



## **EFFECT OF WEIGHT TRAINING AND YOGIC PRACTICES ON SELECTED PHYSICAL VARIABLES AMONG FOOTBALL PLAYERS**

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### **Abstract:**

The purpose of the study was to find out the effect of weight training and yogic practices on selected physical variables among football players. To achieve the purpose of the present study, forty-five football players from Thiruvananthapuram, Kerala, India were selected as subjects at random and their ages ranged from 18 to 23 years. The subjects were divided into three equal groups of fifteen each. The groups were assigned as Experimental Group-I, Experimental Group-II and Control Group in an equivalent manner. Experimental Group-I was exposed to weight training, Experimental Group-II was exposed to yogic practices and Control Group was not exposed to any experimental training other than their regular daily activities. The duration of experimental period was 6 weeks. After the experimental treatment, all the forty five subjects were tested on their physical variables. This final test scores formed as post test scores of the subjects. The pre test and post test scores were subjected to statistical analysis using dependent 't' test and Analysis of Covariance (ANCOVA) to find out the significance among the mean differences, whenever the 'F' ratio for adjusted test was found to be significant, Scheffe's post hoc test was used. In all cases 0.05 level of significance was fixed to test hypotheses. It was observed that the six weeks of yogic practices have significantly improved the flexibility than the weight training and control group. It was observed that the six weeks of weight training have significantly improved the agility than the of yogic practices and control group.

**Key Words:** Weight Training, Yogic Practices, Football Players.

### **Introduction:**

Quality preparing otherwise called weight preparing is a typical segment of games and physical work out regimes for youngsters, albeit a few youths may utilize quality preparing as a way to upgrade muscle measure for enhancing appearance. Quality preparing projects may incorporate the utilization of free weights, weight machines, versatile tubing, or a competitor's own body weight. The sum and type of weight utilized and the recurrence of weight practices are dictated by particular program objectives. The benefits of such projects include expanding muscle quality, neighborhood power and perseverance of muscles, lessened wounds in wear and recreational exercises, enhanced execution in brandish and recreational exercises, muscle hypertrophy, ideal change in body piece, decreased blood lipids, diminished circulatory strain, and enhanced cardio respiratory execution. The notoriety of weight preparing has expanded as of late. Not exclusively is weight preparing used to increment strong quality, power, continuance, and hypertrophy in competitors, yet the adjustments to weight preparing have been appeared to profit the all inclusive community and clinical populaces (Kraemer et al. 2000).

The investigation of yoga chips away at physical, mental, enthusiastic, clairvoyant and profound parts of a man. At the point when lopsidedness is experienced at this level, the organs, muscles and nerves never again works in amicability, rather they at contrary to each other. In this way yoga goes for bringing the distinctive real capacities into culminate co-appointment so they work for the benefit of the entire body. Yoga is one of India's magnificent endowments to humankind. One of its important qualities is that it develops a store of physical wellbeing through the act of an arrangement of activities called asanas which keep the body purified and fit. Yoga trusts that activity is basic for fast expulsion of poisons and for keeping blood flow and every inner procedure working easily. Yoga is a science and it depends on perception and trial. This technique for perception and analysis is viewed in the west as an unmistakably present day development, however as an issue truth it was embraced in India in exceptionally old time by the 'ishis. Through the procedure of close perception and consistent examination they found the fine powers of nature, as additionally the laws that oversee our physical, mental and otherworldly being (Sharma et al. 2014).

### **Reviews:**

Nunes et al. (2017) low muscle strength and high abdominal fatness play an important role in fast and usual walking speeds decrement in postmenopausal women (PW). Low-volume resistance training (RT) improves muscle strength. However, high-volume RT has shown to improve muscle strength and abdominal fatness in PW.

