

Influence of specific drills with elastic band training on selected bio motor variables on college male tennis learners

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Abstract: To achieve the purpose of the present study thirty subjects were selected from Ramakrishna Mission Vidyalaya Maruthi College of Physical Education, Periyanaickenpalayam, Coimbatore, Tamil Nadu. Their age ranged from 21 to 23 years. They were assigned to two group namely experimental group-I with fifteen college men who were given specific drills with elastic band training exercises for 12 weeks 5 days a week and from 5 pm to 6 pm and other group-II with fifteen boys acted as control group. The experimental group was tested on explosive power and shoulder strength. The selected criterion variables explosive power was tested with standing broad jump test and shoulder strength was tested with push ups. After twelve weeks specific drills with elastic band training exercises post test data were collected and treated with ANCOVA. The level of confidence was fixed at 0.05. The study results showed that the experimental group had significantly altered selected variables explosive power and shoulder strength which was due to the influence of specific drills with elastic band training exercises training programme. The control group did not improve on selected criterion variables.

Key Words: Specific Exercises with elastic band, Explosive Power, Shoulder strength.

Introduction

In recent years, tennis is a world-class competitive sport fascinating millions of players and fans worldwide. Since early ages tennis players travel and compete extensively year round. Success in tennis depends on several physical, technical/tactical and psychological factors, and in order to be competitive, players require a mixture of speed, agility, and power combined with medium to high aerobic and anaerobic capacity. Although performance cannot be defined by one predominant physical attribute, strength and power seem to be influential in tennis performance, with functional links observed between muscular strength in the dominant lower and upper extremities and ranking in competitive tennis players.

Competitive tennis requires good physical condition, high level of motor skills and big tactical capacity, which makes it a multifactor sport. The high strength levels developed and the change in hitting mechanics have made tennis a very physically-demanding sport. The current research that tennis has evolved from being a sport where performance was mostly dependent on technical and tactical skills to a new context where physical

capacities have gained relevance training methods. These changes have influenced on physical and physiological demands of tennis games, giving more importance to power and speed. Simultaneously, there is growing interest in improving these capacities with training. However, sometimes the methods used have been based more on intuition and coaches' experience than on the scientific method.

Sports specific training can help to improve strength, flexibility and stamina whereby the players can improve his performance in specific sports. For this specific training is in need to all about developing physical conditioning to improve performance and skills at a particular sport. Also understanding the needs of the game at the correct pace in order to meet sports requirements. Sports specific is the new trend when it comes to strength and conditioning programs for athletes. Training that is specific to the demands of a particular sport does have merit at the higher levels [1]. Elastic bands are a great addition to any strength training routine or rehabilitation program and come in a variety of sizes, lengths, and strengths. This portable exercise equipment is also easily stored, making it perfect for

home use. Just like free weights, exercise bands come in a range of resistance levels, from highly stretchable to heavy-duty strength for improving the bio motor qualities. The purpose of the study was to find out influence of specific drills with elastic band training on selected bio motor variables on college male tennis learners.

METHODOLOGY

To achieve the purpose of the present study thirty subjects were selected from Ramakrishna Mission Vidyalaya Maruthi College of Physical Education, Periyanaickenpalayam, Coimbatore, Tamil Nadu. Their age ranged from 21 to 23 years.

TRAINING PROGRAM

Week	1	2	3	4	5	6	7	8	9	10	11	12
REP	7	7	8	8	9	9	10	10	11	11	12	12
SET	10	10	9	9	8	8	7	7	6	6	5	5
REST/REP	30 'S	Warming up 10 min										
REST/SET	60'S	Cool down 10 min										

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List of Elastic Band Exercises

1. Front Squat
2. Leg Extension
3. Glute Bridge
4. Bent over row
5. Seated Row
6. Standing Biceps Curl
7. Anti rotation band Walkouts
8. Reverse Crunch

RESULTS

It is clear from the table -I that the pre test ($F = 0.011$, $p > 0.05$) showed no significant difference in explosive power. However, post test ($F = 34.828$, $p <$

0.05) and adjusted post test ($F = 35.818$, $p < 0.05$) value showed significant difference. The covariate is significant, indicating that explosive power had a significant improvement after 12 weeks of elastic band exercises training, since, adjusted post test mean is significant.

It is clear from the table -II that the pre test ($F = 0.09$, $p > 0.05$) showed no significant difference in muscular strength. However, post test ($F = 106.216$, $p < 0.05$) and adjusted post test ($F = 110.278$, $p < 0.05$) value showed significant difference. The covariate is significant, indicating that muscular strength had a significant improvement after 12 weeks of elastics band exercises training, since, adjusted post test mean is significant.

DISCUSSION ON FINDINGS

The results of the study indicate that the influence of specific drills with elastic band exercises training which involved various bending exercises, twisting exercises on the college male tennis learners for twelve weeks of specific drills with elastic band exercise training had significantly improved explosive power and muscular strength. The result of the study is in consonance with the results of other studies.

