

# **Critical Analysis of the Role of Yoga in Management of Life Style Disorders**

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## **Abstract**

Day by day the changing lifestyle & dietary habits are generating a lots of diseases called as life style diseases. These are non communicable diseases. Statistics shows that these non communicable diseases are major factor responsible for death in recent decades. Now prior need to survive human life is indirectly focused on modification of life style. Yoga science is basically a health science. Modification of life style by imparting the Yoga definitely prevents the life style disorders. Yoga's primary emphasis is upon general well-being. Although yoga has been shown to be beneficial in a variety of conditions, it is not considered a therapy for specific illnesses. Yoga employs a broad holistic approach that focuses on educating people a new lifestyle, way of thinking, and way of being in the world. Critical analysis of different factors responsible for generating the different diseases are managed by practicing Ashtangyog with its eight limbs Yam, Niyam, Asan, Pranayam, Pratyahar, Dhyan, Dharna & Samadhi. Many of the healing effects of yoga are clinically verified. One of the most important benefits of yoga is that it is very useful in relieving stress, fatigue and improves vitality which is the basic need of preventing life style disorders.

**Key words:** Life style disorders, Non communicable diseases, Ashtangyog

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## **Introduction:**

In recent decades the change in life style & food habits of people are responsible for generating a lots of diseases. These diseases are specially called as life style diseases. Life style diseases mean “diseases of civilization” or “diseases of longevity”. Our civilized life style is well developed in advanced technology. With this advanced technology we get easiest way to do any work very easily & fastly. This rapid & advanced technology bounded us to sit at one place for hours together. Day by day we are losing the physical smoothness because of lack of exercise. This type of sedentary life style is responsible for generating the lots of diseases. As the diseases are gifted by civilized life style, they are called “diseases of civilization” and as these diseases live

with us for a lifetime or long duration of life, they are called as “diseases of longevity”. Diabetes, Obesity, Hypertension, Chronic Respiratory diseases, Liver Cirrhosis, GIT Diseases, Cancer, Mental disorders are few examples of life style disorders. All life style diseases come under non communicable diseases.

It is well established that non communicable diseases (NCDs) are the leading cause of death in the world, responsible for 63% of the 57 million deaths that occurred in 2008. The majority of these deaths - 36 million - were attributed to cardiovascular diseases and diabetes, cancers and chronic respiratory diseases<sup>1</sup>. In most middle- and high-income countries NCDs were responsible for more deaths than all other causes of death

combined, with almost all high-income countries reporting the proportion of NCD deaths to total deaths to be more than 70%<sup>1</sup>. NCDs will be responsible for a significant increase in total number of deaths in the next decade. NCD deaths are projected to increase by 15% globally between 2010 and 2020 i.e. upto 44 million deaths<sup>2</sup>. Now it's a time to adopt the slogan that 'Prevention is always better than cure'.

### **Methodology:**

The literature related to generation of life style disorders reviewed & critical analysis done to find out how the changes of life style affect our inner body to generate diseases. Critical analysis of yoga literature regarding the Ashtang Yoga done to find out the way to prevent the effects of life style on body & thus discussion is interpreted regarding management of these life style disorders by regular practice of yoga.

### **Observations:**

There is abundant literature regarding the role of diet & nutrition in contributing generation of diseases. Equally emphasis should be given our activities also. Our daily regime which includes our Ahar (diet) & Vihar (activities) both play a significant role in generation of diseases called life style diseases.

### **Major contributing factors of life style:**

Stress, Poor sleep, Poor diet, Smoking, Consuming alcohol, Sedentary lifestyle, Less community interact are some major factors to generate life style disorders. Out of these factors Stress is one important factor which is responsible to predispose other factors. Stress is the factor which directly affects the autonomic nervous system. Autonomic nervous system has two components: Sympathetic Nervous System

& Parasympathetic Nervous System. Sympathetic Nervous System activation results in utilization of energy. It gets activated in conditions like fright, fight & flight. So whenever there is requirement of more energy, this system gets activated & helps to mobilize energy. On the other side the activation of Parasympathetic Nervous System results in restoration of energy. So in relaxed condition of body the system gets activated<sup>3</sup>.

