



Effect of Pilates and Suspension Training on Selected Physiological Variable among College Men Footballers

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Abstract

The purpose of the study was to find out the effects of Pilates and Suspension training on selected physiological variables among college men footballers. To achieve this study, Sixty football players from Madurai Kamaraj University affiliated colleges were selected as subjects at randomly and their ages ranged from 18 to 25 years. The subjects were divided into 4 equal groups of twenty football players each. The subjects (N=60) were randomly assigned to 4 equal groups of twenty football players each.. The group I underwent pilates training and group II underwent Suspension training and Group III acted as control group the subjects in control group are not engage in any training programme other than their regular activity. Pre test will be taken before the pilates training and suspension training period and post test was measured immediately after the 12 week training period. The collected data will be analyzed with application of 't' test to find out the individual effect from base line to post test if any. Further Analysis of Covariance (ANCOVA) will be used to determine the significant difference between the treatment means. Whenever the 'F' ratios will be found to be significant, scheffe's post hoc test will be applied to test the significant difference between the paired adjusted means. 0.05 level of confidence will be fixed for all the variables to test the level of significance.

Key words: Pilates training , suspension training, Resting pulse rate , Systolic blood pressure , Diastolic blood pressure .

Introduction

Pilates Exercise is not just exercise, pilates is not just a random choice of particular movements. Pilates is a system of physical and mental conditioning that can enhance ones physical strength, flexibility and co-

ordination as well as reduce stress, improve mental focus, and foster an improved sense of well-being. Pilates can be for anyone and everyone. Pilates is an exercise system based on yoga principles with Germanic overtones embedded within it. It which mainly focuses on improving endurance and flexibility of the abdomen, lower back and hips. This exercise developed by the late Joseph Pilates in the 1920s was used as a method of rehabilitation from chronic diseases such as asthma. Its original idea includes growing muscle strength, endurance, and flexibility while maintaining spine stabilization. Pilates is a very effective exercise that combines both eastern and western concepts by including yoga (a mind body method), breath, flexibility, relaxation, strength and endurance.

The field of suspension training is a form of resistance training that includes bodyweight exercises in which a variety of multi-planar, compound exercise movements can be performed. These are done with the aim of developing strength, balance, flexibility, and joint stability simultaneously.^[1] Suspension training develops physical strength while using functional movements and dynamic positions. The actual term "suspension training" is a trademark of Fitness Anywhere. Proponents of suspension training argue that it develops core body strength, as well as joint and muscular stability, reducing the chance of injury. Some sports scientists have expressed concern that weaker individuals may not have the core stability or joint integrity to use the system safely and effectively. Effective training tool not only develops the muscle, but also demands stability and coordination. suspension training is an effective workout system that demands generating and controlling strength in a dynamic and changing environment. TRX is a strength exercise that applies only to resistance to own body weight without any additional weight. Especially, it can be applied for beginners to strength studies or as recommended training style for athletes (Soydan 2006). The suspension training intensity can be modified by changing the body positions and angles according to the suspension point (Ronai 2016).

Methodology

The purpose of the study was to find out the effects of Pilates and Suspension training on selected physiological variables among college men footballers. To achieve the purpose of the present study, sixty men football players from Madurai Kamaraj university, Tamilnadu, India were selected as subjects at random and their ages ranged from 18 to 25 years. The subjects were divided into three equal groups of twenty players each. Group I acted as Experimental Group I (pilates training), Group II acted as Experimental Group II (suspension training) Group III acted as control group. Pre test was conducted for all the subjects on selected physiological variables. This initial test scores formed as pre test scores of the subjects. The duration of experimental period was 12 weeks. After the experimental treatment, all the subjects were tested on their physiological 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 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 analysis of covariance of mean of Pilates Training , suspension training and control groups on **Resting Pulse Rate**

	Pilates group	Suspension group	Control Group	Source of Variance	Sum of Squares	df	Means Squares	F-ratio
Pre-Test Means	71.90	72.05	72.06	BG	0.30	2	0.15	0.36
				WG	23.70	57	0.41	
Post-Test Means	68.25	69.85	71.85	BG	130.13	2	65.06	128.55*
				WG	28.85	57	0.50	
Adjusted Post-Test Means	68.25	69.85	71.85	BG	129.52	2	64.76	125.97*
				WG	28.78	56	0.51	

Table 1.1

Scheffes test for difference between the adjusted post test means on **Resting Heart Rate**

