

## EFFECT OF 4-WEEK YOGIC PRACTICES ON MUSCULAR STRENGTH & ENDURANCE AND FLEXIBILITY OF UNIVERSITY LEVEL GIRLS

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### ABSTRACT

*The aim of this study was to determine the effect of 4-week yogic practices on Muscular Strength & Endurance and Flexibility of university level girls. The research population included sixty (N=60) female subjects between the age group of 18-25 years were selected as subjects from Department of Physical Education (T), Guru Nanak Dev University, Amritsar, Punjab (India). The subjects were purposively assigned into two groups: Group-A: Experimental (N<sub>1</sub>=30) and Group-B: Control (N<sub>2</sub>=30). All the subjects were informed about the objective and protocol of the study. The subjects from Group A were subjected to 4-week of yogic practices. The training consisted of a variety of yogic asanas: (i.e., Alanasana, utthita parsvakonasana, vasisthasana, purvottanasana, sarvangasana and sirsasana). The 4-week yogic practices brought about significant improvement in Muscular Strength & Endurance ( $t = 7.67$ ), and Flexibility ( $t = 13.12$ ) in Group (A) as compared with the control one. The 4-week yogic practices had significant effect on cardiovascular endurance and body composition, Thus, such yogic practices may be recommended to improve cardiovascular endurance, body composition, muscular strength & endurance and flexibility may contribute to enhance concentration based performance and voluntary control of breathing.*

**Keywords:** Yogic Practices, Muscular Strength and University Level girls.

### INTRODUCTION:

Yoga for Physical Education allows children to express energy in a positive way. Share a professionally guided yoga class designed to specifically for your students, one that every child can follow at their own pace, on their own journey to building self-esteem and self-confidence. Use Yoga for Physical Education again and again for fitness, fun, and feeling great. (Murugesan et al. 2010).

Yoga is widely practiced for its benefits to body and mind. Yoga therapeutics is an increasingly appreciated discipline, particularly in India where it is overseen by the Ministry of Health and Family Welfare's Department of Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy (Raphaelhager, 2009). Not many studies have assessed the influence of integral yoga practices on psychological and health variables, establishing many possible benefits. This study apart from establishing the benefits of internal yoga investigates the relationships between the variables themselves. Up till now, this correlation aspect has not been much investigated, since this requires simultaneous measuring of many variables for a large group, and then to correlate (Saha, 2012). In yoga physiology, the emphasis is on prana, or energy. The classic model describes chakras, or energy centers, each of which has a major relationship to emotion and physiology. Energy flows between chakras and other parts of the body through nadis, or channels. Dis-ease, physical and mental, is explained as deficiency, excess or reversal in the flow of energy through these energy paths. Postures and breath are utilized to alter the flow of prana, or energy, through various parts of our physical and nonphysical body. The aim of the present study is to begin to remedy this deficiency. It measured many variables on a group of volunteers large enough to identify significant correlations between variables. Specifically it evaluated correlations between measures of sustained attention, emotional intelligence, general health and guna (Woody, 2008). Yoga is a psycho-somatic-spiritual discipline for achieving union & harmony between our mind, body and soul and the ultimate union of our individual consciousness with the Universal consciousness (Madanmohan, 2008).

## Material and methods

### Sample

The researcher utilized the experimental method on a sample of sixty (N=60) female subjects between the age group of 18-25 years (Mean  $\pm$  SD: age  $21.63 \pm 2.29$  years, height  $1.62 \pm 0.029$  m, body mass  $56.11 \pm 3.58$  kg) were selected as subjects from Department of Physical Education (T), Guru Nanak Dev University, Amritsar, Punjab (India). The subjects were

purposely assigned into two groups: Group-A: Experimental ( $N_1=30$ ) and Group-B: Control ( $N_2=30$ ). All the subjects were informed about the objective and protocol of the study.

### Methodology

The subjects from Group A were subjected to 4-week of yogic practices. The training consisted of a variety of yogic asanas.

- ✓ Alanasana
- ✓ Uthita Parsvakonasana
- ✓ Vasisthasana
- ✓ Purvottanasana
- ✓ Sarvangasana
- ✓ Sirsasana

### Administration of Test

Muscular Strength & Endurance was administered to measures abdominal strength and endurance. The score is the number of curl-ups performed. Sit and reach test was administered to monitor the development of the athlete's lower back and hamstring flexibility. The score is recorded to the nearest centimeter or half inch as the distance reached by the hand.

### Statistical Analysis

SPSS statistical software (version 16.0) was used to analyze. Student's t-test for independent data was used to assess the between-group differences and for dependent data to assess the Post-Pre differences. To test the hypothesis, the level of significance was set at 0.05.

### Results

The results of 4-week of yogic practices on Muscular Strength & Endurance and Flexibility of university level girls.

**Table 1: Significance of differences between Pre-Test and Post-Test Means of Experimental Group and the Control Group with regard to Muscular Strength & Endurance.**

Group	Number	Mean	S.D.	SEM	't' Value	P-value
Experiment (Pre-test)	30	26.67	4.67	0.77	7.67*	0.000
Experimental (Post-test)	30	34.61	2.78	0.45		

Control (Pre-test)	30	22.31	4.48	0.60	0.90	0.584
Control (Post-test)	30	23.60	4.57	0.58		

Table-1 presents the results of experimental group and the control group with regard to the variable muscular strength & endurance. The descriptive statistics shows the Mean and SD values of muscular strength & endurance of pre-test and post-test of experimental group was  $26.67 \pm 4.67$  and  $34.61 \pm 2.78$  respectively, whereas the Mean and SD values of muscular strength & endurance of pre-test and post-test of control group was  $22.31 \pm 4.48$  and  $23.60 \pm 4.57$ . The 't' value in case of experimental group was 7.67\* and for control group it was 0.90. The 't'-value in case of experimental group 7.67\* as shown in the table above was found statistically significant ( $P < .05$ )  $H_0$  (null hypothesis) is rejected at .05 level of significance.

**Table 2: Significance of differences between Pre-Test and Post-Test Means of Experimental Group and the Control Group with regard to Flexibility.**

Group	Number	Mean	S.D.	SEM	't' Value	P-value
Experiment (Pre-test)	30	16.86	1.65	0.22	13.12*	0.000
Experimental (Post-test)	30	23.63	1.89	0.86		
Control (Pre-test)	30	11.63	3.50	0.68	0.58	0.896
Control (Post-test)	30	13.76	2.67	0.60		

Table-2 presents the results of experimental group and the control group with regard to the variable flexibility. The descriptive statistics shows the Mean and SD values of flexibility of pre-test and post-test of experimental group was  $16.86 \pm 1.65$  and  $23.63 \pm 1.89$  respectively, whereas the Mean and SD values of flexibility of pre-test and post-test of control group was  $11.63 \pm 3.50$  and  $13.76 \pm 2.67$ . The 't' value in case of experimental group was 13.12\* and for control group it was 0.58. The 't'-value in case of experimental group 13.12\* as shown in the table above was found statistically significant ( $P < .05$ )  $H_0$  (null hypothesis) is rejected at .05 level of significance. As per the study the above remark can be given at 95% confidence.

## Conclusions

The 4-week yogic practices had significant effect on muscular strength & endurance and flexibility, Thus, such yogic practices may be recommended to improve muscular strength &

endurance and flexibility may contribute to enhance concentration based performance and voluntary control of breathing.

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### Practical Applications

- a) The findings of the study will help to understand the benefits of yoga practices had significant effect on muscular strength & endurance and flexibility.
- b) The present manuscript will also be useful feedback for one and all concerned with these yoga practices group.

### References

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