

EFFECT OF YOGIC PRACTICES ON FLEXIBILITY AND TIDAL VOLUME AMONG SOCCER PLAYERS

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Abstract: The purpose of the study was to find out the effect of yogic practices on flexibility and tidal volume among soccer players. To achieve the purpose of this study, 30 men inter collegiate soccer players were randomly selected as subjects from the St. Xavier's College and the M.D.T Hindu College, Tirunelveli, Tamil Nadu, India. Their age were ranged from 18 to 25 years. The selected participants were randomly divided into two groups such as group 'A' yogic practices (asana, pranayama, meditation) (n=15) and group 'B' acted as control group (n=15). Group 'A' underwent yogic practices for three days per week and each session lasted for an hour for eight week. Control group was not exposed to any specific training but they were participated in regular activities. The flexibility was assessed by sit & reach test method (in centimeters) and tidal volume was assessed by Spiro meter test (in milliliters) were selected as variables. The pre and post tests data were collected on selected criterion variables prior to and immediately after the training program. The pre and post-test scores were statistically examined by the Analysis of co-variance (ANCOVA). The level of significant was fixed at 0.05 level. It was concluded that the yogic practices group had shown significantly improved on flexibility and tidal volume. However the control group had not shown any significant improvement on flexibility and tidal volume.

Index Terms- *Yogic Practices, Flexibility, Tidal Volume, Soccer Players*

I. INTRODUCTION

Yoga is one of the India's wonderful gifts to mankind. One of its valuable qualities is that it builds up a store of physical health through the practice of a system of exercises called asana which keeps the body cleansed and fit. Through physical, mental and spiritual health through the observation of controlled breathing (pranayama), prescribed postures (asanas), and meditation. ^[1] Yoga is an excellent method of enhancing the performance of sportsmen. ^[2]

The scientific interest in yoga has increased substantially in recent years and a number of physiological effects of yoga, including physical postures, asanas. ^[3,4]

Yoga science of breathing is called pranayama. Oxygen is the most vital nutrient to our body. It is essential for the integrity of the brain, nerves, glands and internal organs. It is a systematic exercise of respiration, which makes the lungs stronger, improves blood circulation makes the man healthier and bestows upon him the boon of a long life. It aids the respiratory system function at its best whereby the life force can be activated and regulated in order to go beyond one normal boundaries or limitations and attain a higher state of vibratory energy ^[5].

As more time is made available for air mixing, stagnant stale air is removed and supply of fresh air goes inside those pockets. Similar action takes place during exhalation also. The overall effect of these actions is that entire surface of alveoli, or air sacs inside the lungs gets larger amount of fresh air ^[6]

II. PURPOSE OF THE STUDY

The purpose of the study was to find the effect of yogic practices on flexibility and tidal volume among soccer players.

III. METHODOLOGY

To achieve the purpose of this study, 30 men inter collegiate soccer players were randomly selected as subjects from the St. Xavier's College and the M.D.T. Hindu College Tirunelveli, Tamilnadu, India. Their age were ranged from 18 to 25 years. The selected participants were randomly divided into two groups such as group 'A' 'yogic practices' (asana, pranayama, meditation) (n=15) and group 'B' acted as control group (n=15). Group 'A' underwent yogic practices for three days per week and each session lasted for an hour for eight week. However, control group was not exposed to any specific training but they participated in their regular schedule. The flexibility was assessed by sit & reach test methods (in centimeters) and tidal volume was assessed by Spiro meter test (in milliliters) were selected as criterion variables. The pre and post tests data were collected on selected criterion variables prior to and immediately after the training program. The pre and post-test selected criterion variables scores were statistically examined by the Analysis of Covariance (ANCOVA). The level of significance was fixed at .05 level of confidence, which was considered as appropriate.

IV. ANALYSIS OF DATA

Table-4.1: Analysis of Covariance of the Data on flexibility of pre, post and adjusted post tests scores of experimental and Control Group (in Centimeters)

Test	EG	CG	SOV	SS	Df	MS	F-ratio
Pre-test							
Mean	20.45	20.54	B.M	0.056	1	0.056	0.02
SD(±)	2.64	1.39	W.G	64.97	28	2.32	
Post-test							
Mean	27.17	21.67	B.M	220.97	1	220.97	32.69*
SD(±)	2.99	2.13	W.G	189.40	28	6.76	
Adjusted post-test							
Mean	27.18	21.72	B.S	223.52	1	223.52	33.59*
			W.S	179.69	27	6.66	

*significant at 0.05 level of confidence. The table values required for significance at 0.05 level of confidence for 1 & 28 and 1 & 27 are 4.20 and 4.21 respectively. EG-Experimental Group, CG-Control Group, SOV-Sum of Variance, SS-Sum of Squares, MS-Mean Squares, df- degrees of freedom, BM-Between Mean, WG-Within Group, BS- Between Group, WS- Within Sets

