



EFFECT OF YOGIC PRACTICES ON SELECTED PHYSIOLOGICAL VARIABLES AMONG BASKETBALL PLAYERS

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Abstract:

The purpose of the present study was to find out the effect of yogic practices on selected physiological variables among basketball players. For the purpose of the study forty men basketball players were selected as subjects from S.V.N College and Arul Anandar College, Madurai, Tamilnadu at random and their age ranged from 18 to 25 years. The selected subjects are divided in to two groups of twenty subjects each. Group I acted as Yogic practices and Group II acted as control group. The experimental group participated Yogic practices programme for twelve weeks duration in addition to their regular professional activities of the college as per the curriculum. The control group was not undergone any training other than their daily routine. The criterion measures systolic blood pressure and diastolic blood pressure was measured by sphygmomanometer. The two groups were statistically analysed by using analysis of covariance (ANCOVA) at 0.05 level. The result of the study reveals that there was a significant improvement in the experimental group on selected variables when compared to the control group after the completion of twelve weeks of yogic practices.

Key Words: Yogic Practices, Heart Rate, Blood Pressure & Basketball

Introduction:

Yoga is sometimes referred to as the science of religion with the view that the human body is a vehicle for the spirit and soul. It offers a number of tools with which to tune and rebalance the 'vehicle', so that it is able to attract the appropriate level and quantity of prana, and fulfill the human function. Asana and pranayama techniques "cleanse the body of tensions, toxins and impurities and release energy blocks, which impede the harmonious flow of energy in the body." (Sunder, 2009) Meditation techniques have several benefits. For example, not only do they allow a deeper connection to the inner life, which can lead to greater understanding of the actual causes of a person's 'disease', they also allow an increase in the connection to, and sharing of, the higher levels of the life force, which are themselves healing and enlightening to the body, mind, soul and spirit. Yoga, it is believed, has been evolving and practiced for at least 3 thousand years, and inevitably many schools and disciplines have emerged differing in detail but with the central themes remaining intact. These understandings have arrived during states of deep meditation and resultant 'in tuition'. This has come about through connection to what Tara Patel describes as the "vast mind realm" and which in yoga literature is referred to as the "watershed of knowledge" within the ultimate state of meditation, samadhi. In psychological terminology this might be described as the higher end of the bar of Jung's collective unconscious, or the super conscious. In some ancient writings this can be referred to as the "astral light" of which there are said to be 7 levels, from high to low. It is perhaps difficult for western minds schooled in the scientific disciplines of bio medicine to accept this yoga view of human physiology (Swami Sivanadha, 2001).

Basketball is a limited contact sport played on a rectangular court. Basketball is a sport played between two teams normally consisting of five or more players. Each team has five players on the basketball court at any given time. The objective is to score more points than the other team, with points being scored by shooting a ball through a basketball hoop (or basket), which is located ten feet above the ground. The two teams shoot at opposite goals. In order to move while in possession of the ball, a player must be dribbling, or bouncing the ball. The purpose of the present study was to find out the effect of yogic practices on selected physiological variables among basketball players.

Review of Related Literature:

Kubendran (2017) examined the effect of sand training and yogic practices on breath holding time among college men football players. To achieve this purpose, forty five men football players from various colleges of University of Madras were randomly selected and they were assigned into three groups namely sand training group, yogic practice group and control group. The training program was scheduled for five days a week and each training session consist of 45 minutes. Analysis of covariance (ANCOVA) statistical technique was used to test the adjusted post-test mean differences among sand training group, yogic practice group and control group and the adjusted post-test result was significant, the Scheffe's post-hoc test was used to determine the significance of the paired mean differences. Yogic practice group made significant improvement on breath holding time among college men football players due to the six weeks of yogic practices. It was concluded that

yogic practices significantly improved breath holding time than sand training among college men football players.

Prashanth & Sivakumar (2017) examined the effect of yogic practice and aerobic exercise on selected physiological variables. For this purpose, forty five middle aged men of Uduppi town, Mangalore district, Karnataka state in the age group of 35 – 40 years were selected. They were divided into three equal groups (n = 15), each group consisted of fifteen subjects, in which group – I underwent yogic practice, group – II underwent aerobic exercise and group – III acted as control group who did not participate in any special training. The training period for this study was five days in a week for twelve weeks. Prior to and after the training period the subjects were tested for vital capacity and blood pressure (systolic and diastolic). Vital capacity was assessed by using wet-spirometer and blood pressure was assessed by using sphygmomanometer respectively. The analysis of covariance (ANCOVA) was used to find out the significant difference if any, among the experimental groups and control group on selected criterion variables separately. Since there were three groups involved in this study the Scheffé S test was used as pos-hoc test. It was concluded from the result of the study that the yoga practice and aerobic exercise has positively altered the criterion variables, such as, vital capacity and blood pressure (both systolic and diastolic).

