



## EFFECT OF YOGIC PRACTICES AND PROPRIOCEPTIVE TRAINING ON SELECTED PHYSICAL VARIABLES AMONG INTER COLLEGIATE VOLLEYBALL PLAYERS

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### Abstract

*The purpose of the study was to find out the effect of yogic practices and Proprioceptive training on selected physical variables among inter collegiate volleyball players. In order to achieve the purpose of the study forty five men intercollegiate volleyball players were randomly selected from Department of Physical Education, Bharathiar University, Coimbatore and they were equally divided in to three groups of fifteen each as experimental group-I, experimental group-II and control group. The experimental groups and control group undergone normal routine volleyball practices and in addition the experimental group-I underwent yogic practices and experimental group-II underwent Proprioceptive training for one hour in the morning sessions. The control group was not given any special training. The period of training was eight weeks in a schedule of weekly three days for alternate days. The data were collected on the selected dependent variables before and after the training period. The collected the data were statistically analyzed by using Analysis of Covariance (ANCOVA) and Scheffe's post hoc test. To test the significance .05 level of confidence was fixed. Based on the results the study it was concluded that the yogic practices and Proprioceptive training were significantly improved the selected physical variables namely speed and flexibility among inter collegiate volleyball players.*

**Key words:** Yogic practices, Proprioceptive training, speed, flexibility.

### INTRODUCTION

Volleyball is a game played between two teams maximum of twelve players only six from each team are on court at one time. This game is played on a court eighteen meters long and nine meters wide. A net divides the court in to two and separate five points wins the set unless the score was twenty four each when play must continue until one team has a lead of two points. A game can be either to the bests of three or five sets. The word yoga derived from the sanskrit root 'yuj' meaning to bind; join; and yoke; to direct and concentrates one's attention on; to use; and apply. It is also means union or communication. It is the true union of our will with the will of god. Yoga is a practical aid, not a religion. Yoga is an ancient art based on a harmonizing system of development for the body, mind and spirit. The continued practice of yoga will lead you to a sense of peace and wellbeing and also a feeling of being at one with the environment the practice of yoga makes the body strong and flexible. It also improves the functioning of the respiratory, circulatory, digestive and hormonal systems. (Kurland.Zack, 2007)

Proprioceptive training through gain the balance skills necessary to maintain stability; hone their agility so they can quickly change direction when necessary; and fine-tune coordination skills so they can perform physical activities accurately and consistently. Proprioception exercises reduce the risk of injury by teaching the body to react appropriately to sudden

changes in the environment. A good sense of proprioception is vital for many fitness activities, especially some of the more advanced core-training classes currently attracting large numbers of clients. (Heyward, 2006)

### METHODOLOGY

The purpose of study was to investigate the effect of yogic practices and Proprioceptive training on selected physical variables among inter collegiate volleyball players. In order to achieve the purpose of the study forty five men intercollegiate volleyball players were selected randomly from Department of Physical Education, Bharathiar University, Coimbatore and they were equally divided in to three groups of 15 each as experimental group-I, experimental group-II and control group. The experimental groups and control group undergone normal routine volleyball practices and in addition the experimental group-I underwent yogic practices and experimental group-II underwent Proprioceptive training for one hour in the morning before starting the routine volleyball practices. The control group was not given any special training. The period of training was 8 weeks in a schedule of weekly 3 days for alternate days. The data was collected on the variables of speed and flexibility before and after the training period. The collected the data were statistically analyzed by using Analysis of Covariance (ANCOVA) and Scheffe's post hoc test. To test the significance .05

level of confidence was fixed.

