
ENHANCING FLEXIBILITY AND VITAL CAPACITY USING ASANAS AND PRANAYAMA: AN EXPERIMENTAL STUDY

D. Chochalingam^{*1}, Dr. V. Vallimurugan^{*2}, S. Senthil Kumaran^{*3}

^{*1}Teaching Fellow In Physical Education, University College Of Engineering, Ramanathapuram, Tamilnadu, India.

^{*2}Assistant Professor, Department Of Physical Education, Bharathiar University, Coimbatore, Tamilnadu, India.

^{*3}Phd, Research Scholar, Department Of Physical Education, Bharathiar University, Coimbatore, Tamilnadu, India.

ABSTRACT

This study evaluated the enhancing flexibility and vital capacity using asanas and pranayama. The current research was conducted at the University College of Engineering, Ramanathapuram, Tamilnadu, India. The age of the subjects were ranged between 19 to 23 years. The subjects active were randomly assigned to two equal groups. Group - I (n=20) underwent yogic training group and Group - II (n=20) control group. Tools and Technique i.e. flexibility and vital capacity were used and measured in this study to know the effects of asanas and pranayama on its. Measurements for the variables were taken at the pre test and at the end of the treatment period, after twelve weeks post test the data were collected for all the variables from treatment group, for three days. During this period the subject were not allowed to participate in any training. The information was analyzed using paired 't' test to compare the before and after yogic training programme values of treatment group. P value of less than 0.05 was accepted as indicating significant difference between the compared values. The results of this investigation indicate that twelve weeks of asanas and pranayama practice can significantly improve flexibility and vital capacity in college level football players.

Keywords: Asanas, Pranayama, Flexibility, Vital Capacity And Football Players.

I. INTRODUCTION

Yoga treatment might comprise a range of strategies or a combination of them. Asanas, pranayamas, meditation techniques, stress reduction and entertainment techniques (Anithya bhava), and awareness are examples of these. Yoga can be performed with specific techniques or a combination of approaches to restore equilibrium in the body and mind, depending on the health condition or the underlying cause of illness. Yoga encourages people to make conscious movements or positional changes in their bodies, sometimes known as proprioception or kinaesthesia, in order to locate and strengthen areas of limitation. As a result, the way the body moves and operates will be more balanced, reducing stress, pain, and tension.

1.1 FLEXIBILITY

Flexibility refers to the ability to make a wide range of joint progress while repeating activities at a natural pace. The importance of flexibility cannot be overstated. Flexibility allows you to move your body parts more freely, and it takes less time and energy to complete a task. Stretching a muscle reduces tension while increasing length, resulting in a passive physical stretch.

1.2 VITAL CAPACITY

The forced vital capacity is the total amount of air that can be willingly moved in one breath, from full inspiration to maximum expiration or vice versa. This is made up of the tidal volume plus the reserve volumes for aspiration and expiration. Although vital capacity results fluctuate greatly depending on body size and the posture of the body during the test. In young women, average values range from 4 to 5 litres. Tall people with vital capacity of 6 to 7 litres are not uncommon, and values of 7.6, 8, and 8.1 litres have been reported for a comparable football player and an Olympic gold medallist in cross country and skiing, respectively. Swimming and diving may be more beneficial to the development of a child's motor skills.

II. METHODOLOGY

The recent investigation was conducted at the University College of Engineering, Ramanathapuram, Tamilnadu, India. The age of the subjects were ranged between 19 to 23 years. The subjects active were randomly assigned to two equal groups. Group - I (n=20) underwent yogic training group and Group - II (n=20) control group. Tools and Technique i.e. flexibility and vital capacity were used and measured in this study to know the impacts of asanas and pranayama on its. Measurements for the variables were taken at the pre test and at the end of the treatment period, after twelve weeks post test the data were collected for all the variables from treatment group, for three days. During this period the subject were not allowed to participate in any training.

III. SELECTION OF VARIABLES AND TESTS

The subjects were tested on the following variables.

Table 1

Name of Variables	Test	Unit
Flexibility	Sit and Reach Test	In Centimeters
Vital Capacity	Spiro meter test	in liters

IV. STATISTICAL ANALYSIS

The information was analyzed using paired 't' test to compare the before and after asanas and pranayama training programme values of treatment group. P value of less than 0.05 was accepted as indicating significant difference between the compared values.

