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Research Paper

RELATIVE EFFECTS OF STRENGTH TRAINING ON SELECTED PHYSICAL FITNESS VARIABLES OF MEN VOLLEYBALL PLAYERS.

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Abstract

To achieve this purpose thirty subjects from Department of physical education, Tamil Nadu Physical Education and Sports University Chennai. The subject's age ranged between 21 to 24 years. The subjects divided into two groups. Group-1 strength training (STG) and control group (CG). The training group strength training practices involved and control group did not engage any activity apart from regular routine work. The training periods consists of twelve weeks, evening 4.30 pm to 5.30 pm. The selected criterion variables are speed was measured by 50 m dash and muscular endurance was tested with timed sit ups. Before and after training periods the collected data were treated with dependent 't' test. The level of confidence was fixed at 0.05. The results of the experimental group shows that significantly increased the selected criterion variables speed and muscular endurance was due to the relative effects of strength training. Control group did not show any changes in selected criterion variables.

KEY WORDS: - Strength Training, speed and Muscular Endurance

INTRODUCTION

Physical activity leads to anatomical, physiological, biochemical, and psychological changes. The efficiency of a physical activity results from its duration, and repetitions (volume); load and velocity (intensity); and the frequency of performance (density). When planning the dynamics of training, consider these aspects, referred to as the variables of training. Model all the according to the functional and psychological characteristics of a competition. Throughout the training phases preceding a competition, define which component to emphasize to achieve the planned performance objective. As a rule, emphasize intensity for sports of speed and power and volume for endurance sports. Finally, for sports requiring intricate skills, training complexity is primary.

Sports participation and appreciation have become integral part of lives. Competitive sports make tremendous demands on the physical conditioning, vitality, endurance and mental powers of the participants. Only the fitness can play to the best of their ability. Each sport has its own patterns, muscle, tempo and duration. Today the people of every country are more concerned with physical fitness than ever

before as it has become the vital part of winning sports competitions.

Strength is a very important motor ability as it contributes significantly towards all types of motor performance. It is also an important determining factor for other motor abilities such as speed, agility, endurance and flexibility. Strength training therefore forms an important part of training for all sports and hence must be started in early period and should be continued throughout the long-term training process.

Several types of resistance training can be used for strength development and performance. Exercise with medicine ball and sand bags are effective training for strength improvement. Exercise in which body weight acts as resistance are also very effective (plyometrics) i.e. jumps, pull-ups, push-ups etc. Exercise with heavier resistance is most suitable for strength development.

Over the past 20 years, the use of resistance training has progressed from an activity performed by relatively few strength athletes to a permanent feature of the training routines of most sportspersons. There are a variety of resistance training methods one can use to enhance muscular power. Package of physical training is a method of physical conditioning that consists of various training methods like continuous run, Fartlek training, speed workout circuit etc. It provides a means of acquiring optional fitness in a systematized controlled fashion. The intensity, load vigour of package of physical training is indeed challenging and enjoyable to the performer. The package of physical training contains all the above said training method with a required load which are needed to achieve a optimum performance.

METHODOLOGY

To achieve this purpose thirty subjects from Department of physical education, Tamil Nadu Physical Education and Sports University Chennai. The subject's age ranged between 21 to 24 years. The subjects divided into two groups. Group-1 strength training (STG) and control group (CG). The training group strength training practices involved and control group did not engage any activity apart from regular routine work. The training periods consists of twelve weeks, evening 4.30 pm to 5.30 pm. The selected criterion variables are speed was measured by 50 m dash and muscular endurance was tested with timed sit ups. Before and after training periods the collected data were treated with dependent 't' test. The level of confidence was fixed at 0.05.

STRENGTH TRAINING EXERCISES

The following exercises were include in the training package with strength training, incline press, power clean, upright row, dumbbell curl, wrist curl, triceps extensions, dumbbell swing, bench press, regular squat, leg press and heel raise.

TRAINING PROGRAM

Week	Event	1 & 2	3 & 4	5 & 6	7 & 8	9 & 10	11 & 12
% of Intensity	Strength Training	55	60	65	70	75	80

Fixing the load Intensity : 1 RM

RESULTS

TABLE - I
COMPUTATION OF "t" RATIO BETWEEN THE PRE AND POST TESTS SCORES ON SPEED OF STRENGTH TRAINING AND CONTROL GROUP OF MEN VOLLEYBALL PLAYERS

Group	Test	Mean	S.D	M.D	σDM	't'
Strength Training Group	Pre Test	7.22	0.16	0.47	0.05	9.40*
	Post Test	6.75	0.10			
Control Group	Pre Test	7.20	0.15	0.04	0.02	2.00
	Post Test	7.24	0.16			

* Significant Level of significant was fixed at 0.05 with df 14 Table value 2.14

Table-1 Indicates of mean and standard deviation and 't' results of strength training and control groups of speed of men volleyball players. The strength training group pre and post test mean values are 7.22 and 6.75 and standard deviation values are 0.16 and 0.10 and obtained 't' value is 9.40 is greater than table value 2.14 with df 14. And control group mean values are 7.20 and 7.24 and standard deviation 0.15 and 0.16. The obtained 't' value 2.00 is lesser than table value 2.14. The finding of the study indicates statistically proved that experimental group showed significant improvement on speed due to relative effects of strength training on men volleyball players.

