The Effect of Yogic Practices on Physical and Mental Health Related Variables Among University Students

Dr.P. Senthil
Assistant Professor, Department of Physical Education, Annamalai University

Abstract- The purpose of the study was to find out the effect of yogic practices on physical and mental health related variables among university students. The selected variables are Flexibility, Muscular endurance, Stress, Anxiety and Depression. To achieve this purpose of the study, forty students studying in the department of physical education and sports sciences, Annamalai University, Annamalai Nagar, TamilNadu and India were selected as subjects at random. Their age ranged between eighteen to twenty two years. The selected subjects were divided into two equal groups of twenty each namely yogic practice group and control group. The experimental group has undergone twelve weeks of yogic practice, whereas the control group maintained their daily routine activities and no special training was given. The subjects of the two groups were tested on selected variables namely Flexibility, Muscular endurance, Stress, Anxiety and Depression using standardized tests, namely Sit-and-reach test, Bent-knee Sit-ups test, Perceived Stress Scale (PSS), Generalized Anxiety Disorder 7-item scale (GAD-7) and Patient Health Questionnaire (PHQ-9) at prior and immediately after the training period. The collected data were analyzed statistically through analysis of variance (ANOVA) to find out the significant difference, if any between the groups. The .05 level of confidence was fixed to test the level of significance which was considered as an appropriate. The results of the study showed that there was significant differences exist between yoga practice group and control group. And also yoga practice group showed significant improvement on Flexibility, Muscular endurance, Stress, Anxiety and Depression endurance compared to control group.

Keywords: Yoga practice, Flexibility, Muscular endurance, Stress, Anxiety and Depression and Analysis of variance (ANOVA).

I.INTRODUCTION

The word yoga automatically calls to mind Sage "Patanjali" the founder and father of Yoga. He lived around three centuries before Christ, and was a great philosopher and grammarian, he was also a physician and a medical work is attributed to him. Yoga is best known as a set of physical practices that include gentle stretches, breathing practices, and progressive deep relaxation. These physical practices are intended to ready the body and mind for meditation as well as for a meditative perspective on life. These meditative practices also follow a sequence. First of all, it develops the capacity to withdraw the senses from focus on the outer world, then the capacity to concentrate on a meditative subject-a candle flame, a sacred or uplifting word of image or the movement of the breath.

The word yoga is derived from the Sanskrit root yuj meaning to bind, join, attach and yoke, to direct and concentrate one's attention on, to use and apply. It also means union or communion. According to Swami Satyanand Saraswathi "Yoga is not an ancient myth buried in oblivion. It is the most valuable inheritance of the present. It is the essential need of today and the culture of tomorrow".

Finally, and for most of us only occasionally, the concentration leads into a wordless experience of inner peace. The yoga describes various subtleties among these states of inner peace, but most of us, at best, achievements of this experience from time to time. Michael Lerner, "Choices in Healing". Pranayama means voluntary regulation of breathing and the pranayama is an exercise of consciously-controlled rhythmic breathing involving timed breath-holding in each cycle of breathing, while the subject holds utmost attention and experiences the touch of inhaled air in the nasal passage.

II.STATEMENT OF THE PROBLEM

The purpose of this study was to investigate the effect of yogic practices on physical and mental health variables among students of Annamalai University,

Chidambaram, Cuddalore(Dt). age group between 18 and 22.

III.METHODOLOGY

The purpose for this study subjects were randomly selected from Annamalai University, Chidambaram. In total 40 subjects were selected at random and they were divided into two equal groups that is experimental and control group in each group consist of 20 subjects their age ranged from eighteen to twenty-two. The experimental group has undergone yogic practices such as The experimental group has undergone Pranayama(breathing techniques) such as Anulomevilom, Nadisuddhi, Ujjayi, Bhramari and Yoga asanas(Postures) such as Halasana(plough pose), Sarvang asana (inverted pose), Paschimothanasana (posterior stretching pose), Mayur asana(peacock pose), Vajrasana(pelvic pose), Gomukhasana (cow face pose), Bhujangasana(cobra pose), etc. five days in a week for the period of 12 weeks and the control group was not undergoing pranayama and yogic exercise program.

To find out the Flexibility, Muscular endurance, Stress, Anxiety and Depression the investigator conducted the Sit-and-reach test, Bent-knee Sit-ups test, Perceived Stress Scale (PSS), Generalized Anxiety Disorder 7-item scale (GAD-7) and Patient Health Questionnaire (PHQ-9).

Testers' competency, subject reliability and reliability of tests were established by using test and retest method and the reliability coefficient were found to be satisfactory high. The data were analyzed using analysis of variance (ANOVA) for determine the effect of yogic practices on physical and mental health variables of Flexibility, Muscular endurance, Stress, Anxiety and Depression of students of Annamalai University, Chidambaram, Cuddalore (Dt) with the age group between Eighteen to Twenty two.