### **Role of stress in generating life style disorders:**

Stress arouses Sympathetic Nervous System which increases cellular respiration<sup>4</sup>. Cells use glucose with the help of oxygen to produce energy. More & more energy consumed by the cells to perform the functions. Carbon-Dioxide and Free Radicals are byproducts in the process & this result in oxidative stress. Free radicals which are the byproduct of the processes damage the cells. Stress also accelerates cortisol levels by increasing the demand of glucose to perform cell functions<sup>5</sup>. It also results in poor sleep, poor diet habits, habit of smoking, alcohol consumption. Such type of day to day activities results in sedentary life style.

### **Long term consequences of increased Cellular Respiration:**

Long term increased cellular respiration<sup>6</sup> because of activation of sympathetic system due to stress increases requirement of glucose by cells to derive energy. This will induce more secretion of insulin to fulfill the demand of cells for utilizing the glucose. Day by day the cells become insulin resistant & pathophysiology of Diabetes mellitus starts. Increase in oxidative stress results in inflammatory responses of cells which results in arthritis. Increase Cellular

Respiration Increases probability of atherosclerosis, reduces positive prognosis in cancer patients, and increases exacerbation of respiratory disorders, Contributes to induce Gastro Intestinal problems.

Stress increases cortisol level by disturbing Hypothalamus-Pituitary-Axis. If this disturbance remains for a long time, this chronically elevated cortisol level reduces neurogenesis by damaging Hippocampus<sup>7</sup>. This increases resorption rate of bone leading to generation of Osteoporosis, Increases break down of collagen & generates arthritis<sup>8</sup>. It also enters the cellular nucleus and influence gene expression resulting in congenital malformation<sup>9</sup>.

Stress is also responsible for poor sleep. Normal sleep pattern requires alpha & then theta waves. But in stressed brain beta waves are produced, which results in poor sleep. If a person suffers from problem of poor sleep for a long duration he has to face consequences like mental health disorders. Poor sleep reduces immune system, inhibits neurogenesis & leads to generate alzheimer's disease<sup>10</sup>.

High levels of stress contribute to have behaviors that undermine health like Smoking, Drinking, Poor eating habits & increased sedentary lifestyle i.e. lack of exercise. Stress affects the diet pattern also. In 1994 a research was conducted in which Stress was correlated with hyperphagia and hypophagia<sup>11</sup> Researches show that those who are emotional eaters stress increases intake of sweet and sugary foods<sup>12</sup> & women who are highly stressed show preference for high-fat and sweet food<sup>13</sup>. Poor diet leads to cause malnutrition which may results I reduction of precursor elements for neurotransmitter production &

lack of essential nutrients and vitamins for healthy functioning. Poor diet also has the consequences to increase blood sugar levels by increasing cell's insulin resistance. This results into generation of Heart Disease, Hypertension, Cognitive Decline, Osteoporosis, Diabetes, Obesity, Anxiety and depression.

Many people work all day in front of a computer. Technological advances are creating reduced interest in physical and outdoor activities. In UK and USA sedentary lifestyle is the most prevalent risk factor for chronic diseases. 95 percent of both populations do not meet physical activity guidelines<sup>14</sup>. This type of sedentary life increases risk of heart disease, increases risk for hypertension, increases risk for diabetes, increases risk for osteoporosis, reduces muscle tone, reduces flexibility of joints. Research shows that in each decade after the age of 20 flexibility decreases by 15% with the greatest loss in lower back and hamstring flexibility-if we do not engage in physical activity & it increases the likelihood of lower back pain. Reduced physical activity weakens muscles necessary for balance, including core muscles<sup>15</sup>.

According to the Center for Disease Control 2014, one; out of three adults over the age of 65 falls each year. Falls in the elderly contribute to morbidity and are a contributing factor in reduced life expectancy. So it's time to apply preventive aspects before facing problems.

#### **Yoga – A science of Health:**

YOGA Science is more Life and Health oriented than Disease and Treatment. It is the science which can control diseases by controlling body & mind. Practice of Yoga teaches to control Habits of Diet &

activities, Activities of Sensory organs, Respiration & mind. Yoga is well known by the term Ashtangyog. It consists of eight Ayam. Yam, Niyam, Asan, Pranayam, Pratyahar, Dhyana, Dharna & Samadhi. Yam (abstinences) & Niyam (observances) controls lifestyle against poor habits of diet & activities, Different Asanas (body postures) control physical activities, Pranayam is controlled Respiration, Prathyahar (abstraction) teaches to control sensory organs and Dhyana (meditation), Dharna (Concentration) & Samadhi help to control mind<sup>16</sup>. Yamas, Niyam, asan, Pranayam are Bahiranga yoga or external yoga practice. Yam, Niyam specifically related to ethical practices & asan, Pranayam related to physical practices. Dhyana, Dharna & Samadhi are considered as Antaranga Yoga, specifically related to higher mental practices. Among these Pratyahar is the link between the antaranga & bahicanga yoga specially related to sensorial practices.

