

EFFECT OF RESISTANCE TRAINING ON SELECTED MOTOR FITNESS VARIABLES AMONG VOLLEYBALL PLAYERS

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Abstract:

The purpose of the study was to find out the effect of resistance training on selected motor fitness variables among volleyball players. It was hypothesized that there would be significant differences on selected motor fitness variables due to the effect of resistance training among volleyball players. For the present study the 30 volleyball players from Alagappa University College of Physical Education, Karaikudi, Tamilnadu were selected at random and their age ranged from 18 to 25 years. For the present study pre test – post test random group design which consists of control group and experimental group was used. The subjects were randomly assigned to two equal groups of fifteen each and named as Group 'A' and Group 'B'. Group 'A' underwent resistance training and Group 'B' has not undergone any training. The data was collected before and after six weeks of training. The data was analyzed by applying dependent 't' test. The level of significance was set at 0.05. The resistance training had positive impact on speed and agility among volleyball players than the control group.

Keywords: Resistance Training, Speed, Agility, Volleyball.

INTRODUCTION

Resistance training is well established effective methods of exercise for developing muscular fitness. The primary goals of resistance training as improving muscular strength and endurance. The health-related benefits derived from resistance training include increases in bone mass, reduced blood pressure, increase muscle and connective tissue cross-sectional area, reduced body fat, and it may relieve low back pain). Although modern technology has reduced much of the need for high levels of force production during activities of daily living, it is recognised in both the scientific and medical communities that muscular strength is a fundamental physical trait necessary for health, functional ability, and enhanced quality of life. Therefore, exercise induced skeletal muscle growth (muscular hypertrophy) and accompanying gains in strength expression (neuro muscular adaptations) are areas of interest not only for the competitive athlete wishing to enhance performance but also for non-competitive individuals who simply wish to alter their body composition or increase their capacity to perform tasks requiring muscular effort (ACSM, 2002). Research over the past 50 years has utilized various forms of resistance training (i.e.single vs multiple sets, concentric vs eccentric actions, isolation vs compound movements) in order to such development.

Resistance exercise is a type of exercise that has gained popularity over the last decade. Resistance training is any exercise that causes the muscles to contract against an external resistance with the expectation of increases in strength, tone, mass and endurance. The external resistance can be dumbbells,

rubber exercise tubing, own body weight, bricks, bottles of water or any other object that causes the muscles to contract. This training works the muscles of the body and is most beneficial when all the ranges of motion are included. The resistance training is done two to three times a week with an average of 8 to 12 repetitions of a series of different resistance based exercises. In volleyball various skills are there like volley pass, Jump pass, overhead pass, two hand underhand pass, one hand underhand pass, boosting, smashing, blocking and serving. Volleyball a game of interest and it has many features of physical development. The game requires concentrations, quick thinking and a great deal of movement. The speed of the game means the players must be thinking in one moment about the attack and in the next about defense. They must be concentrating all the times if they are to keep up with the play. The competitive volleyball season in the United States begins in January and ends with the National championship tournament sometime in the spring. There are other major tournaments at other times during the year throughout the world and in some places, such as Southern California, volley ball is played year round. Because of the varied length the season in different places, the off-season training program varies greatly.

METHODOLOGY

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motor fitness variables due to the effect of resistance training among volleyball players. For the present study the 30 volleyball players from Alagappa University College of Physical Education, Karaikudi, Tamilnadu were selected at random and their age ranged from 18 to 25 years. For the present study pre test – post test random group design which consists of control group and experimental group was used. The subjects were

randomly assigned to two equal groups of fifteen each and named as Group ‘A’ and Group ‘B’. Group ‘A’ underwent resistance training and Group ‘B’ has not undergone any training. The data was collected before and after six weeks of training. The data was analyzed by applying dependent ‘t’ test. The level of significance was set at 0.05.

**TABLE I
VARIABLES AND TEST**

S.No	Variables	Tests
1	Speed	50 Metres Run
2	Agility	Shuttle Run

RESULTS

The findings pertaining to analysis of dependent ‘t’ test between experimental group and

control group on selected motor fitness variables among volleyball players for pre-post test respectively have been presented in table II to III.