Thus, high-volume RT would elicit greater improvement in fast and usual walking speeds than low-volume RT. To confirm whether the high-volume RT is better than the low-volume RT, we performed a randomized controlled trial (clinical trial registration: RBR-8SBBVP) study to investigate the effects of two different RT volumes (three sets vs. six sets) on fast and usual walking speed performances (fast: one-mile walk test and usual: four-meter walk), muscle strength (1RM test), and abdominal fatness (WC - waist circumference; WC/W waist circumference-to-weight ratio; WHtR - waist-to-height ratio; ABSI - A body shape index; BRI - body roundness index; CI - conicity index) in PW. Thirty-three PW were randomized (simple randomization) in three groups: control group (CT - no exercise), low-volume RT (LV) and high-volume RT (HV). The RT consisted of eight total body exercises at 70% of one repetition maximum for 16 weeks performed three times a week. The fast walking speed (6.1% [CI 95% 2.3-9.9]), WC (-4.1% [CI 95% -6.9 to -1.4]), WHtR (-4.2% [CI 95% -7.0 to -1.4]) and BRI (-10.3% [CI 95% -17.3 to -3.4]) improved in the HV when compared to the LV and CT. The WC/W (-3.7% [CI 95% -6.5 to -0.93]), ABSI (-3.8% [CI 95% -6.5 to -1.2]) and CI (-3.9% [CI 95% -6.6 to -1.3]) improved in the HV when compared to the CT. Muscle strength improved similarly in trained groups (LV: 49.1% [CI 95% 42.5-55.6] and HV: 43.7% [CI 95% 33.0-54.5]) when compared with the CT. No differences were observed in usual walking speed. Our results suggest that high-volume RT (six sets) at 70% of 1RM is necessary to promote an improved fast walking speed performance and abdominal fatness in PW.

Turpela et al. (2017) there is controversy in the literature regarding the dose-response relationship of strength training in healthy older participants. The present study determined training frequency effects on maximum strength, muscle mass and functional capacity over 6 months following an initial 3-month preparatory strength training period. One-hundred and six 64-75 year old volunteers were randomly assigned to one of four groups; performing strength training one (EX1), two (EX2), or three (EX3) times per week and a non-training control (CON) group. Whole-body strength training was performed using 2-5 sets and 4-12 repetitions per exercise and 7-9 exercises per session. Before and after the intervention, maximum dynamic leg press (1-RM) and isometric knee extensor and plantar flexor strength, body composition and quadriceps cross-sectional area, as well as functional capacity (maximum 7.5m forward and backward walking speed, timed-up-and-go test, loaded 10-stair climb test) were measured. All experimental groups increased leg press 1-RM more than CON (EX1: 3±8%, EX2: 6±6%, EX3: 10±8%, CON: -3±6%,  $P < 0.05$ ) and EX3 improved more than EX1 ( $P = 0.007$ ) at month 9. Compared to CON, EX3 improved in backward walk ( $P = 0.047$ ) and EX1 in timed-up-and-go ( $P = 0.029$ ) tests. No significant changes occurred in body composition. The present study found no evidence that higher training frequency would induce greater benefit to maximum walking speed (i.e. functional capacity) despite a clear dose-response in dynamic 1-RM strength, at least when predominantly using machine weight-training. It appears that beneficial functional capacity improvements can be achieved through low frequency training (i.e. 1-2 times per week) in previously untrained healthy older participants.

Dharmaraj & Pushparajan (2017) investigated the impacts of shifted frequencies of Yogic Practices on the improvement of physiological factors of Middle Aged Men. In the investigation, forty male moderately aged men were chosen arbitrarily by part examining system, from Anandha Yogam Center at Coimbatore. Twenty male moderately aged men were relegated as an Experimental Group and another 20 male moderately aged men were doled out as a Control Group amid the scholastic year 2015-2016. They were the moderately aged men of run from 40 to 50 years. The subjects chosen for the present investigation were partitioned haphazardly into two equivalent gatherings called Control and Experimental, comprising of 20 in each gathering. Yogic Practice and Meditation Training were given to the Experimental Group. The Control Group was not permitted to take an interest in any of the preparation programmes, with the exception of their standard work. The test bunch taken part in yoga preparing plan for three option days in seven days for the time of 12 weeks. The outcome demonstrated that the physiological factors diminished the pulse because of the yogic practices.

Elumalai & Venkatachalapathy (2017) studied the effect of yogic practices on tidal volume and anxiety among middle aged men. For this purpose, thirty middle aged men around Arokkanam Town, Vellore District, Tamilnadu in the age group of 35 – 40 years were selected. They were divided into two equal groups, each group consisted of fifteen subjects, in which group – I underwent yogic practices and group – II acted as control that did not participate in any special activities apart from their regular day-to-day activities. The training period for this study was six days in a week for twelve weeks. Prior to and after the training period the subjects were tested on tidal volume and anxiety. Tidal volume and anxiety were tested were assessed by using expirograph and Taylor's Manifest Anxiety Scale. The Analysis of Covariance (ANCOVA) was used to find out any significant difference between the pre-test mean and post-test means and significant difference that exists between the yoga practice group and control group on selected criterion variables. It was concluded from the results of the study that yogic practice has increased the tidal volume and decreased the anxiety significantly ( $P > .05$ ). It was found that there was

a significant difference was occurred between the yoga practice group and control group on tidal volume and anxiety.

