

Effect of Yogic Practices and Physical Exercises on Selected Physiological Variables among Higher Secondary School Boys.

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ABSTRACT

The purpose of the study was to find out the effect of yogic practices and Physical Exercises on selected Physiological variables among Higher Secondary School Boys. It was hypothesized that there would be significant differences on selected Physiological variables due to the effect of yogic practices and Physical Exercises among Higher Secondary School Boys for the study. 45 Higher secondary School Boys from Thalirmarungur Govt Higher Secondary School, in Tiruvadana Taluk, Ramanathapuram District, Tamilnadu were selected at random and their ages ranged from 17 to 19 years. The subjects were selected using random group design of 15 subjects each for the purpose of Pre and Post test study. The groups were assigned experimental-Yogic Practices-YPG-I, Physical Exercises-PEG II were provided yogic practices and physical exercises training and control group CG-III kept as silent and no training was extended. The data was collected before and after six weeks of training. The MS-Office- Excel Software, SPSS and Origin Software were used to analyze data. The Statistical tool used was analysis of covariance (ANCOVA) and 'F' ratio obtained. The significant level of confidence at 0.05 was set. The yogic practices had positive impact on Blood Pressure systolic, diastolic and respiratory rate among Higher Secondary School Boys.

Keywords

YPG: Yogic Practice Group, PEG-Physical Exercise Group, CG- Control Group, Chitta, Vridhi, Nirodha`-Over all Supremacy, Yuj-Harmony, Yujir-Union, Omron Monitor-RR Measuring tool.

I. INTRODUCTION

Yoga is a systematic practice for the realization of optimum level of effective body functions. It is the science of life and an ideal way of living, providing rhythm to the body, melody to the mind, Harmony to soul and thereby symphony to life. Yoga is a way to achieve "Chitha vritti nirodha, total mastery over health, peace, bliss and wisdom". Physical, mental and spiritual aspects of yoga help to make one's life purposeful, useful and Nobel. Thus, yoga is an art, Science and Philosophy which influences the life of man at each level. Therefore, the effect of yoga must be felt in every movement of our day to day life. According to Sanskrit etymology the term yoga is derived from two roots namely "Yuj" and "Yujir". Yuj means 1) Sam yoga-Union or Harmony and 2) Samadhi -Integration. Yujir means Yoga or Union yoga is an ancient Indian Science which teaches man how to live in unity within himself and with those around him. It is recognized as one of the most important and valuable Indian heritage. More than 5000 years ago Lord Shiva and Goddess Parvati Devi and later our ancestors developed yoga to bind both the mind and spirit, to make the whole human creation a harmonious. Over the years it has been growing leaps and bounds in popularity with unrestricted rapidly. Today the whole globe is looking forward towards yoga for answers to various physical problems and health issues the modern man is facing. Till now many great sages and saints walked through the great path of yoga and left their landmarks for a betterment of human folk to follow. Yoga is an ancient art form of relaxation and exercise that has many health benefits including lowering cholesterol, blood pressure and improving cardio respiratory rate. At present majority of children do not have any specific goal in life, and they lack confidence,

concentration and self-discipline. Though they read a lot and learn a lot their mental maturity is at stake. Yoga is a physical structure which caters to the physical as well as mental culture. (Divya K.Kalimuthu, 2019) Physical Exercise is the other side of physical fitness education. It supplies the Strength, Flexibility, Cardiovascular endurance, health, Vigor & Agility etc, to the body. It also develops sociability, understanding, leadership quality, co-operation and co-ordination to the physic, balance, calmness, awareness, shrewdness and power of mind and finally comfort and elevation to the soul. Physical education contributes to academic achievement (Intellectual, Physical and Emotional development). Pranayama helps to convert the body to its battery (mitochondria) the solar plexus (cosmos, energy, and power) where tremendous natural energy is stored. When tapped through specific techniques this vital energy or prana is released for physical, mental and spiritual rejuvenation. Constant and regular practice removes obstructions in the vital organs and flow of energy fluids. When new cells generated and dead cells Excreted, newly born cells work in unisons - they bring back harmony and vigor to the health system. 20 to 35 minutes (every Brahamamuhurtha time in the morning and before sun set in the evening) of prayanama practice increases lungs capacity, breathing efficiency, enlargement of lungs and its space, free flow of vital fluids circulation. Cardiovascular efficiency helps to normalize – the optimum level of blood pressure, anxiety and depression, reducing the level of stress, improves sleep, digestion and excretory functions. On the whole it provides effective massages to the internal organs, stimulate the glands, enhance endocrine functions, normalize body weight and provides great conditioning for weight loss, improves skin tone and glow (Eugene, 1997). Considering various pathetic conditions in most backward rural Government Higher Secondary Schools in Tiruvadana Taluk, Ramanathapuram District, the study was carried out to create awareness among school students. The purpose of the present study was to find out the “Effect of yogic practices and physical exercises on selected Physiological variables among Higher Secondary school boys”.

