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EFFECT OF YOGIC PRACTICES WITH AND WITHOUT DIET MODIFICATIONS ON SELECTED PHYSIOLOGICAL VARIABLES AMONG ACADEMIC STRESSED ADOLESCENT JUNIOR COLLEGE BOYS



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ABSTRACT

The present random group experimental study was designed to find out the effect of Yogic practices with and without diet modifications on selected psychological variables among academic stressed adolescent junior college boys. It was hypothesized that there would be significant differences in physiological variables such as resting pulse rate and breath- holding time among academic stressed adolescent junior college boys due to the influences of yogic practices with and without diet modifications. To achieve the purpose of the study, 30 academic stressed adolescent junior boys from Padmavathi junior college, Arvapally, Nalgonda District, Telangana aged between 15 years to 17 years were selected randomly into experimental and control group of 15 subjects each. Experimental Group underwent training for the period of 12 weeks, six days a week for a maximum of one hour in the morning. The control group was not exposed to any specific training. The pre test and post test were conducted before and after the training for two groups. The resting pulse rate was measured by stethoscope. Breath-holding time was measured by Stop watch. The data collected from the groups before and after the training period were statistically analyzed by using Analysis of Co-Variance (ANCOVA) to determine the significant difference and tested at 0.05 level of significance. The result of the study showed that the resting pulse rate and breath-holding time was significantly improved as result of Yogic practices with diet modifications. Hence .the hypothesis was accepted at 0.05 level of confidence. The conclusion was that the Yogic practices with diet modifications helped to improved resting pulse rate and breath holding time among academic stressed adolescent junior college boys.

KEY WORDS: Yoga, Academic, Adolescent, Resting Pulse Rate and Breath- holding time

INTRODUCTION

Stress can be defined as, any change in the body's equilibrium. Any negative stress is also known as distress. Distress occurs when while performing a task or throughout a day to day activity tension builds up, there is no longer any fun in it and there seems to be no relief. This may lead to poor decision making. The general characteristics of the person in distress are, over-aroused, tense, unable to relax, touchy, easily upset, irritable, easily startled, nervy, jumpy, fidgety, and intolerant of interruption or delay. Higher secondary school education is a very important turning point in the academic life of the individual. It is equivalent of GCE-A level of schooling in the countries like Great Britain. At this stage the academic performance of the adolescents play a crucial role in deciding about next higher stage of education, and probably career too. The expectations of parents, teachers, peers and one's own related to academic achievements and future career can act as a important motivators for an adolescent to study harder. However when there is a disparity in expectations and actual capabilities, considering all the aspects like environment, facilities, quality of guidance, personal determination and hard work; then this motivation can lead to development of stress. Adolescence which spans from age of 10 – 19 years is a stressful period due to physical, psychological, sexually changes and maturity in adolescents, this may lead to development of chronic health disorders, which could haunt them for lifetime.

There are very few studies regarding the stress among higher secondary school students in India and fewer are concerned to rural area .Such studies virtually nonexistent in this locality. Hence the objectives of the current study to, to assess the stress and its association with various academic factors among students of Padmavathi Junior college (11th & 12th) from a rural area in Arvapally ,Mandal Jajireddygudem, District Nalgonda of Telangana State.

PURPOSE OF THE STUDY

The present study was designed to find out the effect of yogic practices with and without diet modifications on selected physiological variables among academic stressed adolescent junior college boys.

HYPOTHESIS

It was hypothesized that there would be significant difference in physiological variables such as resting pulse rate and breath-holding time among academic stressed adolescent junior college boys due to the influence of yogic practices with and without diet modifications.