FIGURE-1
MEAN VALUES OF STRENGTH TRAINING AND CONTROL GROUPS ON SPEED OF MEN VOLLEYBALL PLAYERS

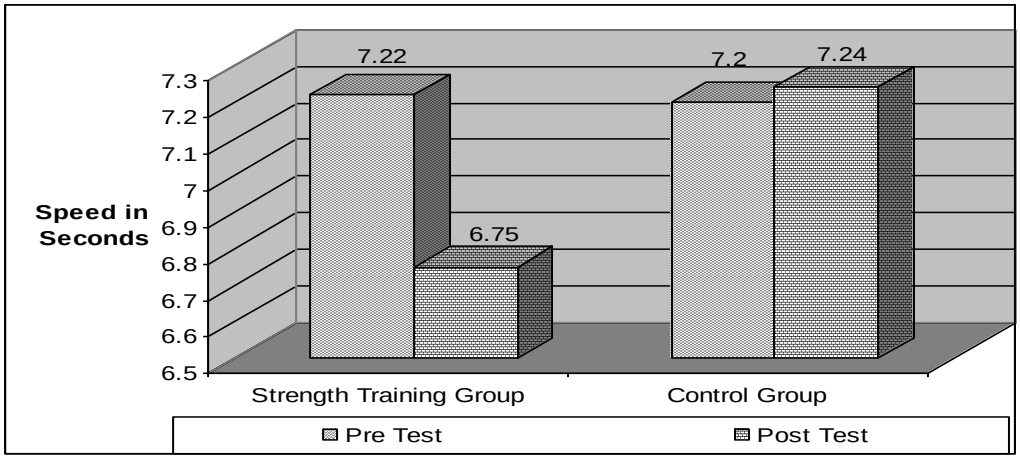


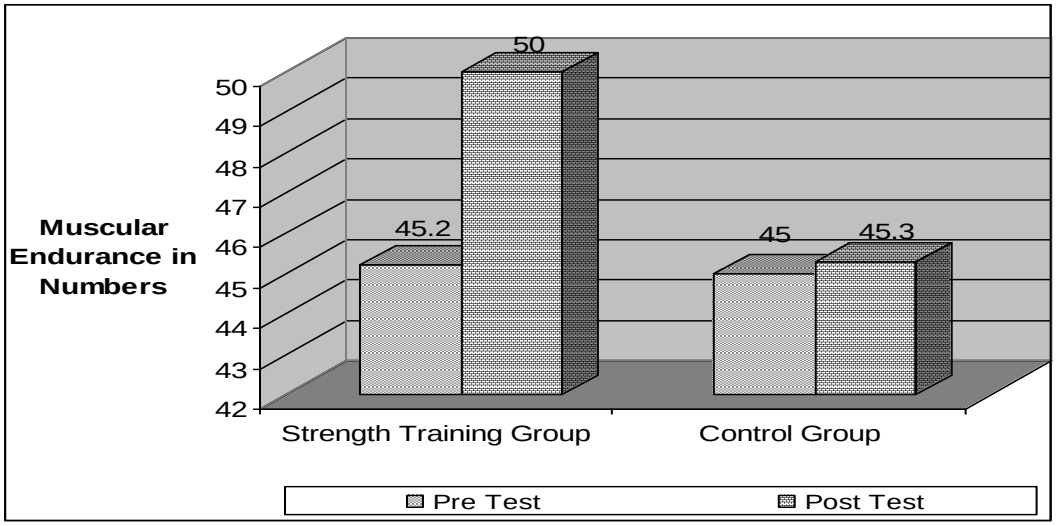
TABLE - II
COMPUTATION OF "t" RATIO BETWEEN THE PRE AND POST TESTS SCORES ON MUSCULAR ENDURANCE OF STRENGTH TRAINING AND CONTROL GROUP OF MEN VOLLEYBALL PLAYERS

Group	Test	Mean	S.D	M.D	σDM	't'
Strength Training Group	Pre Test	45.20	3.46	4.80	0.93	5.16*
	Post Test	50.00	3.09			
Control Group	Pre Test	45.00	3.58	0.30	0.16	1.87
	Post Test	45.30	3.45			

* Significant Level of significant was fixed at 0.05 with df 14 Table value 2.14

Table-II Indicates of mean and standard deviation and 't' results of strength training and control groups of muscular endurance of men volleyball players. The strength training group pre and post test mean values are 45.20 and 50.00 and standard deviation values are 3.46 and 3.09 and obtained 't' value is 5.16 is greater than table value 2.14 with df 14. And control group mean values are 45.00 and 45.30 and standard deviation 3.58 and 3.45. The obtained 't' value 1.87 is lesser than table value 2.14. The finding of the study indicates statistically proved that experimental group showed significant improvement on muscular endurance due to relative effects of strength training on men volleyball players.

FIGURE-2
MEAN VALUES OF STRENGTH TRAINING AND CONTROL GROUPS ON MUSCULAR ENDURANCE OF MEN VOLLEYBALL PLAYERS



DISCUSSION ON FINDINGS

The results of the study indicates that the relative effects of strength training on selected physical fitness variables of men volleyball players. Training which involved various strength exercises on the men volleyball players for twelve weeks of strength exercises training had significantly improved the selected physical fitness variables (speed and muscular endurance). The results study is in consonance with that regular weight training is the quickest and most positive way to quick results as it is the best known way of gaining strength and power". The primary objective in strength training is not to learn to lift as much weight as possible but to increase strength for application to the relevant sport **(Thomas 1994)**.

CONCLUSIONS

The strength training group on significantly improved of selected physical fitness variables namely speed and muscular endurance was men volleyball players on relative effects of strength training on selected physical fitness variables speed and muscular endurance. The control group did not improve the criterion variables of men volleyball players.

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