II PROBLEM IDENTIFICATION

Rural Students day to day regular activities are totally different from that of rest of the school mates. Health haphazard's contributes at large in achieving their school curriculum. Bodily, physical and mental compassion is very much needed for the rural school Boys to have a balance in their attitudes. Hence it is felt that regular yogic practices and increased physical exercise input in addition to the limited one presently available are needed to be enforced and increased as a compulsory system. In order to find out a solution to reduce the student's problem it is proposed and selected a predominantly located Rural Higher Secondary School Boys from a most backward area in Tiruvadana Taluk, Ramanathapuram District for the study. To overcome this issue, a fine tuned yogic practices and physical exercise model is framed, pre and post test data collected and planned to place a superior level of data representations both in tables and figures.

III. METHODOLOGY

The purpose of the study was to find out the effect of Yogic practices and Physical exercises on selected Physiological variables among Higher Secondary School plus one class Boys. It was hypothesized that there would be significant differences on selected physiological variables due to effect of yogic practices and physical exercises among Higher Secondary School plus one class boys. For the present study 45 students (boys) from Thalimarungur Government Higher Secondary School, Tiruvadana Taluk, Ramanathapuram District, and Tamilnadu were selected at random and their ages ranged from 17 to 19 years. For the present study pre-test, post test random group design applied in selection which consists of experimental groups YPG-I, PEG-II and control group-CG-III. The experimental groups YPG-I, and PEG-II with 15 subjects each underwent yogic practices and physical exercises respectively and control Group –CG-III was kept inactive. The data was collected before and after six weeks of training program scheduled in the morning one hour daily other than Sundays and declared holidays. The obtained data was applied using Analysis of Covariance (ANCOVA). The “F” ratio arrived was significant at set 0.05 level of confidence.

IV. RESULTS AND DISCUSSION

The data are primarily collected on conducting 6 weeks regular Yogic Practices and Physical Exercises. The tools used for measurements are of tested to its accuracy. The Table –I shows the variables and test mode.

TABLE-I

Variables and Test	Test
Variables	
Blood Pressure a. Systolic b. Diastolic	Sphygmomanometer Sphygmomanometer
Respiratory Rate	Omron Monitor

The findings pertaining to analysis of covariance of dependent “F” test between experimental groups and control groups on selected physiological variables of Govt. Higher Secondary School plus one class boys for pre-post test respectively have been presented in Table –II.

TABLE-II

Significance of Mean Gains and Losses between pre and Post –test scores on selected variables of Yogic practices group (YPG) and Physical exercises group (PEG)

Variables	Pre-Test mean		Post –Test mean		Mean deviation		Std. Deviation(I)		DM		“F” Ratio	
	YPG	PEG	YPG	PEG	YPG	PEG	YPG	PEG	YPG	PEG	YPG	PEG
Blood Pressure a. Systolic	92.57	92.43	76.34	75.20	16.23	17.23	07.12	07.27	1.08	1.45	0.61	21.84.
	111.83	111.60	93.60	100.37	18.23	11.23	10.46	09,57	1.22	0,75	2.16	21.62
b. Diastolic												
Respiratory Rate	10.91	10.04	15.00	12.03	4.09	1.99	1.82	0.98	0.27	0.13	7.07	84.15

Source: Author’s Calculation

Significant at 0.05 level of confidence.