The table 4.1 shows that the pre-test mean value on flexibility of experimental and control group are 20.45 and 20.54 respectively. The obtained 'F' ratio 0.02 for pre-test scores was less than the table value 4.20 for df 1 and 28 required for significance at 0.05 level of confidence on flexibility. The post-test mean values on flexibility of experimental and control group are 27.17 and 21.67 respectively. The obtained 'F' ratio 33.69 for post-test scores was greater than the table value 4.20 for df 1 and 28 required for significance at 0.05 level of confidence on flexibility. The adjusted post-test means of experimental and control group are 27.18 and 21.72 respectively. The obtained 'F' ratio of 33.56 for adjusted post-test means was greater than the table value of 4.21 for df1 and 27 required for significance at 0.05 level of confidence on flexibility.

The pre-test, post-test and adjusted post-test means values of experimental and control group on flexibility are graphically represented in the figure-1.

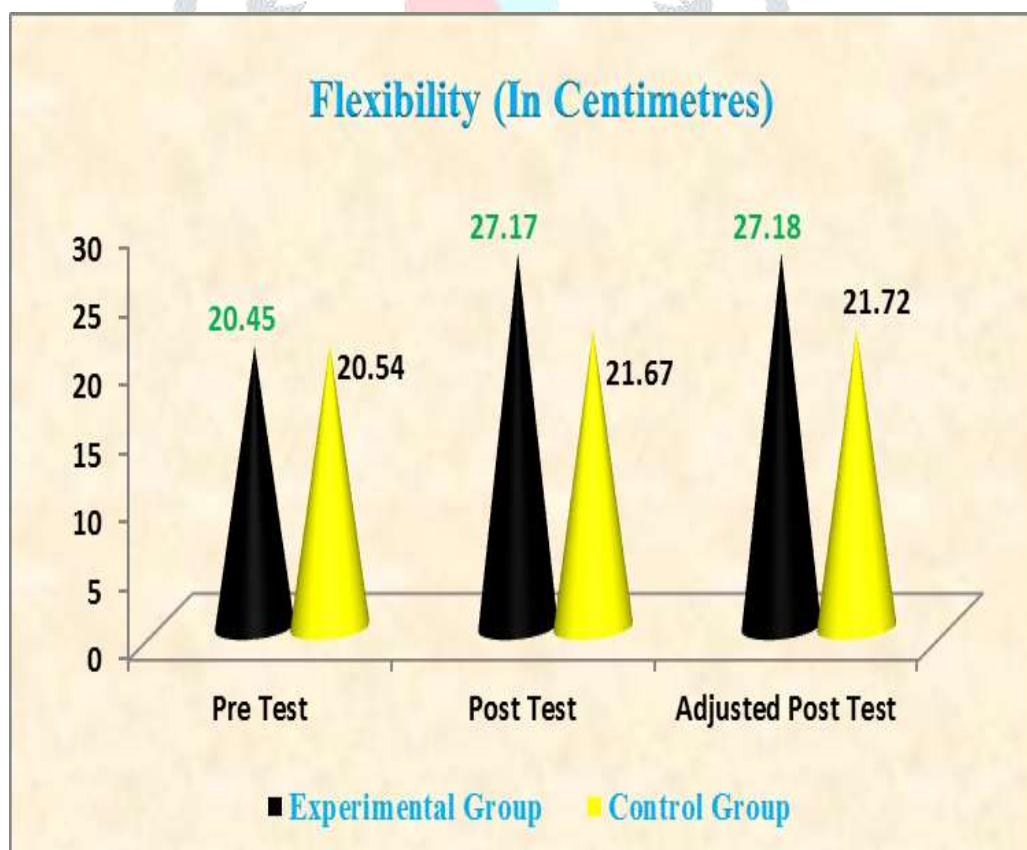


Figure-1: The pre-test, post-test and adjusted post-test mean values of experimental and control group on flexibility.

Table-4.2: Analysis of covariance of the data on tidal volume of pre, post and adjusted post tests scores of experimental and control group (in milliliters)

Test	EG	CG	SOV	SS	Df	MS	F-ratio
Pre-test							
Mean	522.45	528.43	B.M	268.14	1	268.14	1.79
SD(±)	11.52	12.92	W.G	4197.10	28	149.90	
Post-test							
Mean	562.91	530.32	B.M	7965.81	1	7965.81	24.99*
SD(±)	22.54	11.37	W.G	8926.83	28	318.82	
Adjusted post-test							
Mean	564.17	529.05	B.S	8695.84	1	8695.84	28.72*
			W.S	8174.51	27	302.76	