REVIEW OF RELATED LITERATURE

Gupta N, Khera S (2006) conducted the study on “Effect of yoga based lifestyle intervention on state and trait anxiety” , at Department of Physiology. All India Institute of Medical sciences, New Delhi, India. In this study the short-term impact of a comprehensive but brief lifestyle intervention, based on yoga, on anxiety levels in normal and diseased subjects. The study was the result of operational research carried out in the Integral Health (IHC) at the department of Physiology of All India Institute of Medical Sciences. The subjects had history of hypertension, coronary artery disease, diabetes mellitus, obesity, psychiatric disorders (depression, anxiety, stress) etc. The observations suggest that a short educational programme for lifestyle modification and stress management leads to remarkable reduction in the anxiety scores with on a period of 10 days.

Parthiban.V,(2009) conducted a study on varied packages of yogic practices on resting pulse rate, vital capacity, stress and study skills. For the purpose of this study the subjects of 45 boys from ‘ Jain vidhyasram high school’ were divided into three groups, first group was given Asanas and Meditation, group II was given Surya namaskar, asanas, pranayama and meditation

and the third group was control group. After the training period of 6 weeks, it was found that there was no significant difference between first and second groups experimental groups in all the variables, but the results in the resting pulse rate 36.00, vital capacity 15.77, stress 23.76 and study skills 32.05 showed a significant difference when compared to control group.

METHODOLOGY

To achieve the purpose of the study, 30 academic stressed adolescent junior boys from Padmavathi junior college, Arvapally, Nalgonda District, Telangana aged between 15 years to 17 years were selected randomly into experimental and control group of 15 subjects each.

The selected subjects were divided into one experimental group (YPG) and a control group (CG) with 15 subjects each in a group. Experimental group (YPG) underwent training for the period of 12 weeks, six days a week for a maximum of one hour in the morning. The control group (CG) was not exposed to any specific training.

The Yogic Practices given to the experimental group include Loosening Exercises, Surya namaskar, Padmasana, Vajrasana, Ardha Katichakrasana, Ustrasana, Sashankazana, Halasana, Vipareetakarani, Bhujangasana, Padahastana, Dhanurasana, Savasana, Chandra & Surya anuloma & viloma, Nadishodhana pranayama, Bhramari & Bhasrika pranayama, yoga nidra and Japa Meditation.

The selected variables, resting pulse rate was measured by Stethoscope. Breath-holding time was measured by Stop watch.

RESULTS AND DISCUSSIONS

The data pertaining to the variables collected from two groups before and after the training period were statistically analysed by using Analysis of Co-Variance (ANCOVA) to determine the significant difference and tested at 0.05 level of significance.

The analysis of Covariance (ANCOVA) on stress of Yogic Practices (YPG) and the Control Group (CG) was analyzed and presented in Table I

TABLE I

COMPUTATION OF ANALYSIS OF CO VARIANCE OF THE MEANS OF TWO EXPERIMENTAL GROUPS AND CONTROL GROUP ON RESTING PULSE RATE

(Scores in beats per minute)

Test	Exp Group I	Exp Group II	Control Group	SV	Sum of squares	Degrees of freedom	Means of Squares	Obtained F value
Pre Test	78.93	79.47	78.33	Between Group	9.64	2	4.822	0.41
				Within Group	500.00	42	11.90	
Post Test	73.47	74.13	79.33	Between Group	309.51	2	154.76	23.48*
				Within Group	276.80	42	6.59	
Adjusted Post Test	73.46	73.85	79.63	Between Group	353.64	2	176.82	50.05*
				Within Group	144.839	41	3.53	
Mean Gain	5.47	5.33	1.00					

*significant

Table F ratio at 0.05 level of confidence for df 2 and 42 = 3.22, 2 and 41 = 3.23.