**Methodology:**

The purpose of the study was to find out the effect of weight training and yogic practices on selected physical variables among football players. To achieve the purpose of the present study, forty-five football players from Thiruvananthapuram, Kerala, India were selected as subjects at random and their ages ranged from 18 to 23 years. The subjects were divided into three equal groups of fifteen each. The groups were assigned as Experimental Group-I, Experimental Group-II and Control Group in an equivalent manner. Experimental Group-I was exposed to weight training, Experimental Group-II was exposed to yogic practices and Control Group was not exposed to any experimental training other than their regular daily activities. The duration of experimental period was 6 weeks. After the experimental treatment, all the forty five subjects were tested on their physical variables. This final test scores formed as post test scores of the subjects. The pre test and post test scores were subjected to statistical analysis using dependent ‘t’ test and Analysis of Covariance (ANCOVA) to find out the significance among the mean differences, whenever the ‘F’ ratio for adjusted test was found to be significant, Scheffe’s post hoc test was used. In all cases 0.05 level of significance was fixed to test hypotheses.

**Results:**

Table 1: Computation of Mean and Analysis of Covariance on Flexibility of Weight Training, Yogic Practices and Control Groups

	WTG	YPG	Control Group	Source of Variance	Sum of Squares	df	Mean Square	F
Pre Test Mean	24.66	23.73	24.44	BG	7.06	2	3.53	0.62
				WG	237.78	42	5.66	
Post Test Mean	30.00	33.73	24.25	BG	684.29	2	342.14	55.65*
				WG	258.20	42	6.14	
Adjusted Post Test Mean	29.90	33.87	24.21	BG	698.83	2	349.41	59.04*
				WG	242.63	41	5.91	

\* Significant at 0.05 level

Table value for df 2, 42 was 3.21 and 2, 41 was 3.22

The above table indicates the adjusted mean value of flexibility of experimental Weight training group, experimental Yogic practices group and control groups were 29.90, 33.87 and 24.21 respectively. The obtained F-ratio of 59.04 for adjusted mean was greater than the table value 3.22 for the degrees of freedom 2 and 41 required for significance at 0.05 level of confidence. The result of the study indicates that there was a significant difference among experimental and control groups on flexibility. The above table also indicates that both pre and post test means of experimental and control groups differ significantly. The pre, post and adjusted mean values of flexibility of both experimental and control groups are graphically represented in the figure 1.

Figure 1: Shows the Mean Values on Flexibility of Weight Training and Yogic Practices and Control Groups

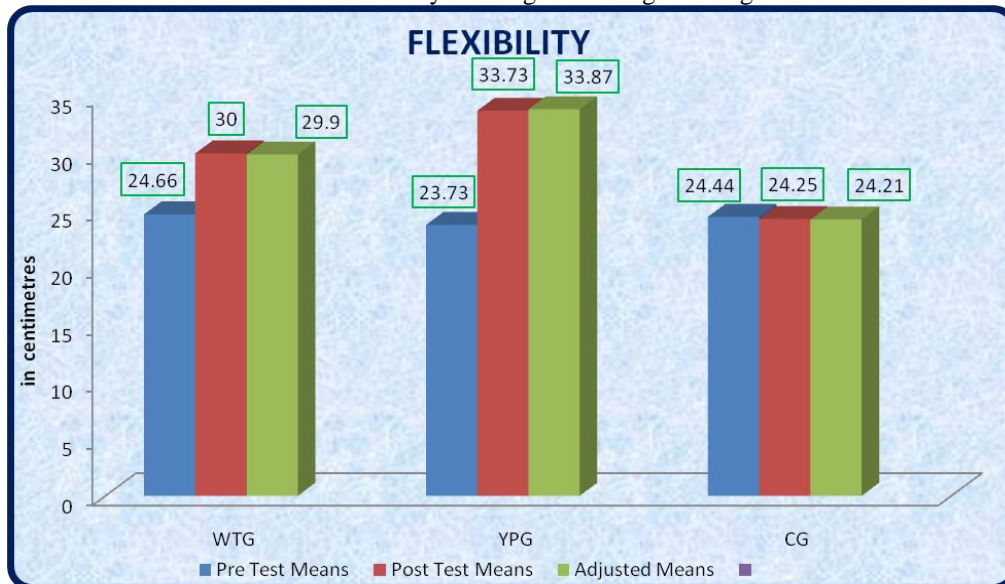


Table 2: Adjusted Mean and Differences between the Means of Weight Training, Yogic Practices and Control Groups on Flexibility

WTG	YPG	Control Group	Mean Difference	CI Value
29.90	33.87	---	3.97*	2.24
29.90	---	24.21	5.69*	
---	33.87	24.21	9.66*	

Table 2 shows the adjusted means on flexibility and difference between the means of the Weight training, Yogic practices and control group. The mean differences of Weight training group and Yogic practices group, Weight training group and control group, Yogic practices group and control group were 3.97, 5.69 and 9.66 respectively was greater than the CI value 2.24. Hence there exists significant difference.