The table II shows that obtained “F” value ratios for pre and post test mean differences in the selected variables of Blood Pressure –Systolic ,Diastolic and Respiratory rate(YPG:0.61,2.16,7.07 and PEG: 21.84,21.62 and 84.15). The obtained ratios when compared with the table value of 2.7

of the degrees of freedom (1, 15) it was found to be

Statistically significant at 0.05 level of confidence. It was observed that the mean gain and losses made from the pre to

Post test were significantly improved in physiological variables namely 1) Blood Pressure a) Systolic b) Diastolic and 2) Respiratory rate (a) 16.23, (b) 18.23 and 4.09 of YPG $P < 0.05$ (1) a) 17.23, (b) 11.23 and (2)1.99 of PEG, $P < 0.05$). Thus the formulated hypothesis is accepted.

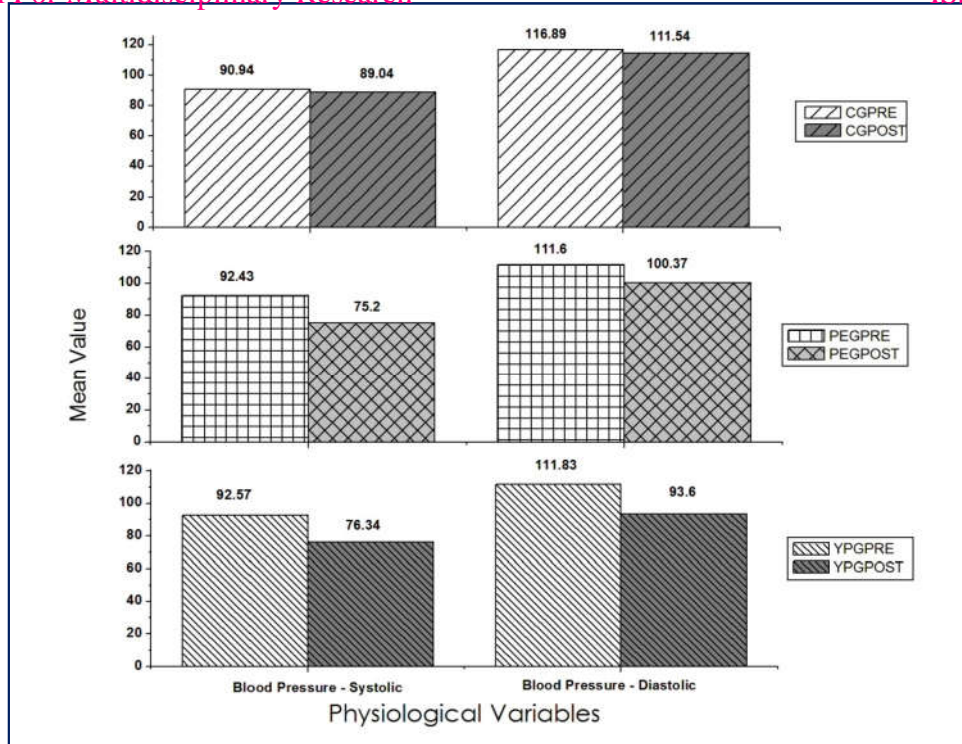


Fig.-I (A)Comparisons of Pre-Test Means and Post Test Means for Experimental Groups in relation to Physiological Variables Blood Pressure Systolic, Diastolic and Respiratory Rate.

TABLE-III

Significance of Mean Gains and Losses between Pre and Post Scores on selected variables compared to Control Group

Variables	Pre-Test Mean	Post-Test Mean	Mean Difference	Std. Deviation	DM	“F” Ratio
Blood Pressure						
a. Systolic	90.94	89.04	1.90	8.82	0.59	0.61
b. Diastolic	116.89	114.54	2.65	11.12	0.74	2.16
Respiratory Rate	9.17	10.29	1.12	1.18	0.08	7.07

Source: Author’s Calculation

Significant at 0.05 level of confidence.