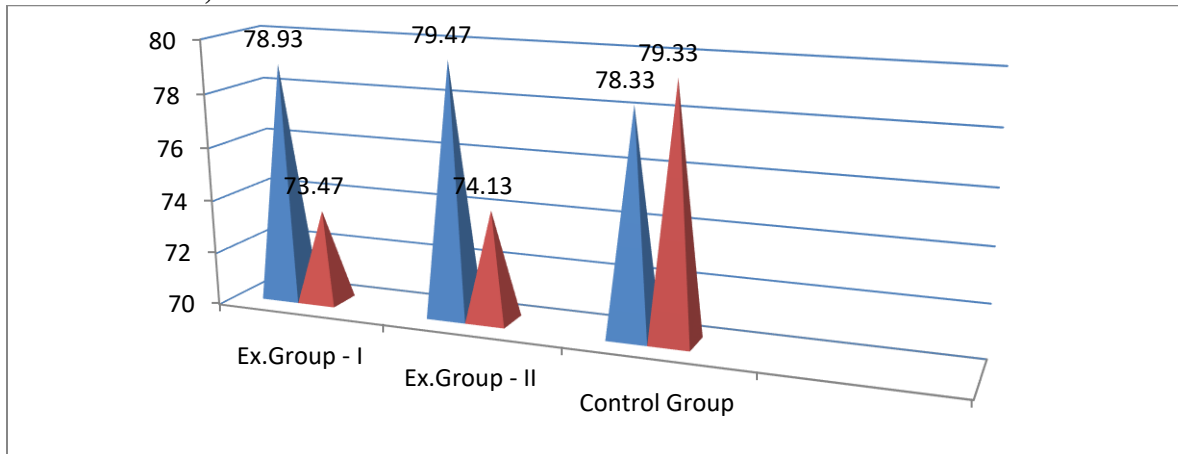
The table I shows that the pre test mean scores of resting pulse rate for Yogic practices with diet, Yogic practices without diet and control group were 79.47, 78.93 and 78.33 respectively and the obtained 'F' value on pre test scores 0.41 which was less than the required F value of 3.22 to be significant at 0.05 level. This proved that there was no significant difference among the groups at initial stage and the randomized assignment of the subjects into three groups were successful.

The post test mean scores of Yogic practices with diet group, Yogic practices without diet group and control group were recorded as 74.13, 73.47 and 79.33 respectively, showed improvement over the pre test scores. The obtained 'F' value on post test scores 23.48 was greater than the required 'F' value 3.22. This proved that there was significant difference among the post test means of the subjects.

The obtained 'F' value of 50.05 adjusted post test means was greater than the required table 'F' value of 3.23. This proved that there was significant difference among the means due to twelve weeks training of Yogic practices with diet and Yogic practices without diet group on physiological variable of resting pulse rate.

Since significant improvements were recorded, the results were subjected to post hoc analysis using Scheffe's confidence interval test. The results were presented in table I.

FIGURE – 1 BAR DIAGRAM SHOWING POST-TEST VALUES OF CONTROL GROUP, EXPERIMENTAL GROUPS ON RESTING PULSE RATE



DISCUSSIONS ON THE FINDINGS OF RESTING PULSE RATE

The results presented in Figure I showed that the obtained adjusted means on resting pulse rate among Yogic practices with diet group was 73.85 followed by Yogic practices without diet group with the mean value of 73.46 and control group mean value of 79.63. The difference among pre test scores Post test scores and adjusted mean scores of the subjects were statistically treated using ANCOVA and F values obtained were 0.41, 23.48 and 50.05 respectively. It was found that obtained F value on pre test score was not significant at 0.05 level of confidence as the value was less than the required table F value of 3.22 and post test score was significant at 0.05 level of confidence as the value was greater than the required table value of 3.22.

TABLE II

COMPUTATION OF ANALYSIS OF CO VARIANCE OF THE MEANS OF TWO EXPERIMENTAL GROUPS AND CONTROL GROUP ON BREATH HOLDING TIME

(Scores in no: sec)

Test	Exp Group I	Exp Group II	Contr ol group	SV	SS	DF	MS	Obtained F value
Pre Test	21.91	21.55	20.69	Bet Group	11.79	2	5.894	0.38
				With Group	648.06	42	15.43	
Post Test	24.31	23.99	20.49	Bet Group	134.45	2	67.22	5.03*
				With Group	561.77	42	13.38	
Adjusted Post Test	23.85	23.85	21.09	Bet Group	74.99	2	37.50	18.90*
				With Group	81.327	41	1.98	
Mean Gain	2.39	2.44	0.20					

*significant

Table F ratio at 0.05 level of confidence for df 2 and 42 = 3.22, 2 and 41 = 3.23.