**TABLE I**  
**SELECTION OF VARIABLES AND TEST ITEMS**

Variables	Test	Measurers in Unit
Speed	50mts Run	Seconds
Flexibility	Sit and Reach	Centimeters

### TRAINING PROGRAMME

The eight weeks **yogic practices** included the following

Warm up = 10 Mins

Surya Namaskar = 15 Mins (10 Rounds)

1. Artdha-Matsyendrasana = 6 Mins – 5 Sets
2. Natarajasana = 6 Mins – 5 Sets
3. Utkatasana = 6 Mins – 5 Sets
4. Trikonasana = 6 Mins – 5 Sets
5. Navasana = 6 Mins – 5 Sets

Relaxation = 5 Mins

The eight weeks **Proprioceptive training** included the following

#### Weeks 1&2

1. One-leg balances
2. Forward-backward leg swings with knee flexed
3. Forward-backward leg swings with knee extended
4. Toe-walking-20 meters
5. Heel-walking-20 meters
6. Cross-body leg swings

#### Weeks 3&4

1. Advanced one-leg balances

2. Maximum forward-backward leg swings with knee extended
3. Toe-walking
4. Heel-walking
5. One-leg squats
6. Runner's poses
7. Bicycle leg swings without resistance

#### Weeks 5&6

1. "Blind" advanced one-leg balances
2. Bicycle leg swings with resistance
3. Partial squats
4. Toe skipping
5. Heel skipping
6. High bench step-ups

#### Weeks 7&8

1. One-leg balances on a rocker board
2. Partial squats-with weight
3. One-footed hell rises
4. Rocker board lunges
5. One-leg balances with perturbations
6. One-leg squats with lateral hops using the balance board. (Souza A J, 2005)

**TABLE II**  
**ANALYSIS OF COVARIANCE FOR PRE AND POST TESTS DATA ON SPEED OF EXPERIMENTAL AND CONTROL GROUPS**

	Control Group	Yogic practice	Proprioceptive training	Source of Variance	Sum of Squares	Df	Mean Squares	'F' Ratio
Pretest	7.95	7.82	7.79	Between	0.60	2	0.15	0.81
				Within	15.92	42	0.37	
Post test	7.91	7.51	7.49	Between	3.42	2	1.71	5.89*
				Within	12.35	42	0.29	
Adjusted Post test	7.87	7.53	7.51	Between	0.89	2	0.45	7.50*
				Within	2.36	41	0.06	

\*Significance at 0.05 level, df 2 and 42= 3.22, 2 and 41=3.23

Table II shows that the pretest means on speed of control, yogic practices and Proprioceptive training groups are 7.95, 7.82 and 7.79 respectively. The obtained 'F' ratio value of 0.81 for pretest mean is less than the

required table value of 3.22 for significance at 0.05 level. Hence, it is not significant. The post-test mean on speed of control, yogic practices and Proprioceptive training groups are 7.91, 7.51 and 7.49 respectively. The obtained

'F' ratio value of 5.89 for post-test data is greater than the required table value of 3.22 for significance at 0.05 level. The adjusted post-test mean on speed of control, yogic practices and Proprioceptive training groups are 7.87, 7.53 and 7.51 respectively. The obtained 'F' ratio value of 7.50 for adjusted post-test data is greater than

the required table value of 3.23 for significance at 0.05 level. It reveals that there is significant difference among the groups on speed as a result of yogic practices and Proprioceptive training. The post-hoc test was applied to find out the significant paired mean difference.

**TABLE III**  
**ORDERED SCHEFFES POST HOC TEST FOR MEAN DIFFERENCE BETWEEN GROUPS ON SPEED**

Mean values			Mean Difference	L S
Control	Yogic practices	Proprioceptive training		
7.87	7.53	-	0.34	0.05
7.87	-	7.51	0.36	0.05
-	7.53	7.51	0.02	NS

L S = Level of Significance, C I = Confidence Interval. at 0.05 level: 0.26

Table III shows that the ordered weighted mean difference of Scheffe's post-hoc test values on speed of the control group, yogic practices and Proprioceptive training group. The mean difference of speed is significant at 0.05 level of confidence. The difference in

means between control group and yogic practices didn't differ significantly and control group and Proprioceptive training group on speed. Rest of the paired means didn't differ significantly.

