

## Yoga - Low cost adjunct for health

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WHO has defined the health as “Health is a state of complete physical, mental and social well-being and not merely an absence of disease or infirmity”.

The physical health can be treated with the medicines but for the mental and social well-being Yoga plays an important role to achieve the complete health. Yoga is an invaluable gift of ancient Indian Tradition. Throughout the world it has gained the maximum popularity irrespective of religion, customs and tradition. Yoga is basically a mind body technique which is becoming increasingly popular throughout the world because of its several health benefits. This acceptance of Yoga is mainly because of its preventive and therapeutic uses. The Yoga is realization of our existence through meditation, breathing exercises and asana.

In India Yoga was earlier practiced by all Rishimunis in early hours of the day and it was taught to the students of Ashrama. Yoga was earlier practiced for the activation of all body systems by activating central nervous system and endocrine system for the prevention of diseases. Later Suryanamaskara, one of the important aspect of Yoga, is practiced in most of the parts of India. Slowly this ancient Indian tradition started to get adopted by the rest of the world. The research began on each type of Pranayama, each type of asana and its therapeutic effects.

In a healthy person there is a proper balance in sympathetic and parasympathetic nervous system activity. The balance in sympathetic and parasympathetic activity maintains the homeostasis. Imbalance in sympathetic and parasympathetic activity is a route cause for ill health as it is an imbalance in catabolic and

anabolic pathway respectively. The proper functioning of cell depends on nutrition and oxygen supply through circulation. The cellular function is under the control of nervous system and endocrinal activity. Altered neuronal and endocrinal control leads to pathology of a cell. The practice of Yoga regularizes the neuronal and endocrinal control on cellular function. Yoga has the direct effect on the functioning of pituitary gland which is known as master gland, which controls the other endocrine glands.

Many research articles say that Yoga brings harmony in all walks of life and thus is known for disease prevention, health promotion and management of many lifestyle related disorders. There are different types of breathing exercises. Every breathing exercise has a therapeutic importance. Pranayama is an ancient art of breath control. It is one of the most important yogic practices [1]. It involves breathing through one or the other nostril, holding the breath in inspiration, expiration etc.

Pranayama consists of long sustained inhalation (Puraka), exhalation (Rechaka) and holding breath (Kumbhaka) [2]. Kumbhaka constitutes the most important part of Pranayama during which carbon dioxide level rises [3]. The increase in carbon dioxide level provides a potent vasodilatory challenge to increase Coronary blood flow. Thus breathing exercises regularize the controlled oxygen supply and carbon dioxide washout from tissues. The study shows that Bhastrika (fast breathing practice) and Kumbhaka practices of Pranayama produce considerable positive effects on cerebral hemodynamic parameters

[4]. Each asana has a therapeutic importance, as it regularize neuronal and endocrine activity under whose control the cell functions.

Yoga decreases the blood pressure in hypertensive patients. The possible mechanism of reduction of blood pressure is considered to be reduced sympathetic activity and random restoration of baro receptor sensitivity by yoga. Studies on the Yoga shown that early atherosclerosis is significantly reduced by regular practice of Yoga/meditation. American heart association reported that Transcendental Meditation technique may be considered in clinical practice to lower the BP. The American Heart Association also reported that Transcendental Meditation may reduce heart attacks, stroke and deaths in CVD patients.

Yogic breathing Pranayama is a unique method for balancing the autonomic nervous system and influencing psychological and stress related disorders. Sudarshan Kriya Yoga is a type of cyclical controlled breathing practice provides relief for depression. Sudarshan Kriya Yoga causes vagus nerve stimulation and exerts numerous autonomic effects including changes in heart rate, improved cognition in Alzheimer's disease, improved bowel function, etc. Electroencephalogram changes in Sudarshan Kriya Yoga practitioners has recorded increase in beta activity in the left frontal, occipital and midline regions of the brain. Yoga also exerts its endocrine effects by modulating the hypothalamo-pituitary-adrenal (HPA) axis, which is essential for fight and flight response and survival of humans.

Thy study on Sudarshan Kriya Yoga group practitioners has shown increased serum brain – derived neurotrophic factor (BDNF) levels but decreased serum cortisol levels. Stress, anxiety disorders and depression responds to daily Sudarshan Kriya practice, in the form of improved sleep quality. Anxiety, depression and post traumatic stress disorder are associated with Sympathetic over activity and Parasympathetic under activity. Evidence suggests yoga breathing normalizes Sympathetic activity and increases Parasympathetic activity. Oxidative stress is

internal damage caused by reactive oxygen species. Psychological stress may increase the oxidative stress, which in turn may contribute to aging and etiology of coronary diseases, cancer, arthritis, etc.

The daily practice of Bhastrika provides a mild sympathetic stimulation much like regular exercise and thereby may increase the capacity of the sympathetic nervous system to respond to acute stressors without rapidly exhausting its reserves. Scientific studies on "OM" chanting suggest that the mental repetition of "OM" results in physiological alertness, increased sensitivity as well as synchronicity of certain biorhythms and an increased sensitivity to sensory transmission. The practice of Yoga improves the functioning of Thyroid gland which secretes one of the important hormone which controls body metabolic rate. Various studies show that Yoga has excelled in treating various chronic health disorders.

Apart from Pranayama Yogic asana played a role as therapeutic measures in chronic disorders like diabetes mellitus, hypertension, cerebrovascular accidents, Transient Ischemic Attacks etc. A particular asana is known to increase the activity of a particular organ eg. 'Dhanurasana' increases the secretion of insulin from pancreas and helps in controlling the blood sugar.

Thus Yoga an ancient Indian science has been practiced as a healthy way of life. Now Yoga has been adopted as an approach to health within alternative medicine. Yoga has the advantage of fostering the patient's autonomy and self-reliance besides cutting health care costs. Yogic techniques are helping in rehabilitation centers to take care of mental health. Thus like physiotherapy and diet therapy, the Yogic therapy must be considered in treating the chronic diseases and the unit of Yoga in the hospitals should be an inseparable part to maintain the mental and social well-being. The use of Yogic technique should be considered as an adjunctive treatment.

### References

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