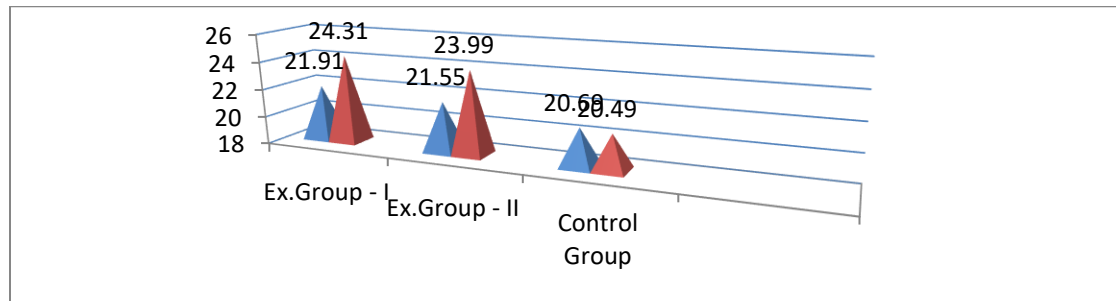
The table VIII that the pre test mean scores of breath holding time for Yogic practices with diet , Yogic practices without diet and control group were 21.55, 21.91 and 20.69 respectively and the obtained ‘F’ value on pre test scores 0.38 which was less than the required F value of 3.22 to be significant at 0.05 level. This proved that there was no significant difference among the groups at initial stage and the randomized assignment of the subjects into three groups were successful.

The post test mean scores of Yogic practices with diet , Yogic practices without diet and control group were recorded as 23.99, 24.31 and 20.49 respectively, showed improvement over the pre test scores. The obtained ‘F’ value on post test scores 5.03 was greater than the required ‘F’ value 3.22. This proved that there was significant difference among the post test means of the subjects.

The obtained ‘F’ value of 18.90 adjusted post test means was greater than the required table ‘F’ value of 3.23. This proved that there was significant difference among the means due to twelve weeks training of Yogic practices with diet , Yogic practices without diet group on physiological variable of breath holding time.

Since significant improvements were recorded, the results were subjected to post hoc analysis using Scheffe’s confidence interval test. The results were presented in table IX.

FIGURE – 2 BAR DIAGRAM SHOWING POST-TEST VALUES OF CONTROL GROUP, EXPERIMENTAL GROUPS ON BREATH HOLDING TIME



DISCUSSIONS ON THE FINDINGS OF BREATH HOLDING TIME

Yogic practices without diet group with the mean value of 23.85 and control group mean value of 21.09. The difference The results presented in table II showed that the obtained adjusted means on breath holding time among Yogic practices with diet group was 23.85 followed by among pre test scores Post test scores and adjusted mean scores of the subjects were statistically treated using ANCOVA and F values obtained were 0.38, 5.03 and 18.90 respectively. It was found that obtained F value on pre test score was not significant at 0.05 level of confidence as the value was less than the required table F value of 3.22 and post test score was significant at 0.05 level of confidence as the value was greater than the required table value of 3.22

The post hoc analysis through Scheffe`s confidence test proved that due to twelve weeks treatment the Yogic practices with diet group and Yogic practices without diet group there was significant improvement in breath holding time than control group and the differences were significant at 0.05 level. The post hoc analysis between the experimental groups namely Yogic practices with diet and Yogic practices without diet proved that there was no significant difference.

CONCLUSION

It was proved that yogic practices with diet modifications improved resting pulse rate and breath holding time among academic stressed adolescent junior college boys.

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