The first step of Ashtangyoga is Yama. The word 'Yam' means control. Thus the principle which requires controlling some activity or behaviour is called Yama. Patanjali admits the five Yamas as Ahimsa or Non violence, Satya or truthfulness, Asteya or Non stealing, Brahmacharya or abstention from sex & Aparigraha or Non-possession. The second step of Ashtangyoga is the five-fold system of Niyama that means cultivation of certain virtues which form the routine code of conduct consisting of certain good habits which facilitates the spiritual progress. The five fundamental accepted factors are Shaucha or purity, Santosh or contentment, Tapas or austerity, Swadhyaya or self study, Ishwarpranidhan or dedication to divine. Shaucha is the practice of positivity. Restoration of positive energy of mind by avoiding passion, anger, greed,

delusion, pride & jealousy. Santosh or contentment is another important principle of Yogic Niyam. A mind which is in state of contentment can concentrate & meditate. Discontentment is the root cause of all miseries & it produces all types of conflicts in our mind.

Asanas is the third step which means maintaining body posture. It induces desired effects which includes varying degrees of mental & physical relaxation. Pranayam is the practice of controlled breathing which yields comprehensive effects including systematic physiological vitalisation & psychosomatic relaxation<sup>17</sup>. Then Pratyahar is the process of self-restraint where an individual's tries to keep his senses away from the objects. Dhyana, Dharana & Samadhi are helpful to concentrate our mind & help us for relaxation. In this way Ashtangyoga helps to reduce stress, Increases Mindfulness, it increases positive habits, Enhances sense of connectedness & Enhances positive attitude towards life.

#### **Discussion:**

##### **Role of Yoga in stress reduction:**

Deep slow breathing practices which is part of Yoga i.e. Pranayam reduces sympathetic arousal and increases parasympathetic activation. While doing Pranayam we not only tries to breathe, but at the same time, also tries to keep our attention on the act of breathing, leading to concentration. These acts of concentration remove our attention from worldly worries and de-stress us & activates parasympathetic system. Greater parasympathetic activation enhances sleep quality. Mindful attention taught by yoga, reduces stress. Various meditative practices of yoga like Dhyana, Dharana & Samadhi increase parasympathetic activation. Balance between sympathetic and parasympathetic

practices increases physiological resiliency to stress.

Parasympathetic activation enhances cardiac functioning, Improves digestion, Inhibits release of inflammatory proteins, Increases deep inhalation and Increases resiliency to stress. The reduction in the stress effects on cellular activity. It decreases consumption of O<sub>2</sub> by the cell & Increases surplus of O<sub>2</sub> in the body which helps to reverse oxidative stress damage. It results in restoration of cells<sup>18</sup>.

### **Role of yoga in managing other Contributing Factors:**

Yam, Niyam & Pratyahar helps to control mind & sensory organs. Control over habits of diet & activities definitely improve the quality of life. Long holds in stretch oriented asanas enhance relaxation & increases muscle tone.

Long term yoga practice shows a very good effect on sleep quality & hormonal

modulation<sup>19</sup>. It also shows a very good effect on sleep quality & quality of life<sup>20</sup>. Yoga shows good effects on getting relief from bad habits like smoking & alcohol<sup>21</sup>.

Practicing Yoga in the yoga classes shows the acute-feeling responses which were favorable in their daily regime. The participants showed an increased self-awareness as a result of their experience<sup>22</sup>. Stress, poor sleep, poor diet, smoking, consuming alcohol, sedentary lifestyle, and break down of community interact and undermine well-being and health are gifted by current life style. The traditional eight limb practice of yoga provides Stress relief, Increases awareness, Supports better habits, Enhances community interaction. Yogic lifestyles combine the main elements that promote health and well-being. Research reveals that yoga Practice is a way which is non expensive and comprehensive way to reduce life style disorders.

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