. body mind.<sup>2</sup> It is the science of proper breathing as breath is the main source of nourishment for all cells of body. Pranayama is control of inspiration and expiration.<sup>3</sup> The regular practice of pranayama increases chest wall expansion and almost all lung functions. The inspiration of prana-vayu is shwasa and expiration is prashwasa and cessation of both is characteristic of pranayama. Pranayama and asanas work hand in hand to balance and integrate different physiological functions and help to dissolve emotional blocks and negative habit pattern. The various form of pranayama are Ujjayi Pranayama, Anuloma Viloma, Suryabhedhi Pranayama, Kapalbhathi pranayama, Bramhari (chanting the OM especially the long mmm) and Bhastrika (breathing pattern resembles blowing of bellows). Bhastrika involves inhaling and exhaling completely that has deep effect on detoxifying the organs through copious oxygenation.

## 3. Meditation

It is practiced in numerous religious traditions in Buddhism, Hinduism. Meditation is a practice in which an individual

uses a technique such as mindfulness or focussing the mind on a particular thought, to train attention and awareness so as to achieve a mentally clear emotional state. One form of meditation is Transcendental meditation that involves focussing on a specific mantra or phrase by repeating it during meditation. The end result of meditation is increasing calmness and physical relaxation improved psychological balance.

## 4. Deep Relaxation

It is traditionally the peak of every of yoga session characterised by 10-20 minutes of complete silence and immobility. It allows the body to absorb all the benefits of previous asanas, pranayama and meditation. Deep relaxation is to recoup the energy and vitality expended during the day.

## 5. Discussion

### 5.1. Health Benefits of Yoga

Yoga is different from conventional exercise because it is performed with spiritual aim, positive attitude preceded by purification of behaviours characterized by parasympathetic nervous system and subcortical dominance rather than sympathetic dominance as in conventional exercise. It is characterized by normalisation of muscle tone and controlled breathing and internal awareness.

The conclusion of yoga session is characterised by mental clarity, emotional stability and a sense of overall well-being. Yoga triggers neurohormonal mechanism with autonomic nervous system stability. The parasympathetic dominance results in decrease in heart rate and blood pressure. Cardiovascular efficiency increases that is given level of exercise is associated with small increase in heart rate and pressure attributed to increase baroreflex sensitivity.

The sympathetic skin response increases indicating lower reactivity to stressful stimuli and sympathetic stability. The electroencephalogram demonstrates predominance of alpha wave while theta, delta, and beta waves also increase during various stages of meditation. This indicates relaxed state of mind with minimal sensory and motor attenuation.

The higher functions of the nervous system comprising intellect, motivation, learning, memory, moral and social science improves. The cerebral blood flow increases with synchronized activity. Yoga causes normalization of muscle tone of each and every muscle.<sup>4</sup>

In respiration, the respiratory efficiency increases and respiration becomes smooth. The respiratory rate decreases while tidal volume, vital capacity, breath holding time and maximum breathing capacity increases.

Yogic exercise slows down the metabolism by decreasing the oxygen consumption. Regular yogic practices influence reduction in neurohormonal activity. The serum catecholamines, testosterone, luteinizing hormone,

resting glucocorticoids level decreases while Thyroxine, Oxytocin and Prolactin increases. The stretching yoga exercise increases blood flow to GIT, stimulating peristalsis and relax digestive system leading to effective elimination. Yoga is also known to increase mucosal immunity by increasing  $\beta$  defensin-2 levels in elderly population.<sup>5</sup>

Yoga is useful in conditions where stress is believed to play a role.<sup>6</sup> Stress is infectious disease susceptibility and outcome.<sup>7</sup> The psychological benefits form overall basis of yoga. As a result of yoga somatic kinesthetic awareness increases, mood and subjective well-being increases, anxiety and depression decreases, while psychomotor functions such as grip strength, fine skill movements, endurance increases.

Thus, yoga is a treasure of physical and mental techniques that can be effectively used to create physical and mental well-being. Because yoga works at every cellular level of body, it has potential as effective therapy for chronic diseases and conditions that do not respond to conventional treatment methods. The incorporation of yoga in our lifestyle is the need of the hour to experience enduring health and happiness.

## 6. Source of Funding

None.

## 7. Conflict of Interest

The author declares that there is no conflict of interest.

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