4.1 RESULTS

Table 2: Relationship Of Mean, Sd And 'T'-Values Of The Flexibility Between Pre & Post Test Of The Yogic Training Group And Control Groups Of College Level Football Players

	Groups	Test	Mean	S.D	't' Values
Flexibility	Control Group	Pre Test	23.50	1.31	1.65
		Post Test	23.90	1.49	
	Yogic Training Group	Pre Test	23.00	1.45	8.37*
		Post Test	27.80	0.89	

*Significant at 0.05 level of confidence

Table-2 reveals that the mean values of per test and post test of control group for flexibility were 23.50 and 23.90 respectively; the obtained t ratio was 1.65 respectively. The tabulated t value is 1.73 at 0.05 level of confidence for the degree of freedom 19. The calculated t ratio was lesser than the table value. It is found to be insignificant change in flexibility of the men college level football players. The obtained mean and standard deviation values of pre test and post test scores of yogic training group were 23.00 and 27.80 respectively; the obtained t ratio was 8.37. The required table value is 1.73 at 0.05 level of confidence for the degree of freedom 19. The obtained t ratio was greater than the table value. It is found to be significant changes in flexibility of the college level football players. The mean values on yogic training group and control group are graphically represented in figure-1

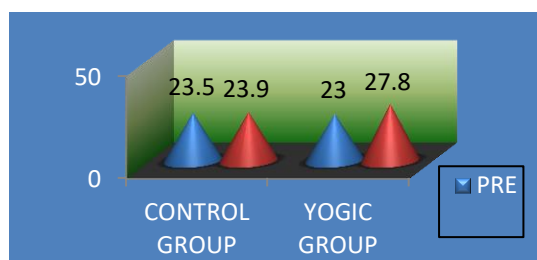


Figure 1: Bar Diagram Showing The Pre Test & Post Test On Flexibility Of Control And Yogic Training Groups

Table 3: Relationship Of Mean, Sd And 'T'-Values Of The Vital Capacity Between Pre & Post Test Of The Yogic Training Group And Control Groups Of College Level Football Players

	Groups	Test	Mean	S.D	't' Values
Vital Capacity	Control Group	Pre Test	2.15	0.14	1.08
		Post Test	2.18	0.21	
	Yogic Training Group	Pre Test	2.19	0.19	7.41*
		Post Test	3.22	0.38	

*Significant at 0.05 level of confidence

Table-3 reveals that the mean values of pre test and post test of control group for vital capacity were 2.15 and 2.18 respectively; the obtained t ratio was 1.08 respectively. The tabulated t value is 1.73 at 0.05 level of confidence for the degree of freedom 19. The calculated t ratio was lesser than the table value. It is found to be insignificant change in vital capacity of the college level football players. The obtained mean and standard deviation values of pre test and post test scores of yogic training group were 2.19 and 3.22 respectively; the obtained t ratio was 7.41. The required table value is 1.73 at 0.05 level of confidence for the degree of freedom 19. The obtained t ratio was greater than the table value. It is found to be significant changes in vital capacity of the college level football players. The mean values on yogic training group and control group are graphically represented in figure-2.

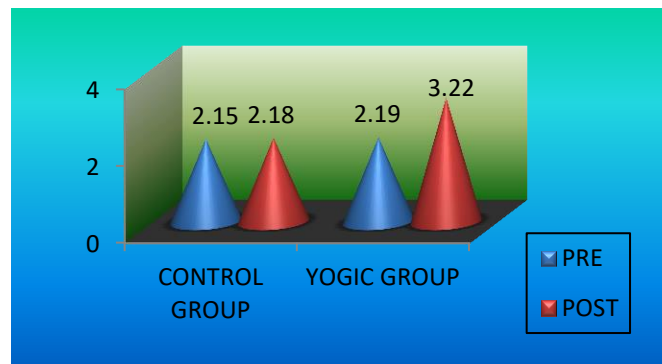


Figure 2: Bar Diagram Showing The Pre Test & Post Test On Vital Capacity Of Control And Yogic Training Groups

V. DISCUSSION ON FINDINGS

The effects of the study indicate that the experimental group namely game yogic training group (asanas and pranayama) had shown significant enhancement in flexibility and vital capacity among the college level football players. The control group college level football players had not shown significant changes in any of the flexibility and vital capacity. The analysis of the study indicates that the yogic training group (asanas and pranayama) had shown significant level difference in flexibility and vital capacity among college level football players.

It is dependent on the literature and the findings of the current investigation. The importance of quilts for greater performance in practically all sports and activities is that systematically considered training develops dependent variables. As a result, it is determined that systematically developed training programmes may be found in all disciplines in order to attain the best level of recognition and implementation in training performance. These results are consistent with the findings of **Khatri (2013)¹, Chaudhary (2012)², Bandi Hari Krishna (2014)⁷, Jayachandran (2014)⁵ and Sree (2012)⁶.**

VI. CONCLUSION

From the analysis of the data, the following conclusions were drawn.

1. The college level football players of control group had not shown significant changes in any of the flexibility and vital capacity.

2. The yogic training group (asanas and pranayama) shown significant enhancement in flexibility and vital capacity among college level football players.
3. There college level football players who had undergone twelve weeks of yogic training (asanas and pranayama) showed significant enhancement in flexibility and vital capacity when compared with control group.

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