SELECTION OF VARIABLES AND TESTS

The research scholar reviewed the available scientific literature pertaining to available the present study, the following variables were selected.

Sl. No	Variables	Test Items
1.	Flexibility	Vertical Jump
2.	Muscular Endurance	Bent Knee Sit-Ups
3.	Stress	Perceived Stress Scale (PSS)
4.	Anxiety	Generalized Anxiety Disorder 7-item scale (GAD-7)
5.	Depression	Patient Health Questionnaire (PHQ-9)

STATISTICAL TECHNIQUES:

The data collected from the experimental group and control group, the selected variables on Flexibility, Muscular endurance, Stress, Anxiety and Depression was statistically examined by using the "F" ratio, p-value used to find out the significance difference between experimental group and control group, the level of significance was fixed at 0.01and 0.05 level of confidence. The Scheffe's Post-hoc test will be used for find out the significant difference between the means if any.

The mean difference of the criterion measures for the control and experimental groups is presented in tables.

Table 1. One way analysis of variance (ANOVA) for pretest scores of Flexibility of control and experimental group

Sources of variance	Sum of squares	Degrees of freedom	Mean squares	F	p-value
Between	120.5	1	120.5		
Within	298.7	38	7.86	15.3	0.001

Table 2. Scheffe's Test: Test of significance of the Difference between Pair of Means of Flexibility scores

Mean values		Mean Difference	95%CI	p-value
Experimental group	Control group	6.0	2.3,9.7	0.001
29.1	23.1			

Table 3. One way analysis of variance (ANOVA) for post test scores of Muscular Endurance of control and experimental group

Sources of variance	Sum of squares	Degrees of freedom	Mean squares	F	p-value
Between	85.2	1	85.2		
Within	308.4	38	8.12	10.5	0.002

Table 4. Scheffe's Test: Test of significance of the difference between Pair of Means of Muscular endurance scores

Mean values		Mean Difference	95%CI	p-value
Experimental group	Control group	6.1	2.1,10.1	0.002
19.3	13.2			

Table 5. One way analysis of variance (ANOVA) for pretest scores of Stress of control and experimental group

Sources of variance	Sum of squares	Degrees of freedom	Mean squares	F	p-value
Between	145.6	1	145.6		
Within	621.3	38	16.35	8.9	0.005
Total	106.375	39			

Table 6. Scheffe's Test: Test of significance of the Difference between Pair of Means of Stress scores

Mean values		Mean Difference	95%CI	p-value
Experimental group	Control group	-7.3	-12.1,-2.5	0.005
11.2	18.5			

Table 7. One way analysis of variance (ANOVA) for post test scores of Anxiety of control and experimental group

Sources of variance	Sum of squares	Degrees of freedom	Mean squares	F	p-value
Between	68.4	1	68.4		
Within	419.2	38	11.03	6.2	0.017

Table 8. Scheffe's Test: Test of significance of the Difference Between Pair of Means of Anxiety scores

Mean values		Mean Difference	95%CI	p-value
Experimental group	Control group	-5.5	-11.3, -0.9	0.017
5.3	10.8			

Table 9. One way analysis of variance (ANOVA) for post test scores of Depression of control and experimental group.

Sources of variance	Sum of squares	Degrees of freedom	Mean squares	F	p-value
Between	92.1	1	92.1		
Within	466.5	38	12.28	7.5	0.009

Table 10. Scheffe's Test: Test of significance of the Difference Between Pair of Means of Depression scores.

Mean values		Mean Difference	95%CI	p-value
Experimental group	Control group	-6.5	-11.3,-1.7	0.009
6.3	12.8			

The p-value indicates the probability of observing the results (or more extreme) if the null hypothesis is true. In these, $p<0.05$ means the differences between yoga and control groups are statistically significant for all variables.

Interpretation;

Flexibility($p=0.001$): Very low probability (0.1%) that the difference is due to chance.

Muscular Endurance($p=0.002$): Low probability (0.2%) that the difference is due to chance.

Stress($p=0.005$): Low probability (0.5%) that the difference is due to chance.

Anxiety($p=0.017$): Low probability (1.7%) that the difference is due to chance.

Depression($p=0.009$): Low probability (0.9%) that the difference is due to chance.

All p-value<0.05 indicate significant difference between groups.

IV.CONCLUSION

The finding of this study indicated that the effect of yogic practices on physical and mental health variables significantly increase the Flexibility, Muscular endurance and reduced Stress, Anxiety and Depression levels when compared with pretest as well as control group.

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