

## Introduction

In recent times the need for oxygen to enable normal functioning of the body cells, has extended with many new chapters in various published literature. These new “chapters” have augmented our knowledge about psycho-physiological processes and a rather exciting proportion can be concluded from some of them – namely, that there is likely to be something more than oxygen is required for sustaining our physical body.

In this context the science and art of yoga, is basically holistic in its approach. However it offers the best way to cope up with problems related to respiratory and cardiovascular functions, digestive and neuromuscular systems specifically.

Yogic lifestyle, yogic diet, yogic attitudes and various yogic practices help a man to strengthen his body and mind and develop positive health. It enables him to withstand stress by normalized perception of stress and helps to optimize the reaction to it. Living a happy and healthy life on all planes is possible through the unified practice of *hata yoga i.e. asanas and pranayamas, dharana and dhyana, especially* when performed consciously and with awareness. Literature reveals that Asanas help us to develop strength, flexibility, will power, good health and stability. When practiced as a whole with other limbs of yoga, it gives the practitioner a stable and unified strong body and mind. Pranayamas help us to control our emotions, which are linked to breathing. Pranayamas also influence our *pranamaya kosha* i.e. the vital energy sheath out of the total five kasha’s around us.

In fact, one’s voluntarily controlled, slow deep and rhythmic breathing is ideal for controlling the stress and overcoming emotional problems. Such

breathing is known as pranayama. The practice of pranayama helps us to regulate our emotions and stabilize the mind. While, *Dharana* and *dhyana* help us to focus our mind and dwell in it and thus helps us to channel our creative energy in a holistic manner towards the right type of evolutionary activities.

The science of yoga believes that, there are thousands of energy channels in our body, called *nadis*, and primordial energy or *prana* flows through it which governs the functioning of the mental and physical planes of our existence. Wherever energy becomes blocked or cannot flow efficiently for some or the other reasons, the normal functioning of different body parts becomes disrupted and if it lasts for a longer time, disease can emerge. Several clinical investigations have established a strong association between low cardio respiratory fitness and mortality. Cardiovascular disease (CVDs) account for a proportion of mortality in adults older than 45 years (Gettman and Pollock, 1981). Numerous risk factors which account for CVD, including hypertension, diabetes and hypercholesterolemia are supposed to be influenced by low cardio respiratory fitness (Hempel and Wells:1985; Birkel and Edgren:2000) and these factors may mediate the association between low fitness and mortality. Regular practice of Pranayamas along with few Asans, Bandh and Mudra may reduce such risk factors of CVD in controlling respiratory and cardiovascular functions and hence this study may be of immense importance.

On the similar lines these are various methods of training available today to train and gain development of different aspects of cardio-vascular endurance and fitness. Out of these methods, the 'Weight Training' is one

of the best methods of training. Following are the benefit of weight training exercises'.

In a manorial person when levels of cardiovascular fitness components are low, both his heart and lungs have to work very hard, to accomplish normal daily activities. In many cases lungs and heart together are not able to work hard so as to sustain high-intensity physical activity in an emergency or in some type of the sports events. However, in case of enhanced cardio respiratory fitness, the heart and lungs begin to function more efficiently. So also the heart pumps more blood supply through a heartbeat and the resting heart rate slows down, the blood volume increases, and thereby blood supply to the tissues improves. A healthy heart and lungs can better withstand the strains of everyday life, the stress of occasional emergencies, and the wear and tear of time. Cardio respiratory endurance training improves the functioning of the muscles and liver which enhances the body's ability to use energy supplied through food.

Moreover, cardio respiratory endurance is considered the most important component of health-related fitness, because the functioning of the heart and lungs is so essential to overall wellness. A person simply cannot live very long or very well without a healthy heart. Low levels of cardio respiratory fitness linked with heart disease, becomes a leading cause of death.

The ongoing researches show that, there is a youth fitness crisis and same is continued even during adulthood including old age. In reality such a fitness crisis has to be initiated in the childhood. Like American's today

our nation's children have also been increased risk of heart disease in depositing excessive body fat, elevated blood pressure, high cholesterol and poor fitness, as a result of lack of exercise and sedentary lifestyle. If the things do not change, then our nation's most precious asset i.e., our children and youth who would be the tomorrow's citizen, will likely to contribute to future heart and lung diseases in a huge amount.

Therefore, it is necessary to improve cardio vascular endurance and fitness in reducing the risk of various psycho-somatic diseases. Although a regular participation in various games and sports and physical activities will also help our children to enhance such fitness of heart and lungs. The facility for such a programme in physical education in schools and colleges in India seem to have become negligible, since they are costly and need huge financial involvement.

Satara is one of the vast districts in the western ghat regions of Maharashtra. It has around 11 talukas, 22-27 cities and 1800 villages. When we compare the geographical condition of these places is a heavy rainfall, while the rest district comes in dry area, where the rainfall is almost  $\frac{1}{4}$ th of the total rainfall of the other parts in the same district. Thus the environmental and geographical condition contradicts in the same district. This leads to cause a change in socio-economic conditions. Lifestyles and physical fitness level of the people residing in both the part of Satara district. Hence there is a need to evaluate the cardio vascular endurance and physical fitness of the college student aged between 18-22 years and then study the comparative effect of yogic practices and weight training exercises on cardio vascular endurance and physical fitness levels of these student.