Table 3: Computation of Mean and Analysis of Covariance of Agility of Weight Training, Yogic Practices and Control Groups

	WTG	YPG	Control Group	Source of Variance	Sum of Squares	df	Mean Square	F
Pre Test Mean	11.19	11.15	11.13	BG	4.86	2	2.43	1.08
				WG	94.14	42	2.24	
Post Test Mean	10.72	10.94	11.11	BG	1.24	2	0.62	55.71*
				WG	0.47	42	0.01	
Adjusted Post Test Mean	10.72	10.94	11.12	BG	1.21	2	0.60	52.92*
				WG	0.46	41	0.01	

\* Significant at 0.05 level

Table value for df 2, 42 was 3.21 and 2, 41 was 3.22

The above table indicates the adjusted mean value of agility of Weight training group, Yogic practices group and control groups were 10.72, 10.94 and 11.12 respectively. The obtained F-ratio of 52.92 for adjusted mean was greater than the table value 3.22 for the degrees of freedom 2 and 41 required for significance at 0.05 level of confidence. The result of the study indicates that there was a significant difference among experimental and control groups on agility. The above table also indicates that both pre and post test means of experimental and control groups differ significantly. The pre, post and adjusted mean values of agility of both experimental and control groups are graphically represented in the figure 2.

Figure 2: Shows the Mean Values on Agility of Weight Training and Yogic Practices and Control Groups

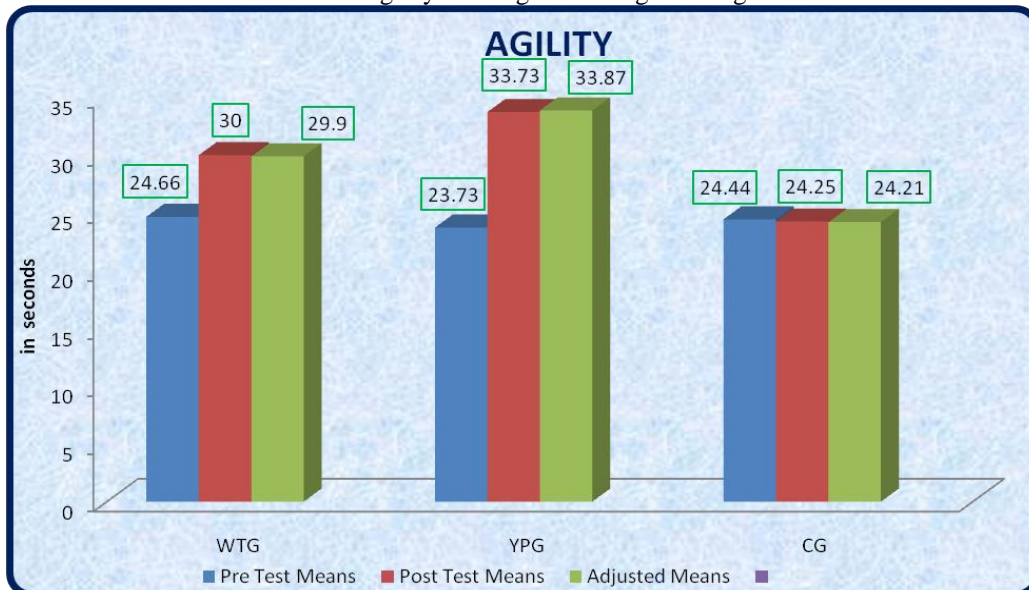


Table 4: Adjusted Mean and Differences between the Means of Weight Training, Yogic Practices and Control Groups on Agility

WTG	YPG	Control Group	Mean Difference	CI value
10.72	10.94	---	0.22*	0.09
10.72	---	11.12	0.40*	
---	10.94	11.12	0.18*	



Table 4 shows the adjusted means on agility and difference between the means of the Weight training, Yogic practices and control group. The mean differences of Weight training group and Yogic practices group, Weight training group and control group, Yogic practices group and control group were 0.22, 0.40 and 0.18 respectively was greater than the CI value 0.09. Hence there exists significant difference.

**Conclusion:**

- It was observed that the six weeks of yogic practices have significantly improved the flexibility than the weight training and control group.
- It was observed that the six weeks of weight training have significantly improved the agility than the of yogic practices and control group.

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