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The Role of Practicing Yoga and its Physiological Benefits

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ABSTRACT:

Yoga is an ancient Indian science which is claimed that it develop perfect physical, mental and spiritual health. Several scientific studies have been conducted on Yogic practices for several years where it establishes a harmony between mind and body. *Yoga* practice shows some physiological effects on every system of our body. This article, an attempt has been made to evaluate the possible mechanisms for such physiological, biochemical and psychological effects with references. *Yoga* is thus described as comprising a rich treasure of physical and mental techniques that can be effectively used to create physical and mental wellbeing. Since its introduction into modern culture, *yoga* has enjoyed a tremendous growth in popularity as a healthy living.

Keywords: Health, mind, physiology, yoga, psychological,

INTRODUCTION

Yoga is a science of right living and it works when integrated in our daily life. *Yoga* philosophy works on all aspect of the person life like physical, mental, emotional, and spiritual status. Nearly 5000 year ago Indian sage Patanjali has explained yoga in his book *Yoga sutra*. 'Yoga' is derived from the Sanskrit root 'Yuj' or 'yujir' which means union or yoking.¹ It is Hindu spiritual and self-discipline method of integrating the body, breath and mind. *Yoga* does not mean merely Asana or Pranayam, besides this, it also includes *Yama*, *Niyam*, *Asana*, *Pranayam*, *Pratyahara*, *Dharana*, *Dhyan* and *Samadhi*.

MATERIAL AND METHOD

This short review paper takes a critical analysis of physiological effect and benefits of *yoga* with regard to different systems as understood by modern medical physiology. Possible mechanisms for such physiological, biochemical and psychological effects are elucidated with references.

Health benefits of Yoga practice

The *yoga* begins with the body on a structural level. The yogic practices stimulate and balance all the system of body. The end result is increased mental clarity, emotional stability and greater sense of overall well-being. A few month of *yoga* practices triggers neurohormonal mechanism that brings about health benefits.

Physiological benefits

In general, one hour per day of yogic practices for a period of six month bring about stable autonomic nervous system equilibrium² with a tendency towards parasympathetic nervous system dominance, this result in decreased heart rate (HR) and blood pressure (BP), decrease respiratory rate and show improvement in GIT and excretory functions.³

Metabolism is a good indicator of the rate at which we live. Yogic exercises slow down metabolism by decreasing the oxygen consumption. The fall in the metabolic rate is much greater and steeper than during sleep. Further there is no



fall in the internal body core temperature.⁴

Regular yogic practice result in reduction in intrinsic neurohormonal activity such as decrease in urinary excretion of catecholamine and aldosterone.⁵

Yoga show positive effect on digestion by increase blood flow to GIT, stimulate peristalsis, relax digestive system and leads to more effective elimination.⁶

Yogic practices bring strength in skeletal-muscular system, electromyography (EMG) activity decreases, musculo-skeletal flexibility and joint range of movement increases.⁷

Psychological benefits

Yoga practices increase somatic and kinesthetic awareness and increases social adjustment and decreases hostility.⁸ It also decrease anxiety, depression and increase mood improvement and subjective wellbeing.⁹

Biochemical benefits¹⁰

The biochemical profile improves indicating an antistress and antioxidant effect important in the prevention of degenerative diseases.

1. Haematocrit, haemoglobin and lymphocyte count increases
2. TLC decreases
3. Glucose and sodium level decreases
4. Lipid profile
 - (1) Total cholesterol decrease
 - (2) Triglycerides decreases
 - (3) LDL and VLDL decreases
 - (4) HDL increases

It makes subject to experience good health and happiness and improves quality of life.

DISCUSSION

Yoga is not just a slow motion calisthenics. Studies conducted revealed that one hour per day of yogic practices for a period of six month leads to increase in parasympathetic activities, provides stability of autonomic balance during stress, improves thermoregulation efficiency and cognitive function such as concentration & memory. *Yoga* increases mind-body awareness, as well as offering a form of relaxation which can replace unhealthy coping mechanisms. Relaxation techniques such as deep relaxation techniques and *yoga nidra* are very beneficial in anxiety disorders. *Yoga nidra* is qualitatively different from relaxation. It is a ‘sleep’ where all the burdens are thrown off to attain a more blissful state of awareness, a relaxation much more intense than ordinary sleep. *Yoga Nidra* aims to focus the mind to achieve relaxation and increase wellness. During anxiety and depression, there is

a decrease in neurotransmitters such as serotonin and norepinephrine. The regular yogic practice has been significant decrease in HR, diastolic BP, and blood glucose. *Yoga* and meditation controls the limbic hypothalamus axis. This reduces the anxiety and reduces the high level of stress hormones present in the blood.¹⁰ It also increases the level of beneficial hormones like adrenaline and enkephalin. These two hormones have positive effect on our body and strengthen the immunity system. The body gets the ability to protect itself from diseases and does not allow the entry of infections and other contagious diseases. *Yoga* and *Pranayama* are not merely physical exercises but they strongly influence our consciousness. In nut cell *yoga* practices bring modulation of ANS activity, probably through the conditioning effects on autonomic functions.

CONCLUSION

Though, most of research studies and systematic reviews give evidence that *Yoga* enhancing physiological functions of every system. The regular yogic practice has been observed to improve various physiological functions of the body such as significant decrease in heart rate, diastolic blood pressure, and by achieving parasympathetic dominancy due to reduction in the sympathetic activity so practicing *yoga* exert certain degree of voluntary control over autonomic functions. The individuals practicing *yoga* develop resistance against physical stress, which is evidenced from the relative stability of good mental health and increased physical efficiency. Hence, practicing *yoga* must be added in routine for improving the quality and quantity of life.

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