**TABLE IV**  
**ANALYSIS OF COVARIANCE FOR PRE AND POST TESTS DATA ON FLEXIBILITY OF EXPERIMENTAL AND CONTROL GROUPS**

	Control Group	Yogic practices	Proprioceptive training	Source of Variance	Sum of Squares	df	Mean Squares	'F' Ratio
Pretest	29.37	29.52	29.57	Between	2.91	2	0.97	0.14
				Within	427.88	42	10.16	
Post test	30.60	32.07	32.77	Between	78.97	2	39.49	3.77*
				Within	439.27	42	10.45	
Adjusted Post test	30.77	32.11	32.76	Between	69.60	2	34.80	6.48*
				Within	220.45	41	5.37	

\*Significance at 0.05 level, df 2 and 42= 3.22, 2 and 41=3.23

Table IV shows that the pretest means on flexibility of control, yogic practice and Proprioceptive training groups are 29.37, 29.52 and 29.57 respectively. The obtained 'F' ratio value of 0.14 for pretest mean is less than the required table value of 3.22 for significance at 0.05 level. Hence, it is not significant. The post-test mean on flexibility of control, yogic practice and Proprioceptive training groups are 30.60, 32.07 and 32.77 respectively. The obtained 'F' ratio value of 3.77 for post-test data is greater than the required table value

of 3.22 for significance at 0.05 level. The adjusted post-test mean on flexibility control, yogic practice and Proprioceptive training groups are 30.77, 32.11 and 32.76 respectively. The obtained 'F' ratio value of 6.48 for adjusted post-test data is greater than the required table value of 3.23 for significance at 0.05 level. It reveals that there is significant difference among the groups on flexibility as a result of Proprioceptive training and yogic practice. The post-hoc test was applied to find out the significant paired mean difference.

**TABLE V**  
**ORDERED SCHEFFES POST HOC TEST FOR MEAN DIFFERENCE BETWEEN GROUPS ON FLEXIBILITY**

Mean values			Mean Difference	L S
Control	Proprioceptive training	Yogic practice		
30.77	32.76	-	1.99	0.05
30.77	-	32.11	0.95	0.05
-	32.76	32.11	0.65	NS

L S = Level of Significance, C I = Confidence Interval. at 0.05 level: 0.89.

Table V shows that the ordered weighted mean difference of Scheffe's post-hoc test values on flexibility of the control group, Proprioceptive training and yogic practice group. The mean difference of flexibility is significant at 0.05 level of confidence. The difference in means between control group and Proprioceptive training, control group and yogic practice group on flexibility. Rest of the paired means didn't differ significantly.

#### DISCUSSION ON FINDINGS

In the recent times yogic practices and Proprioceptive training is offered as a better method for developing speed and flexibility. The results and discussions of the present studies proved that the said training procedure was beneficial for improving the strength, speed, flexibility and vital capacity among college softball players and this study was supported by Sosamma John et al., (2011) and they found that twenty four weeks there was significant improvement in Strength, Speed, Flexibility and Vital capacity among college Softball players due to the influence of Yogic practices and another study was Kraemer R et al., (2009) were examined the effect of 12 weeks Proprioceptive training and soccer – specific balance training programme among premier league female soccer players and they found that weekly three days for training. There was significantly

improved in hamstring muscle strength, neuromuscular co-ordination, balance, agility, flexibility, speed and reaction time due to the influence of Proprioceptive training.

#### CONCLUSIONS

From the results of the study and discussion the following conclusions were drawn.

1. There is a significant difference on selected physical variables namely speed and flexibility among inter collegiate volleyball players.
2. There is a significant improvement on selected physical variables namely speed and flexibility due to yogic practices and Proprioceptive training.

#### REFERENCES

1. Cubild Collins., (1987). "English Language dictionary", London: Williams Collins Jones and company.
2. Derek Chen., (1999). "Exercise Physiology Educational Resources", Curtian University. www.qualities of great volleyball players.com.
3. Heyward V H., (2006). "Advanced Fitness Assessment and Exercise Prescription", Human Kinetics publication, Champaign.
4. Souza A J et al., (2005), "Total Fitness for High Performance Sports", DBAC Sports Envisions, Chennai.