**TABLE II
SIGNIFICANCE OF MEAN GAINS & LOSSES BETWEEN PRE AND POST TEST SCORES ON SELECTED VARIABLES OF RESISTANCE TRAINING GROUP (PTG)**

S.No	Variables	Pre-Test Mean	Post-Test Mean	Mean difference	Std. Dev (±)	σ DM	‘t’ Ratio
1	Speed	9.03	8.56	0.46	0.29	0.06	6.13*
2	Agility	11.43	10.51	0.92	0.27	0.06	11.75*

* Significant at 0.05 level

Table II shows the obtained ‘t’ ratios for pre and post test mean difference in the selected variable of speed (6.13) and agility (11.75). The obtained ratios when compared with the table value of 2.14 of the degrees of freedom (1, 14) it was found to be statistically

significant at 0.05 level of confidence. It was observed that the mean gain and losses made from pre to post test were significantly improved in skill performances namely speed (7.88, $p < 0.05$) and agility (16.18, $p < 0.05$) thus the formulated hypothesis is accepted.

FIGURE I

COMPARISONS OF PRE – TEST MEANS AND POST – TEST MEANS FOR EXPERIMENTAL GROUP IN RELATION TO MOTOR FITNESS VARIABLES

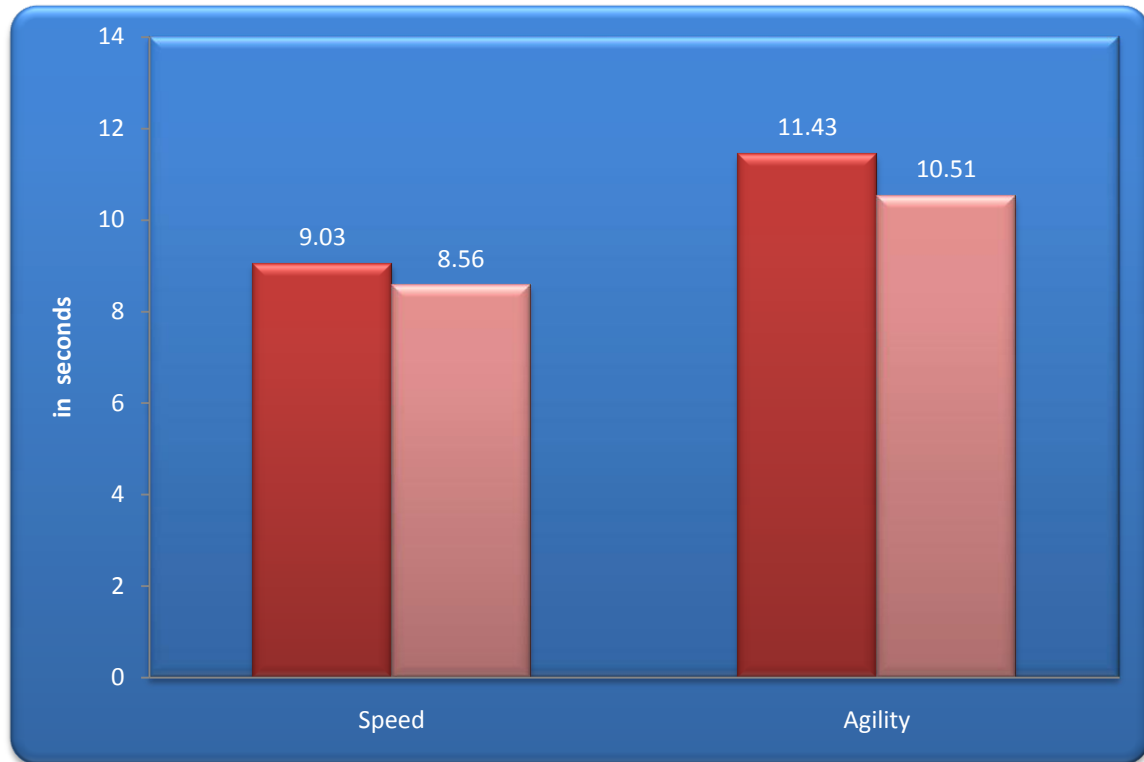


TABLE III
SIGNIFICANCE OF MEAN GAINS & LOSSES BETWEEN PRE AND POST TEST SCORES ON SELECTED VARIABLES OF CONTROL GROUP (CG)