The results line with that effects of strength training on motor performance skills in children and adolescents of leg explosive power improves on due to the medicine ball throw and elastic band training [2] and Effects of a short term plyo metric and resistance training program on fitness performance in children age 12 to 15 years of leg explosive power improved [3]. 12 weeks of muscle power program was subjected to elderly women with hyperglycemia, and the exercise group showed significant increase in the physical performance ability test (SPPB) and muscular strength test, which proved that exercise effected in the change of physical function [4] and increasing the power developed in the competitive skill [5].

TABLE-I

Analysis of covariance on explosive power of experimental group and control group of college male tennis learners

Test Mean		Experimental Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	'F' Ratio
S.D								
Pre-test	\bar{X}	1.52	1.51	B	0.00035	1	0.00035	0.011
	$\square\square$	0.17	0.18	W	0.881	28	0.031	
Post-test	\bar{X}	1.82	1.50	B	0.787	1	0.787	34.828*
	$\square\square$	0.97	0.18	W	0.633	28	0.023	
Adjusted Post-test	\bar{X}	1.83	1.49	B	0.793	1	0.793	35.818*
				W	0.598	27	0.022	

* Significant .05 level of confidence.

(The table values required for significance at .05 level of confidence with df 1 and 28 and 1 and 27 were 4.20 and 4.21 respectively).

TABLE-II

Analysis of covariance on muscular strength of experimental group and control group college male tennis learners

Test Mean		Experimental Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	'F' Ratio
S.D								
Pre-test	\bar{X}	15.13	15.0	B	0.133	1	0.133	0.09
	$\square\square$	1.06	1.25	W	37.733	28	1.348	
Post-test	\bar{X}	21.4	15.2	B	288.3	1	288.3	106.216*
	$\square\square$	1.88	1.37	W	76.0	28	2.714	
Adjusted Post-test	\bar{X}	21.37	15.23	B	282.004	1	282.004	110.278*
				W	69.045	27	2.557	

* Significant .05 level of confidence.

(The table values required for significance at .05 level of confidence with df 1 and 28 and 1 and 27 were 4.20 and 4.21 respectively).

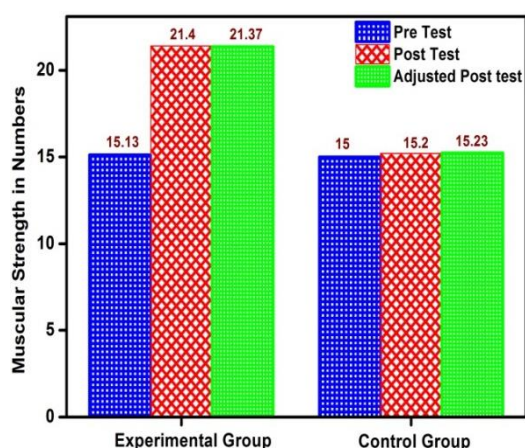


Fig. 1. Bar diagram showing mean values on experimental and control group of explosive power on college male tennis

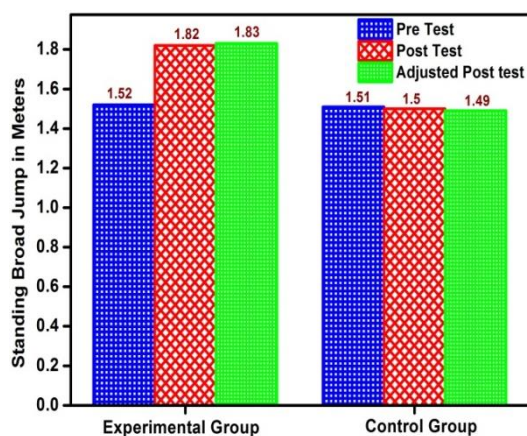


Fig. 2. Bar diagram showing mean values on experimental and control group of muscular strength on college male tennis learners.

The results of the study reveal that there is a significant difference in the shoulder strength of specific drills with elastic band training group between the pre-test and post-test, test. But there is no significant difference in the shoulder strength of control group between pre-test and post-test. Regarding statistical analysis, it is observed that there is a significant difference on the shoulder strength between the adjusted post test means of specific drills with elastic band training group, and also a significant difference is found between the experimental groups and control group. It is concluded that the specific drills with elastic band training group is found to be better shoulder strength than the control group the shoulder strength performance of the college men tennis learners. The results indicate that the improvement in shoulder strength performance is due to the influence of specific drills with elastic band training programme. The results conformity with other studies also.,

Strength development plays an important role in tennis training and has the purpose to optimize shots and displacements, as well as to prevent injuries [6-7]. In order to increase this speed, strength training should focus on maintaining or improving the levels of useful or applied strength [8], For this reason, it becomes very important to use training methods which are specific to the necessities of each sport and to have the right tools to monitor its evolution [9]. Elastic bands have also been show to help improve rate of force development; an important consideration in training for powerful sporting movements [10].

Conclusions

The experimental group had significantly improved the selected explosive power and muscular strength of college male tennis learners due to the influence of specific drills with elastic band exercises training programme. The control group did not improve on selected explosive power and muscular strength.

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