Table III shows the obtained “F: test ratio for Pre and Post test mean difference in the selected variables of Blood Pressure i) Systolic ii)Diastolic and Respiratory Rate (1- Blood Pressure (a) Systolic -0.61 (b) Diastolic -2.16 and Respiratory Rate 7.07).The obtained ratios when compared with the table value of 2.75 of the degrees of freedom (1.15) it was found to be statistically insignificant at 0.05 level of Confidence .It was observed that the mean gain and losses made from pre and post test were not significant in physiological variables

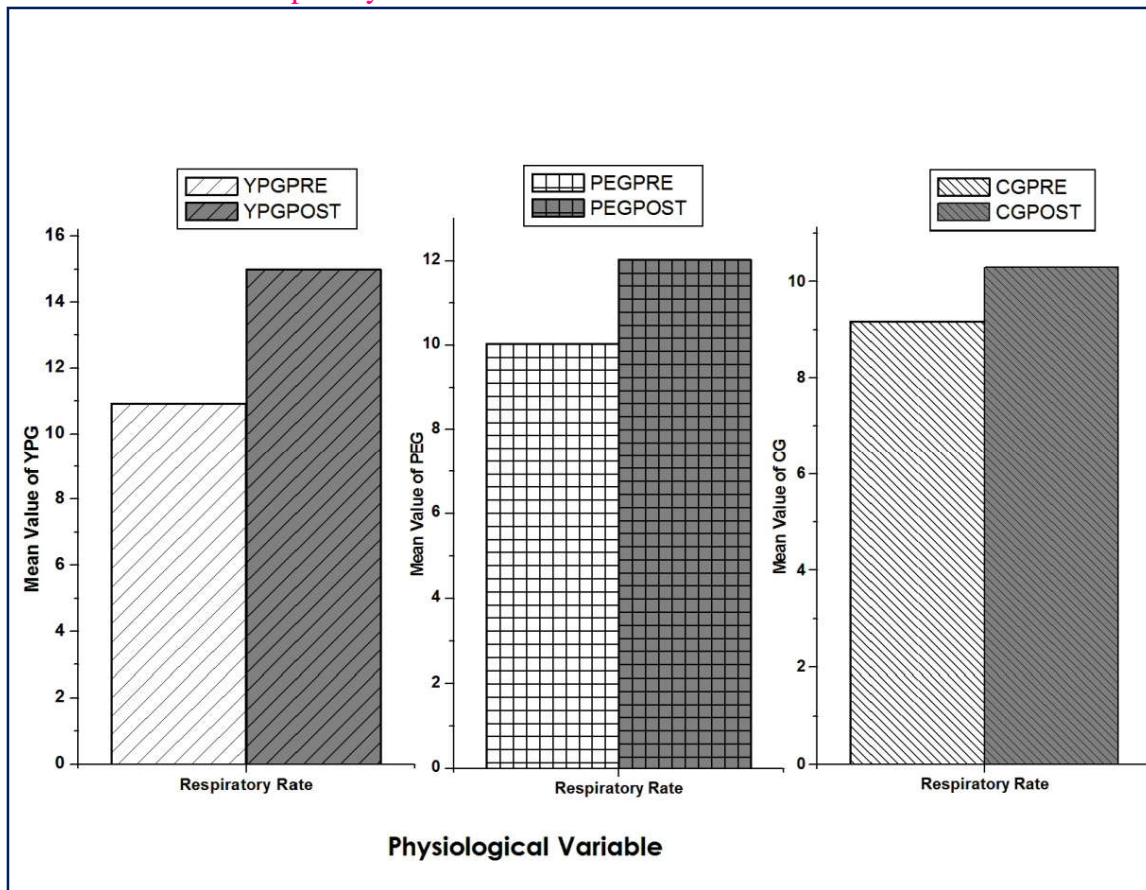


Fig-1 (B) Comparison of Pre-Test Means and Post –Test Means of Control Group relation to Physiological Variables

CONCLUSION

The subjects selected were from predominantly most backward rural higher secondary school boys. They are exposed to blood pressure and respiratory issues in view of their family living conditions. Hence yogic practices and physical exercises model was designed to suit their active participation .On completion of the training program the data collected were analyzed using SPSS, Oigin, and M S Excel software. ANCOVA statistical tool used to find out the ‘F’ value set at 0.05 level of confidence to know the significance. The results obtained were significant with the hypotheses fixed. On the basis of the findings and within the limitation of the study the following conclusion was drawn: The yogic practices had positive impact on Blood Pressure –Systolic, Diastolic, and Respiratory Rate among Higher Secondary School Boys. Similar Studies on different other variables have to be conducted for an overall benefits of Rural School Student Community.

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