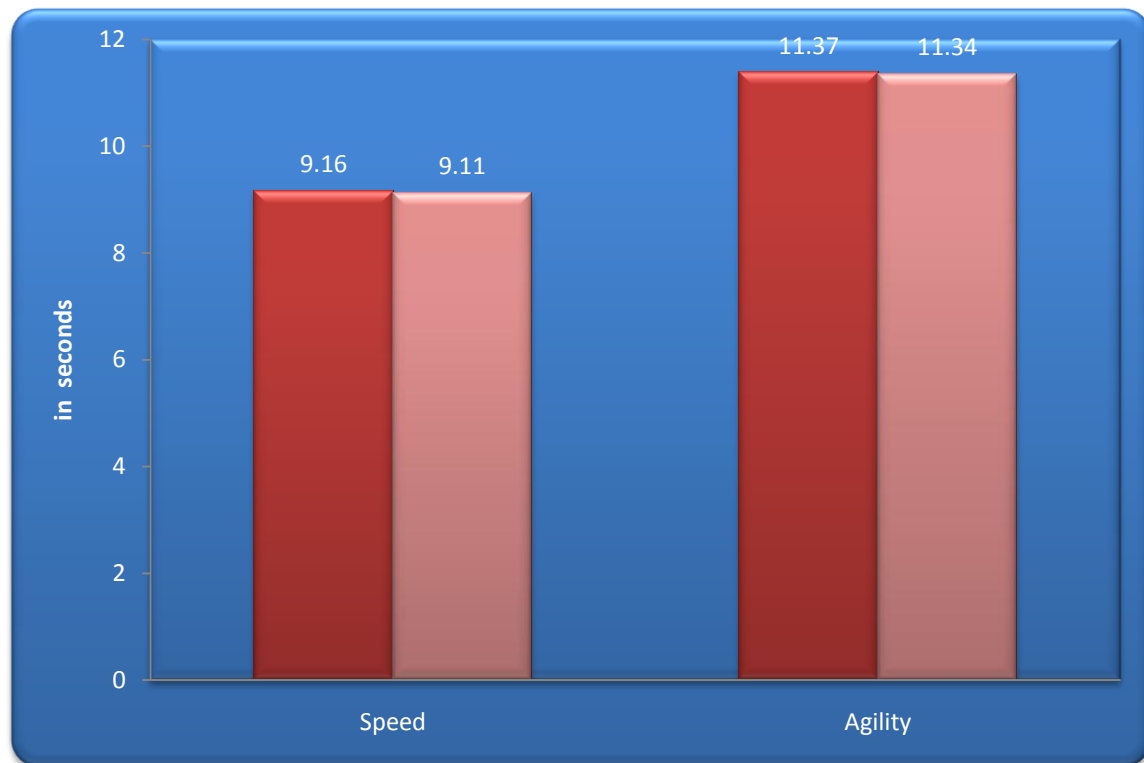
S.No	Variables	Pre-Test Mean	Post-Test Mean	Mean difference	Std. Dev (±)	σ DM	't' Ratio
1	Speed	9.16	9.11	0.05	0.53	0.13	0.61
2	Agility	11.37	11.34	0.03	0.44	0.10	0.17

* Significant at 0.05 level

Table III shows the obtained 't' ratios for pre and post test mean difference in the selected variable of speed (0.78) and agility (0.22). The obtained ratios when compared with the table value of 2.14 of the degrees of freedom (1, 14) it was found to be statistically significant

at 0.05 level of confidence. It was observed that the mean gain and losses made from pre to post test were not significantly improved in motor fitness variables speed (0.78 $p > 0.05$) and agility (0.22 $p > 0.05$).

FIGURE II
COMPARISONS OF PRE – TEST MEANS AND POST – TEST MEANS FOR CONTROL GROUP IN RELATION TO MOTOR FITNESS VARIABLES



CONCLUSION

On the basis of findings and within the limitations of the study the following conclusion was drawn:

1. The resistance training had positive impact on speed and agility among volleyball players than the control group.

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