Chandrakumar & Ramesh (2016) determined the best training packages among the yogic practices, aerobic exercise and interval training on selected health related physical fitness namely cardio respiratory endurance and flexibility among school boys. To achieve the purpose of the present study, sixty school boys from Dindigul district, Tamilnadu were selected as subjects at random and their ages ranged from 13 to 17 years. The subjects were divided into four equal groups of fifteen school boys each. The study was formulated as a true random group design, consisting of a pre-test and post-test. The subjects (N=60) were randomly assigned to four equal groups of fifteen school boys each. The groups were assigned as yogic practices, aerobic exercises, interval training and control group in an equivalent manner. The group I underwent yogic practices, group II underwent aerobic exercises, group III underwent interval training and group IV acted as a control group. The three experimental groups were participated the training for a period of twelve weeks to find out the outcome of the training packages and the control group did not participated in any training programme. The variable to be used in the present study was collected from all subjects before they have to treat with the respective treatments. It was assumed as pre-test. After completion of treatment they were tested again as it was in the pre-test on all variables used in the present study. This test was assumed as post-test. The following statistical techniques were adopted to treat the collected data in connection with established hypothesis and objectives of this study. Analysis of covariance (ANCOVA) was applied because the subjects were selected random, but the groups were not equated in relation to the factors to be examined. Hence the difference between means of the four groups in the pre-test had to be taken into account during the analysis of the post-test differences between the means. This was achieved by the application of the analysis of covariance, where the final means were adjusted for differences in the initial means, and the adjusted means were tested for significance. Whenever the adjusted post-test means were found significant, the scheffe's post-hoc test was administer to find out the paired means difference. To test the obtained results on variables, level of significance 0.05 was chosen and considered as sufficient for the study. The significant mean difference does not exist among the experimental groups in the pre test on cardio respiratory endurance and flexibility. In testing post test mean difference among the experimental groups statistically significant on variables of cardio respiratory endurance and flexibility. In testing the post adjusted mean among the experimental groups also predicts the above result. In comparing the effect the YPG showed better performance on flexibility. In comparing the effect the AEG and ITG produced similar effect on both the variables.

Methodology:

For the purpose of the study forty men basketball players were selected as subjects from S.V.N College and Arul Anandar College, Madurai, Tamilnadu at random and their age ranged from 18 to 25 years. The selected subjects are divided in to two groups of twenty subjects each. Group I acted as Yogic practices and Group II acted as control group. The experimental group participated Yogic practices programme for twelve weeks duration in addition to their regular professional activities of the college as per the curriculum. The control group was not undergone any training other than their daily routine. The criterion measures systolic blood pressure and diastolic blood pressure was measured by sphygmomanometer. The two groups were statistically analysed by using analysis of covariance (ANCOVA) at 0.05 level.

Results and Discussion:

The detailed procedure of analysis of data and interpretation were given below,

Table 2: Summary of Descriptive Statistics on Selected Physiological Variables among Basketball Players

S.No	Variables	YPG					CG				
		Pre	SD (±)	Post	SD (±)	Adjusted Mean	Pre	SD (±)	Post	SD (±)	Adjusted Mean
1	Systolic Blood Pressure	123.00	1.41	118.95	0.75	118.91	122.65	1.46	122.50	1.63	122.53

2	Diastolic Blood Pressure	82.95	1.73	79.75	1.06	79.74	82.70	1.26	82.15	1.49	82.15
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YPG = Yogic Practices Group

CG = Control Group

The table 2 shows that the pre and post test means and standard deviation of two groups on selected physiological variables among basketball players.

Table 3: Analysis of Variance of Pre Test Scores on Selected Physiological Variables among Basketball Players

S.No	Variables	Source of Variance	Sum of Squares	df	Mean Squares	F-Value
1	Systolic Blood Pressure	BG	1.22	1	1.22	0.59
		WG	78.55	38	2.06	
2	Diastolic Blood Pressure	BG	0.62	1	0.62	0.27
		WG	87.15	38	2.29	

* $P < 0.05$ Table F, df (1,38) (0.05) = 4.09

In table 3, the results of analysis of variance of pre test scores on systolic blood pressure (0.59) and diastolic blood pressure (0.27) were lesser than the table value of 4.09 indicating that it was not significant for the degrees of freedom (1,38) at 0.05 level of confidence indicating that the random sampling was successful.

Table 4: Analysis of Variance of Post Test Scores on Selected Physiological Variables among Basketball Players

S.No	Variables	Source of Variance	Sum of Squares	df	Mean Squares	F-Value
1	Systolic Blood Pressure	BG	126.02	1	126.02	77.30*
		WG	61.95	38	1.63	
2	Diastolic Blood Pressure	BG	57.60	1	57.60	34.04*
		WG	64.30	38	1.69	

* $P < 0.05$ Table F, df (1,28) (0.05) = 4.19

In table 4, the results of analysis of variance of post test scores on systolic blood pressure (77.30) and diastolic blood pressure (34.04) were greater than the table value of 4.09 indicating that it was significant for the degrees of freedom (1,38) at 0.05 level of confidence.

