Efficiency of Yogic Practices and Aerobic Exercise on Motor Ability of Inter-Collegiate Men Volleyball Players

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Abstract

***Background**: To develop the Playing ability of intercollegiate volleyball players to practice yoga and aerobic exercise.*

***Purpose of the study:** This study determined whether yoga and aerobic exercise effect intercollegiate men volleyball player's on motor abilities. To find out the effect of yogic practices on the selected motor ability of intercollegiate men volleyball players. To find out the effect of aerobic exercises on the selected motor ability of intercollegiate men volleyball players. To compare the training effects of yogic practices and Aerobic exercises on motor ability of Intercollegiate Men volleyball players and find out the better group from the analyses.*

***Methods:** The study was formulated as a random sampling design. The selected subjects were randomly divided into three equal groups of fifteen each (n=15). Group I and II were treated as experimental groups and group III was considered as control group. Experimental Group I underwent yogic practice on selected asanas and pranayama. Experimental Group II underwent the selected aerobic dance with a music programme. The training periods of experimental groups were twelve weeks, five days per week with a duration of 45 minutes. The control group did not undergo any training programme other than their routine work. Initial tests were taken for all the subjects on motor abilities such as flexibility and muscular strength and the collected data was considered as pre-test data. All the experimental groups were given training for twelve weeks. The subjects were tested on selected criterion variables before and immediately after the twelve weeks of the training programme as pre and post-tests respectively. The statistical analysis of the collected data was done using ANCOVA.*

Conclusion: *Yogic practices and aerobic exercise have benefited intercollegiate men volleyball players because it positively impacts selected dependent variables such as flexibility and muscular strength.*

Keywords: *Yogic, Aerobic, Volleyball, Flexibility*

Introduction

India has been practicing yoga as a science for thousands of years. It has been proven by many studies that it causes consistent physiological changes with proven health benefits. Yoga is meant to balance the individual's physical, mental, emotional, and spiritual well-being. It includes gentle stretching of muscles and breathing exercises with a wide range of classical Asanas and Pranayama practices.

The exploration of the ideal health, fitness, and wellness proved to be even more relevant in the contemporary period than before for college students. Given the challenges related to school-linked stress, sedentariness, and the growing rates of mental health problems characteristic of this demographic physical training serves as an effective intervention to foster well-being. As such, exercise programs address numerous mental and emotional effects, as well as physical ones. Two more forms of exercise have piqued interest as an approach to health, fitness, and well-being thanks to the introduction of programs: aerobic exercise yoga practice and an integrated exercise session. There are aerobic poses that undoubtedly stretch as well as promote flexibility, balance, and cardiovascular stamina, regardless of one’s age, behind yoga. Meanwhile, mixed-training exercises must attempt to find a lateral perspective on various forms and combine cardiovascular, strength, and flexibility exercise modalities to address numerous dimensions of improved ability.

A non-technical term for forms of exercise regimes based on improving health and fitness by causing cardio-respiratory adaptations because of stressing the various physiological systems associated with aerobic energy production. Aerobics came to prominence in the late 1960s to early 1970s from the work of Kenneth Cooper (author of Aerobics, 1968) in the USA at a time when the role of regular exercise in the prevention and treatment of heart disease was becoming recognized. Cooper developed the first exercise scheme to have mass impact on the general population. Exercise is an excellent method of enhancing the performance of physical fitness. Salient feature of yoga and aerobics is the combination of both physical conditioning and focused concentration. Physical fitness can be

attained excellently by indulging in any physical exercise in routine. Yogic and aerobics exercises deal with the vital organs of the body on which health depends. The precursor for physical fitness lies in the efficient working of the vital organs of the body Although not many scientific researchers have been done, the works of Oken, et al., 2000, Govindaraju, et.al., (2003), Johnson Prem kumar and Marriayyah (2006) have shown enough evidence about how yoga could be gainfully employed in the promotion of physical factors.

Methodology

The present study was to analyze the outcome of the effect of yogic practices and aerobic exercise on selected motor abilities among intercollegiate men volleyball players. It was hypothesized that there would be significant differences in selected variables namely flexibility and muscular strength because of yogic practices and aerobic exercise on selected motor abilities among intercollegiate men volleyball players. For the present study, forty-five intercollegiate men volleyball players from Madurai Kamaraj University affiliated colleges were chosen as the subjects were selected as subjects at random, and their ages ranged from 17 to 24 years. The subjects were divided into three equal groups of fifteen intercollegiate volleyball players each. The subjects were randomly assigned to three equal groups of twenty each and named Group 'A' – yogic practices, Group 'B'-Aerobic exercise, and Group 'C'-Control group had not undergone any training. Flexibility was assessed by sit and reach Test and muscular strength was assessed by push-ups Test. The data were collected ahead of and after twelve weeks of training. Initially, descriptive statistics and paired't' test were applied to see the significance of mean gains made by all the variables by the experimental groups. The analysis of covariance (ANCOVA) was also used to analyze the significant difference, if, any among the groups. Since all the groups were compared whenever the obtained 'F' ratio for adjusted post-test was found to be significant.