Adjusted Post-test means			Mean Difference	Required CI
Pilates Training group	Suspension Training group	Control Group		
68.24	69.85	---	1.61*	0.58
68.24	---	71.85	3.61*	
---	69.85	71.85	2.00*	

* Significant at 0.05 level of confidence

Figure-I

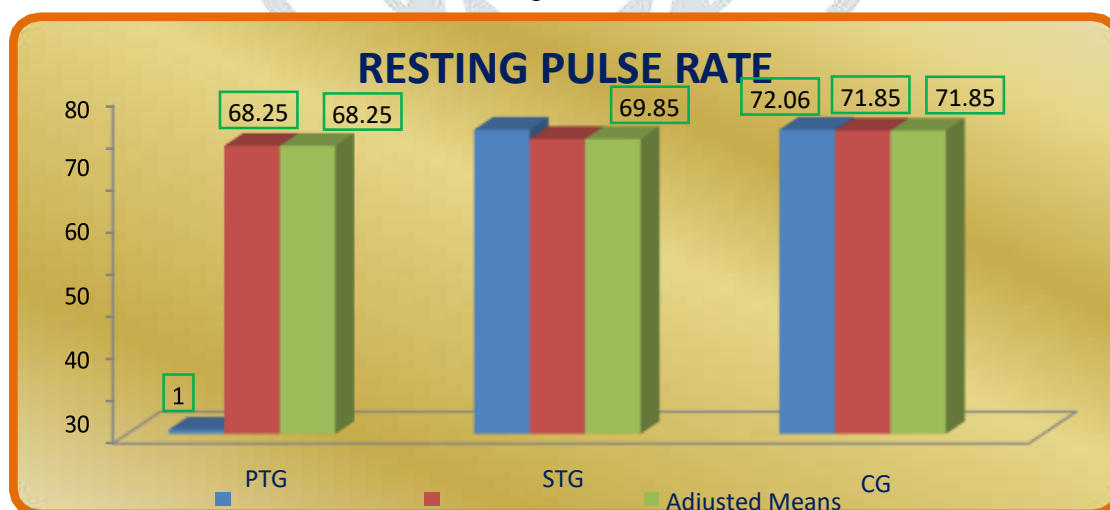


Table 2

Computation of analysis of covariance of mean of Pilates Training , suspension training and control groups on **Systolic blood pressure**

	Pilates group	Suspension group	Control Group	Source of Variance	Sum of Squares	df	Means Squares	F-ratio
Pre-Test Means	121.00	121.05	121.06	BG	0.03	2	0.01	0.03
				WG	29.90	57	0.52	
Post-Test Means	118.05	119.10	121.10	BG	96.03	2	48.01	133.18*
				WG	20.55	57	0.36	
Adjusted Post-Test Means	118.04	119.10	121.10	BG	96.81	2	48.40	152.98*
				WG	17.71	56	0.31	

Table 2.1

Scheffes test for difference between the adjusted post test means on **Systolic Blood Pressure**

Adjusted Post-test means			Mean Difference	Required CI
Pilates Training Group	Suspension Training Group	Control Group		
118.04	119.10	---	1.06*	0.45
118.04	---	121.10	3.06*	
---	119.10	121.10	2.00*	

