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Effects of pranayama with meditation on selected physiological variables of male students

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Abstract

Purpose of the study was to investigate the effect of pranayama with meditation practice on selected physiological variables. For the present study a total subject (N= 40) male student of the Champinagar S.C. High School were selected randomly from group of students, attending the regular school and divided equally in two groups and designed as experimental group and control group. The experimental groups 20 student underwent an eight week (three days/week) of pranayama practice at evening session (50 min/day). The control group was not allowed to participate in any of the training programmes, except their routine works (age ranging from 14-17 years). The researcher selected as a physiological variables for the present study: i.e. resting pulse rate, blood pressure (systolic and diastolic), respiratory rate and stress. The data was collected before and after eight weeks pranayama with meditation practice. The data was analyzed by applying paired t-test. at 0.05 level of significance. The finding of the present study strongly reveals that pranayama with meditation practices of eight weeks have significant changes on physiological (without the systolic blood pressure) variables of male students.

Keywords: Pranayama with meditation, resting pulse rate, Systolic blood pressure, and Diastolic blood pressure, Respiratory rate, and Stress.

Introduction

Yoga is an art, science and philosophy, which influence the life of man at each level. Yoga is a way to achieve total health, peace, bliss and wisdom. Physical, mental and spiritual aspects of yoga help to make one's life purposeful, useful and noble. Therefore, the effect of yoga must be felt in every movement of our day- to- day lives.

Pranayama is an exact science. It is the regulation of breath or control of prana which is the stoppage of inhalation and exhalation that follows after securing that steadiness of posture or seat, Asana.

The Sanskrit word prana means 'vital force' or 'cosmic energy'. It also signifies 'life' or 'breath', Ayama means the control of the prana. Hence pranayama means control of the vital force by concentration and regulated breathing. It is physical, mental, spiritual and cosmic energy. All forms of energy are prana. Prana is usually translated as breath;

Meditation is the act of focusing one's thoughts or engaging in self – reflection or contemplation. Some people believe that, through deep meditation, one can influence or control physical and psychological functioning and the course of illness. Sum research worker have conducted their study in this area and found positive result. With such idea present study has been selected entitled "Effect of The Eight Weeks of Select Pranayama with Meditation Training on Physiological Variables of Male Students".

Purpose of the Study

It was believed that the results of the present study would serve the following purposes:

The result would indicate whether Pranayama with Meditation practice could provide desirable changes on selected physiological variables (Respiratory rate, Resting pulse rate, Systolic and Diastolic blood pressure of school level male students.

Methods and Materials

The data was collected before and after eight weeks pranayama with meditation practice. The participants were tested with the usages of stop watch, Sphygmomanometer with Stethoscope.

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The resting pulse rate recorded in beats per minute. The blood pressure was recorded in mmHg. Respiratory rate was recorded in seconds.

For the present study a total subject(N= 40) male student the Champinagar S.C. High School were selected randomly from group of students, attending the regular school and divided equally in two groups and designed as Experimental group and control group. The experimental groups 20 student underwent an eight week (three days/week) of pranayama with meditation practice at evening session (50 min/day). The control group was not allowed to participate in any of the training programmes, except their routine works (age ranging from 14-17 years). For the present study pre-test and post-test randomized control group design which consists of

experimental group was used .The data was collected before and after eight weeks of pranayama with meditation training on selected physiological and variables of school going students.

The collected data were analysed by using appropriate statistical procedure. Mean was calculated as a measure of central tendency and standard deviation was found out as a measure of variability of the data. Significance of different between pre and post-test means was measured by ‘t’ test.

Resulted Discussion

Collection of data on (Respiratory rate, Resting pulse rate, Systolic and Diastolic blood pressure) of the subjects have been presented in Table- 1.

Table I: Mean, SD, and t ratio of the physiological variable of the experimental group

group	Test	Pre Treatment		Post Treatment		t ratio
		Mean	SD	Mean	SD	
Experimental group	Resting pulse rate	84.9	11.01	77.3	7.52	2.95*
	Systolic blood pressure	115.65	10.09	116.15	8.81	1.26
	Diastolic blood pressure	71.15	5.67	75.9	6.14	2.88*
	Respiratory rate	24.45	4.77	22.9	4.16	2.53*

Significant at .05 level of confidence level of significant:-2.093

From Table-I it was observed that the computed t-value of Resting Heart rate of experimental group was 2.95, Diastolic Blood Pressure was 2.88, respiratory rate was 2.76.This indicates that there was effect on eight weeks Pranayama with meditation training on selected physiological variables between pre and post test phases. The t-value of experimental group was greater in comparison to pre test phases; the t-value was greater than 2.093 at .05 level of confidence after eight weeks training programme.

But the t-value of systolic blood pressure of experimental group was 1.26.To be insignificant at .05 level of confidence the t-value was lesser then 2.093 at .05 level of confidence after eight weeks treatment.

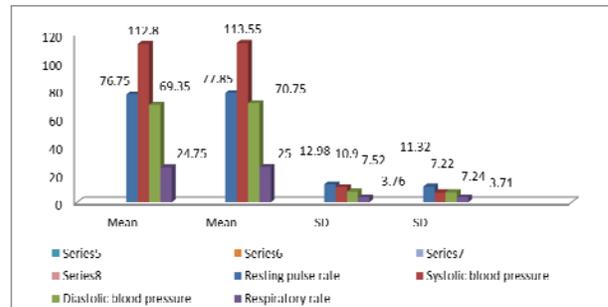


Fig I: Bar diagram a comparison of Mean and SD of the physiological variable of the experimental group.

Table II: Mean, SD, and t ratio of the physiological variable of the control group

Group	Test	Pre Treatment		Post Treatment		t ratio
		Mean	SD	Mean	SD	
Control group	Resting pulse rate	76.75	12.98	77.85	11.32	0.62
	Systolic blood pressure	112.8	10.90	112.55	7.22	0.41
	Diastolic blood pressure	69.35	7.52	70.75	7.24	0.96
	Respiratory rate	24.75	3.76	25	3.71	0.34

Table II also shows the mean, SD, and t-values of the control group. No any changes in resting heart rate, systolic and diastolic blood pressure, and respiratory rate were found. It was also observed by the control group was no such significant changes notice, in all physiological parameters. Because of the t-value were laser them the required table value of 2.093 at 0.05 level of confidence.

Conclusion

The 8-week pranayama with meditation training programme had significant effect on heart rate, blood pressure, respiratory rate. Thus, such training may be recommended to improve physiological performance. The positive results found in the present study might apply to sports persons to improve physiological and psychological efficiency. A few minutes practice daily may help in maintain healthy life. The daily practice could also be parts of physical fitness and life style modification programs in maintaining better physical and

mental health.

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