Analysis of Results

Table – 1: ANALYSIS OF COVARIANCE FOR PRE TEST AND POST TEST DATA ON FLEXIBILITY OF CONTROL GROUP AND EXPERIMENTAL GROUPS

		Control Group	Yogic Practice	Aerobic Training	SOV	Sum of Squares	df	Mean Square	'F' ratio
Pre-test	**Mean**	24.40	25.93	23.77	B:	37.33	2	18.62	1.69
	S.D.	3.46	2.49	3.46	W:	462.97	42	11.02	

		Control Group	Yogic Practice	Aerobic Training	SOV	Sum of Squares	df	Mean Square	'F' ratio
Post-test	**Mean**	25.67	30.66	26.90	B:	203.54	2	101.77	9.76*
	S.D.	2.99	2.71	3.86	W:	437.77	42	10.42	
Adjusted Post-test	**Mean**	25.93	28.57	27.73	B:	95.83	2	47.91	26.67*
					W:	73.67	41	1.80	

** Significant at 0.05 level.* (Flexibility measures in Centimeters)
Required table value at 0.05 level of significance for 2 & 42 degrees of freedom = 3.22

Figure –I Bar Diagram shows the mean values of Pre and Post-tests of the Control and Experimental Group on Flexibility

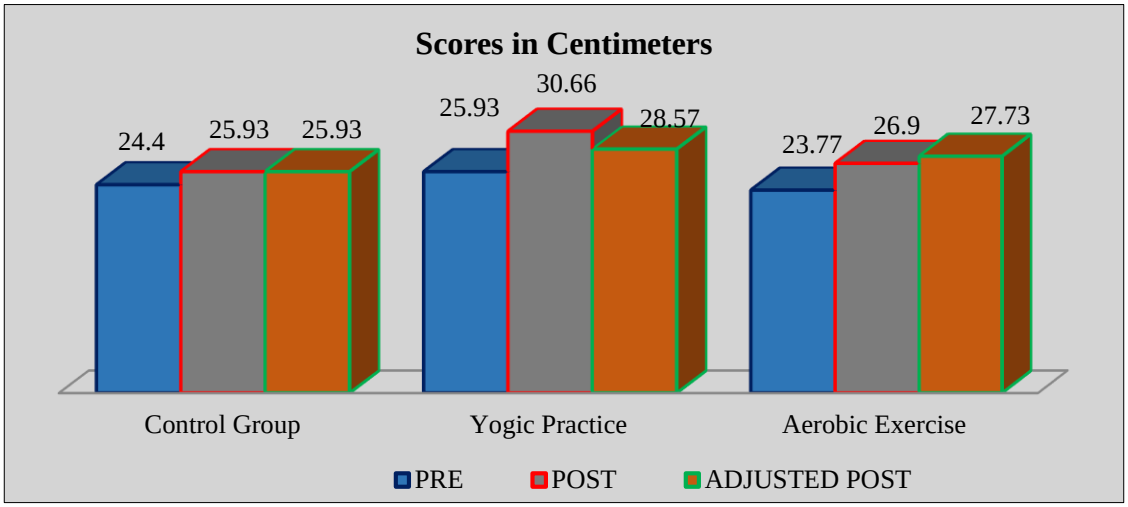
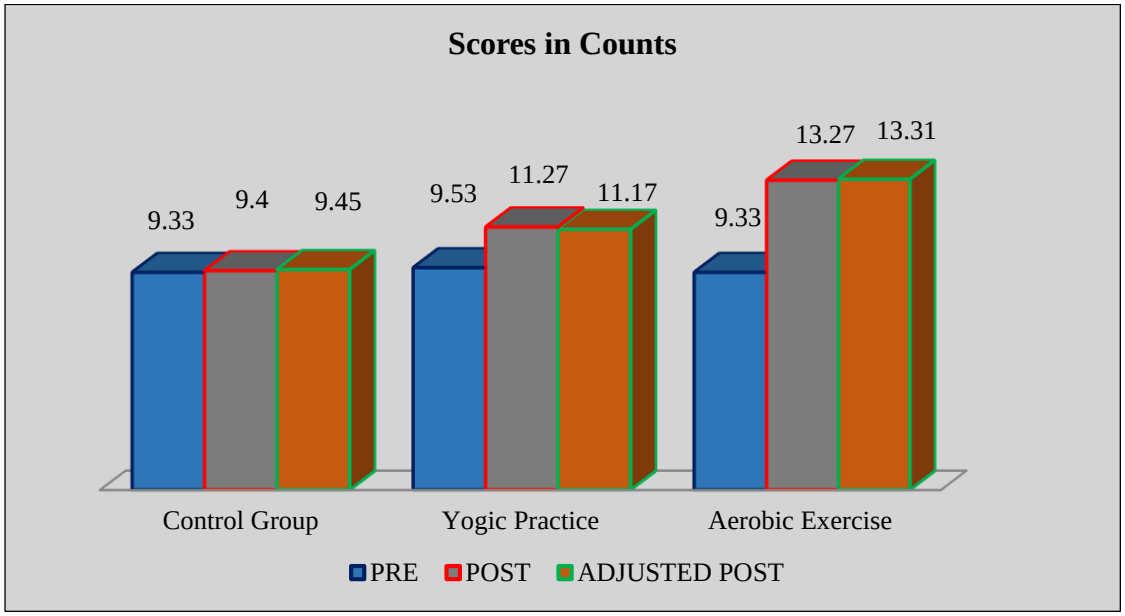