Table 5: Analysis of Covariance of Adjusted Post Test Scores on Selected Physiological Variables among Basketball Players

S.No	Variables	Source of Variance	Sum of Squares	df	Mean Squares	F-Value
1	Systolic Blood Pressure	BG	128.64	1	128.64	80.30*
		WG	59.27	37	1.60	
2	Diastolic Blood Pressure	BG	57.27	1	57.27	32.96*
		WG	64.29	37	1.73	

* $P < 0.05$ Table F, df (1,28) (0.05) = 4.19

In table 5, the results of analysis of covariance of adjusted post test scores on systolic blood pressure (80.30) and diastolic blood pressure (32.96) were greater than the table value of 4.10 indicating that it was significant for the degrees of freedom (1,37) at 0.05 level of confidence.

Figure 1: Shows the Mean Values of Experimental and Control Groups on Systolic Blood Pressure among Basketball Players

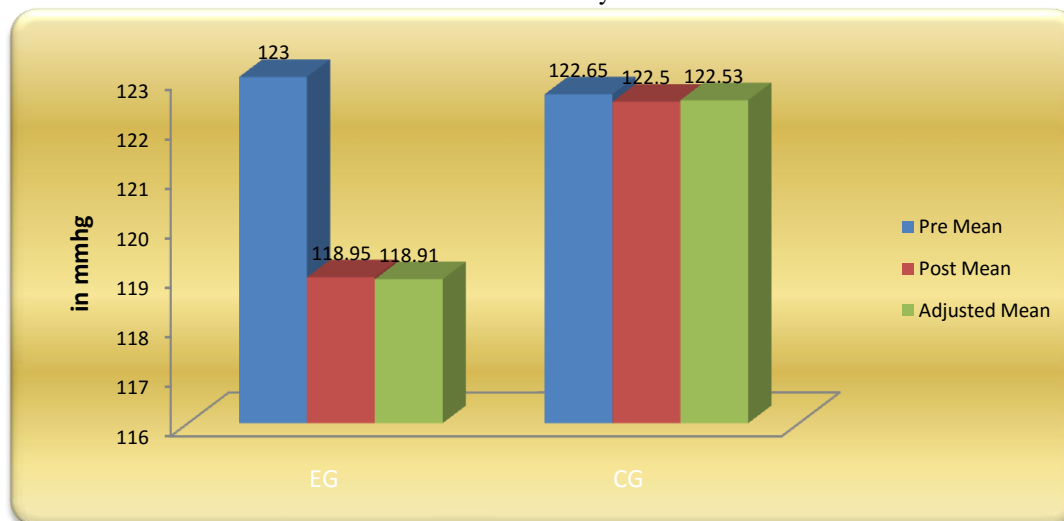
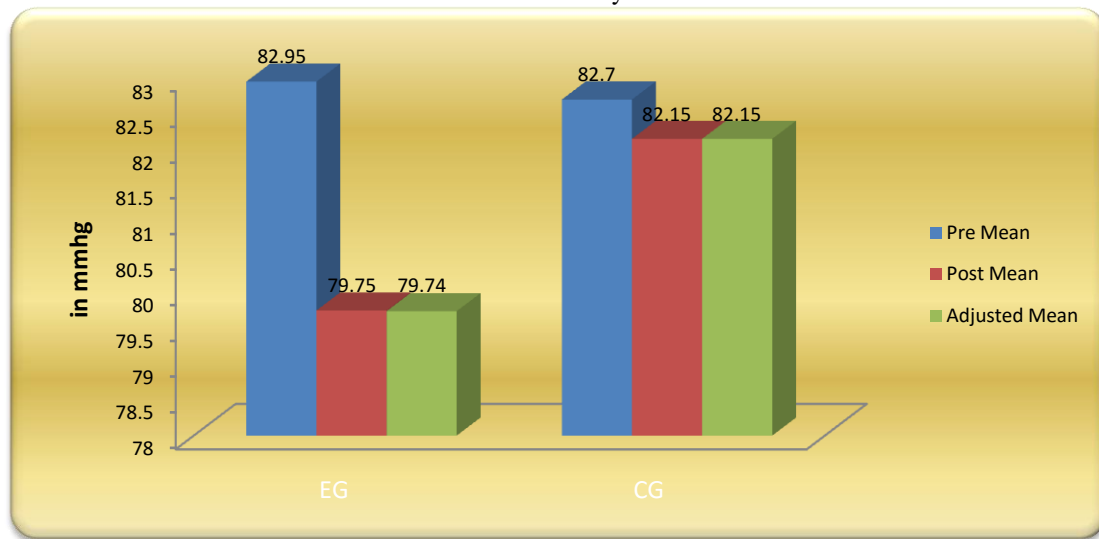


Figure 2: Shows the Mean Values of Experimental and Control Groups on Diastolic Blood Pressure among Basketball Players



Conclusions:

In the light of the study undertaken with certain limitations imposed by the experimental conditions, the following conclusions were drawn.

- ✓ The result of the study reveals that there was a significant improvement in the experimental group on selected variables when compared to the control group after the completion of twelve weeks of yogic practices.
- ✓ The Yogic practices group has showed better performance on systolic blood pressure, diastolic blood pressure and diastolic blood pressure than the other control group.

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