* Significant at 0.05 level of confidence

Figure II

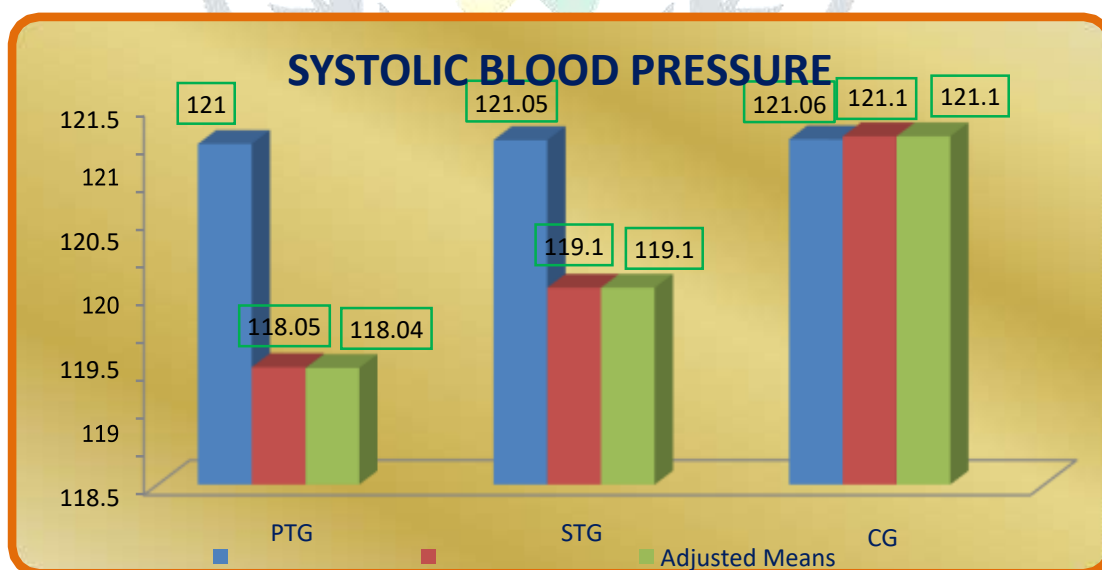


Table 3

Computation of analysis of covariance of mean of Pilates Training , suspension training and control groups on **Diastolic blood pressure**

	Pilates group	Suspension group	Control Group	Source of Variance	Sum of Squares	df	Means Squares	F-ratio
Pre-Test Means	80.70	80.90	81.00	BG	0.93	2	0.46	0.73
				WG	36.00	57	0.63	
Post-Test Means	76.75	79.10	81.15	BG	193.90	2	96.95	211.73*
				WG	26.10	57	0.45	
Adjusted Post-Test Means	76.74	79.11	81.13	BG	192.63	2	96.31	210.42*
				WG	25.63	56	0.45	

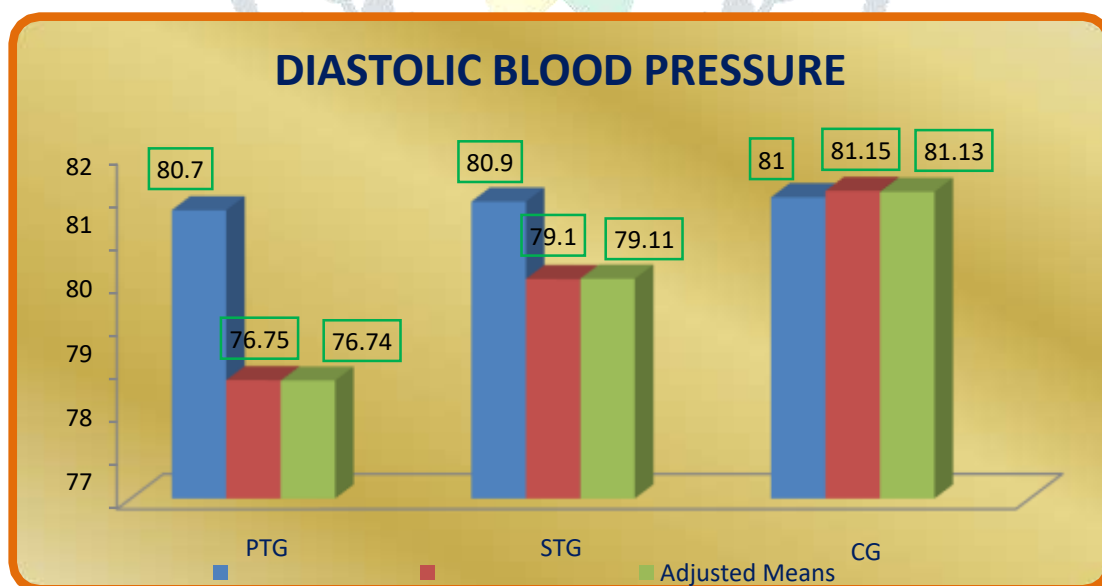
Table 3.1

Scheffes test for difference between the adjusted post test means on **Diastolic Blood Pressure**

Adjusted Post-test means			Mean Difference	Required CI
Pilates Training Group	Suspension Training Group	Control Group		
76.74	79.11	---	1.06*	0.54
76.74	---	81.13	3.06*	
---	79.11	81.13	2.00*	

Significant at 0.05 level of confidence

Figure - III



Conclusions:

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

1. The Pilates training group had shown significant improvement in all the selected physiological variables among football players after undergoing pilates training for a period of twelve weeks.

2. The suspension training group had shown significant improvement in all the selected physiological variables among football players after undergoing suspension training for a period of twelve weeks.
3. The pilates training had shown significant differences on resting pulse rate, systolic blood pressure and diastolic blood pressure than the suspension training and control groups.

References:

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