Table – 2: ANALYSIS OF COVARIANCE FOR PRE-TEST AND POST-TEST DATA ON MUSCULAR STRENGTH

		Control group	Yogic practice	Aerobic training	SOV	Sum of squares	df	Mean square	'F' ratio
Pre-test	**Mean**	9.33	9.53	9.33	B:	0.40	2	0.20	0.04
	S.D.	2.31	2.19	1.95	W:	196.40	42	4.68	
Post-test	**Mean**	9.40	11.27	13.27	B:	112.18	2	56.09	16.42*
	S.D.	1.84	2.05	1.62	W:	143.47	42	3.42	
Adjusted Post-test	**Mean**				B:	112.59	2	56.30	64.79*
		9.45	11.17	13.31	W:	35.62	41	0.87	

** Significant at 0.05 level.* (Muscular strength counts in Counts)
Required table value at 0.05 level of significance for 2 & 42 degrees of freedom = 3.22

Figure –II Bar Diagram shows the mean values of Pre and Post-tests of the Control and Experimental Group on the muscular Strength



Discussion on Findings

This study confirms thatyogic practices and aerobic exerciseproduce improvement in flexibility and muscular strength.

From the results of the present investigation, it is also concluded that significant differences in yogic practices and aerobic exercise in developing dependent variables namely flexibility and muscular strength Hence the hypothesis was accepted.

Conclusions:

On the basis of the result and discussion, the following conclusion were drown

1. All the experimental and control groups were homogeneous during the pre-test.
2. In the Post-test the difference was observed of the Experimental Groups and the control group in motor abilities such as flexibility and muscular strength and no difference was observed in the Pre-test and Post-test of the control group in motor abilities.
3. It was concluded that intercollegiate men volleyball players should practice both yogic practices and aerobic exercise for positive enhancement of performance.

4. Thus, based on the result, it was concluded that both training methods would provide better means and methods for developing the motor abilities that are needed for intercollegiate men volleyball players.

References:

Bhimani, N.T., Kulkarni, N.B., Kowale, A. & Salvi, S. (2011). Effect of yogic practices on stress and cardiovascular autonomic function. *Indian J PhysiolPharmacol.* 55(4):3707

De Bruin E, Formsma AR, Frijstein G, Bogels SM Effects of combined physical exercise, yoga, and mindfulness meditations on stress relief in employees: A proof of concept study. Mindfulness. 2017;8:204-217.

Gezer, H., Karaahmet, O. Z., Gurcay, E., Dulgeroglu, D., &Cakci, A. (2019). The effect of aerobic exercise on stroke rehabilitation. Irish journal of medical science, 188(2), 469–473. https://doi.org/10.1007/s11845-018-1848-47.Gilani, S. R. M., & Feizabad, A. K. (2019).

The effects of aerobic exercise training on mental health and self-esteem of type 2 diabetes mellitus patients. Health psychology research, 7(1), 6576. https://doi.org/10.4081/hpr.2019.657617Alamgir Mondal, Dr. Madhab Chandra Ghosh Effects of Aerobic Yogic And Blended Exercise Programmes on Health and Wellness of College Males