

Effect of Pranayama on Serum Malanodialdehyde in stress

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Introduction:

Stress is defined as a state of cognitive, emotional and physical arousal. The state of arousal that is known as “stress” is caused by exposure to some actual or perceived demand or stimulus in our environment. Once the intellect is aroused, emotions and the body, changes in a person’s behavior are observed. Stress, at reasonable levels, is essential for a healthy life. When it gets out of control, however, stress can be a powerful destructive force. There are four types of stress. They are: i. General stress ii. Cumulative stress iii. Critical incident stress iv. Posttraumatic stress disorder

Day to day life of human being has become faster sine last few decades. The reasons may vary such as increase in population, decreasing resources, interference in nature’s equilibrium etc. As the life has become faster, there is struggle for existence human being is always under psychological stress and strain. This stress either acute or chronic, results in social and individual health problems. So the stress and health problems become a vicious circle. The stress invites disease process in to an individual and in turn in the society. In short stress is the only responsible factor to induce the disease process and the efficiency of the individual and the society is significantly affected. The stress – disease – stress is vicious circle and is to be broken. Modern Science has certain remedies on these problems in the form of medicines. But it has side effects and limitations. The other disadvantages are increasing cost of the investigations, treatment and management. The treatment is to be continued life long. The default in the treatment leads to fluctuation in the disease process and untoward complications are to be faced. Unfortunately some of the diseases are not curable but can be controlled only with the help of modern Science. There is no medicine, which

controls the mind, which causes disturbance in psychology. Answer of these problems is available with the ancient Indian systems. One of them is Patanjali's sutras. Basically there are eight steps and they are yama, niyama, asanas, pranayama, pratyahara, dharna, dhya and samadhi. In samadhi mind is thoughtless, which is the ultimate goal. But there are obstacles on the path and body diseases are one of them. It is mentioned in the sutras that the body diseases are cleared with the help of pranayama, which in turn also settles the mind leading to healthy psychology of the individual and the society. At present commonest problems in the society are hypertension, diabetes, depression and obesity due to which the world is going through the phase of restlessness. So many efforts are being taken by the way of different researches, by different methodology, by different theories and by different people in the world, but satisfactory results are awaited. Keeping the above view in the mind, the following problem is undertaken for the present investigation.

method: To study the effect of pranayama a group of 41 cases selected. The age group was from 30 years to 55 years including 24 males and 17 females.

Tools : To study the effect of pranayama techniques as under that Vajrasana. Steps of puraka, antar-kumbhaka, rechaka, bahya-kumbhaka at the ratio of 4:2:5:2. This comprises one respiratory cycle.

Kanistha pranayama	7 cycles
Madhyama pranayama	7 cycles
Jestha pranayama	7 cycles
Dhauti	3 cycles
Chin mudra	7 cycles
Chinmay mudra	7 cycles
Adi mudra	7 cycles
Merudand mudra	7 cycles
Purna mudra	7 cycles
Dhauti	3 cycles
Bhastrika pranayama	45-60 strokes

Anulom-vilom pranayama	3-5 minutes
Bhramari pranayama	3-5 minutes
Kapalbhati	75-90 strokes
Mahat pranayama	3 cycles
Dhauti	3 cycles

In this research independent variables are directly manipulated by the experimenter. There are two sessions pre session and post session. In pre session, a group of 41 cases selected. They were investigated for serum mda (malanodialdehyde). In between the pre and post sessions, the techniques of pranayama were applied. After one month in Session II i.e., post session represents the effect of techniques of pranayama and again serum mda levels measured and analyzed by paired t test. All the cases in above groups were not suffering from other disorders. The chronic cases were selected. The borderline cases were not selected. In all the groups the training times were equal. When pranayama techniques apply to all subjects.

Results and discussion

	mean	Standard deviation	“t” value	“p” value
Serum MDA	6.43	1.55	26.62	.001

The table shows mean difference is 6.43 and standard deviation is 1.55. The t value is 26.62 and it is significant at .001 levels.

Discussion

On the basis of above findings and present study, one can say that the pranayama is practiced in vajrasana. In vajrasana the metabolism of the body is increased. In pranayama, the concentration of oxygen in blood is increased. The surplus oxygen is supplied to the tissue cells those are functioning anaerobically. These cells now functions aerobically. The surplus oxygen is metabolized to generate energy. The increase in generation of energy regenerates /renewates the neuron cells. The physiology of cells is normalized and the efficacy is increased. The endocrine glands and enzymes

regain control through the hypothalamus. This probably helps in synthesis of cholesterol, which needs further research and evaluation. Particularly in fourth step of respiration in pranayama i.e. bahya-kumbhaka, the mind is thoughtless.

These methods are cost effective, has no side effects. So the little modification in life style by introducing these methods an individual can live the stress free, diseases free healthy life as described in the ancient philosophies like vedas, upnishadas and danshan shastras.

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