*significant at 0.05 level of confidence. The table values required for significance at 0.05 level of confidence for 1 & 28 and 1 & 27 are 4.20 and 4.21 respectively. EG-Experimental Group, CG-Control Group, SOV-Sum of Variance, SS-Sum of Squares, MS-Mean Squares, df- degrees of freedom, BM-Between Mean, WG-Within Group, BS- Between Group, WS- Within Sets

The table-4.2 shows that the pre-test mean value on tidal volume of experimental and control group are 522.45 and 528.43 respectively. The obtained 'F' ratio 1.79 for pre-test scores was less than the table value 4.20 for df 1 and 28 required for significance at 0.05 level of confidence on tidal volume. The post-test mean values on tidal volume of experimental and control group are 562.91 and 530.32 respectively. The obtained 'F' ratio 24.99 for post-test scores was greater than the table value 4.20 for df 1 and 28 required for significance at 0.05 level of confidence on tidal volume. The adjusted post-test means of experimental and control group are 564.17 and 529.05 respectively. The obtained 'F' ratio of 28.72 for adjusted post-test means was greater than the table value of 4.21 for df1 and 27 required for significance at 0.05 level of confidence on tidal volume.

The pre-test, post-test and adjusted post-test means values of experimental and control group on tidal volume are graphically represented in the figure-2

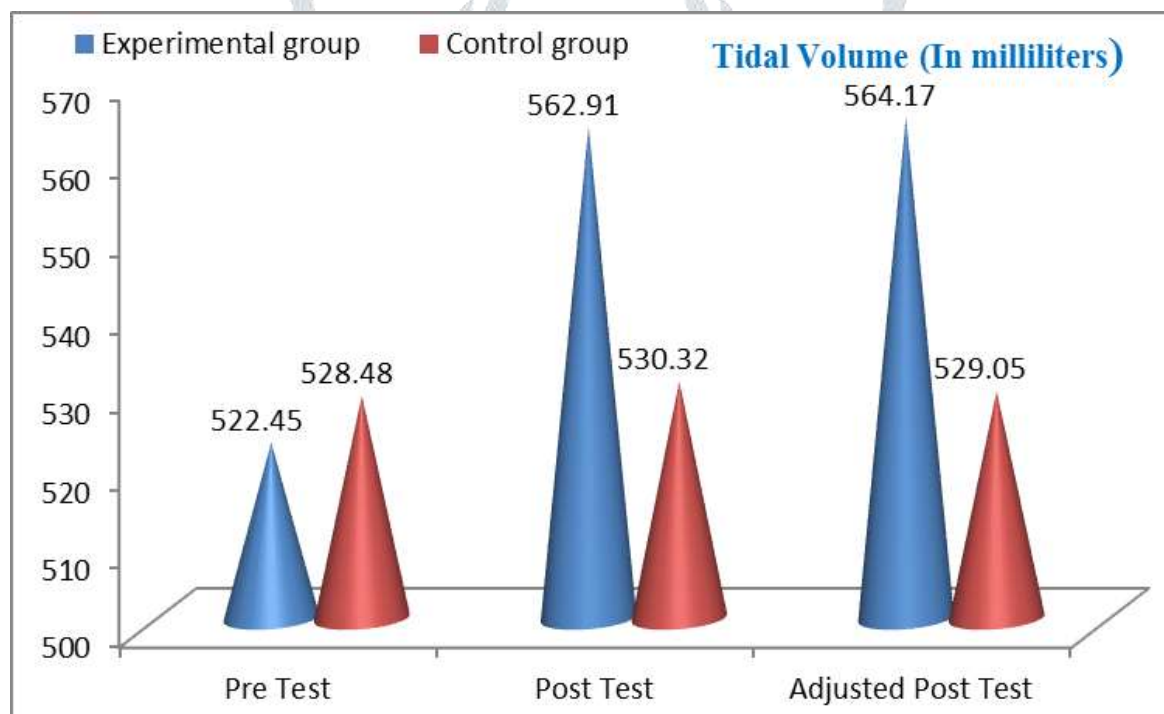


Figure-2: The pre-test, post-test and adjusted post-test mean values of experimental and control group on tidal volume.

V. DISCUSSION ON FINDINGS

The present studies found statistically significant improvement on flexibility and tidal volume, which showed that positive, practices of yogic practices among soccer players. The findings of the study were also agreed with the findings of (Khodaskar, 2002).^[7]

Arumugam, S. & Anuja P.^[8] they concluded his that although both soccer and futsal are categories of football games, player's trainings are different and as lung function improved due to an exercise, Iraqi soccer players showed the higher levels of lung function with better body characters than futsal players.

VI. CONCLUSIONS

1. There was significant improvement on flexibility due to the effect of yogic practices among soccer players.
2. There was significant improvement on tidal volume due to the effect of yogic practices among soccer players.
3. However the control group had not shown any significant improvement on any of the selected variables.

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