International Research Journal of Education and Technology
Peer Reviewed Journal
ISSN 2581-7795

# Effect of Plyometric Training and Resistance Training Exercises for the development of Speed among Volley Ball Players of Gulbarga University

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**Abstract:**
The Purpose of the study to find out the effect of Plyometric Training and Resistance Training for the development of Speed among Volley ball Players of Gulbarga University. The Sample for the study consists of 30 Male Volley Ball players studying in Physical Education College of Gulbarga University. The selected University College of Physical Education, Gulbarga i.e. 30 Male Volley Ball Players were randomly assigned into 3-groups and each group consist of n=10 . 10 Volley Ball Players underwent treatment of plyometric training program, 10 Volley Ball Players experimental group-II resistance training group underwent treatment of resistance training program and control group 10 Volley Ball Players participated only their regular routine of Volley Ball Training for 12 Weeks. To assess the Speed the 50 M Run were used in the Pre Test and Post Test of the Study.Plyometric Training group is better than Resistance Training and Control Group. Hence Plyometric Training is recommended for the Volley Ball Players to develop the Speed. Key words: Speed, resistance training, plyometric training etc.

## Introduction:

Volleyball is a physically demanding sport and success is based on aspects like speed, power, agility, endurance, rapid processing and focus.Volleyball is a team sport in which two teams of six players are separated by anet. Each team tries to score points by grounding a ball on the other team's courtunder organized rules. It has been a part of the official program of the SummerOlympic Games since 1964.

Volleyball is a complex game of simple skills. It has also shown in recent years that there is a trend that volleyball payers adopt the technique, tactics and physical performance. Volleyball Game requires comprehensive ability including physical, technical, mental and tactical abilities.

Plyometric is the name given for a type of exercise that is designed to increase intensity or explosive power in certain muscle groups. This kind of training is used to increase power of a boxer's punch or the force of volleyball and basketball player's jump. Plyometric training is different from traditional strength training exercise because it is performed quickly and explosively. It increase muscle power by capitalizing on lengthening and shortening of the muscle cycles. This kind of training usually starts with a rapid stretch of a muscle or eccentric phase followed by a rapid shortening of the same muscle (or) the concentric phase burpees, clap push-ups, jumping ropes, and jumping jacks are types of plyometric exercise. Several studies suggest that plyometric can greatly improve athletic performance in terms of vertical jumps, long jumps, sprinting, cycling, volleyball, basketball, kick boxing and many more. It

Resistance training means exercises or work out done with free weight, body weight, machine or other resistance device to increase resist force of athletes. Resistance training mainly focuses to improve the muscular strength, muscular endurance, power or muscle bulk and combination of any two of the above. Resistance training decrease rate of fracture by increasing the bone strength index and mineral content and decreases muscular tend nous and muscle injuries by strengthen tendons and improving the strength of accessory muscles to prevent injury during competition and work outs in the ground

Dr. J Anitha,P Kumaravelu,Dr. C Lakshmanan K Govindasamy (2018) Studied the Effect of plyometric training and circuit training on selected physical and physiological variables among male Volleyball players. The purpose of the study was to find out the effect of plyometric training and circuit training on selected physical and physiological variables among male volleyball players. Twenty four male volleyball players aged between 18 to 25 years were selected randomly. They were divided into two groups (two experimental and one control group) the experimental group I was given plyometric training and experimental group II was given circuit training for six weeks and control group was not allowed to participate in any training programme. Pretest was conducted dependent variables such as speed, muscular endurance, flexibility, agility, explosive strength, vital capacity and anaerobic capacity at the beginning before the experimental treatment and posttest was taken after the experimental treatment. The data were analyzed by applying dependent 't' test and ANCOVA. The results revealed that the plyometric training and circuit training had significantly improved the speed, muscular endurance, flexibility, agility, explosive strength, vital capacity and anaerobic capacity

**Methodology:**

The Purpose of the study to find out the effect of Plyometric Training and Resistance Training for the development of Speed among Volley ball Players of Gulbarga University. The Sample for the study consists of 30 Male Volley Ball players studying in Physical Education College of Gulbarga University. The selected University College of Physical Education, Gulbarga i.e. 30 Male Volley Ball Players were randomly assigned into 3-groups and each group consist of n=10 . 10 Volley Ball Players underwent treatment of plyometric training program, 10 Volley Ball

Players experimental group-II resistance training group underwent treatment of resistance training program and control group 10 Volley Ball Players participated only their regular routine of Volley Ball Training for 12 Weeks. To assess the Speed the 50 M Run were used in the Pre Test and Post Test of the Study.

**Results and Discussion:**

**Table- I Analysis of Covariance On Speed Of Plyometric Training Group and Resistance Training and Control Group of Volley Ball Players**

| | Resistance Training | Plyometric Training Group | Control Group | SOV | Sum of Squares | df | Mean Square | 'F' ratio |
|---|---|---|---|---|---|---|---|---|
| **Pre-test Mean** | 7.79 | 7.77 | 7.92 | **B:** | 0.173 | 2 | 0.087 | 0.93 |
| **S.D.** | 0.32 | 0.29 | 0.31 | **W:** | 3.93 | 42 | 0.094 | |
| **Post-test Mean** | 7.62 | 7.599 | 7.971 | **B:** | 1.334 | 2 | 0.667 | 8.19* |
| **S.D.** | 0.26 | 0.32 | 0.28 | **W:** | 3.42 | 42 | 0.081 | |
| **Adjusted Post-test Mean** | 7.638 | 7.646 | 7.897 | **B:** | 0.623 | 2 | 0.312 | 21.98* |
| | | | | **W:** | 0.581 | 41 | 0.014 | |

*Significant at .05 level of confidence.

Table-I revealed the value of mean speed in resistance training group, plyometric training group and control groups to be 7.79, 7.77 and 7.92 during the pre-test phase. While the "F" ratio value of 0.93 was found to be lower than the prerequisite value of 3.22 which was significantly lesser than the necessary set table value=3.22 having df2 and 42 significance at .05 confidence level.

Correspondingly, the post- test mean values of speed of the three groups were found to be 7.62±0.26, 7.599±0.32, and 11.00± 2.054, while the obtained 'F' ratio for the same in post-test

results for resistance training, Plyometric training and control Groups for 3.22 which was greater than the required table value for significance with df 2 and 42 at .05 level of confidence.

The adjusted post- test mean values for resistance training, plyometric training and control groups were found to be e 7.638, 7.646 and 7.897 respectively. The required table value was 3.23, which is lower than adjusted post-test scores of the obtained 'F' ratio value of 21.98 signifying the existence of difference. Plyometric Training group is better than Resistance Training and Control Group.

**Conclusion:**

It is concluded that Plyometric Training group is better than Resistance Training and Control Group.

**References:**

Dr. J Anitha,P Kumaravelu,Dr. C Lakshmanan K Govindasamy (2018) Studied the Effect of plyometric training and circuit training on selected physical and physiological variables among male Volleyball players. International Journal of Yoga, Physiotherapy and Physical Education ISSN: 2456-5067 Impact Factor: RJIF 5.24 www.sportsjournal.in DOI:https://doi.org/10.22271/sports.2018.v3.i4.07 Volume 3; Issue 4; July 2018; Page No. 26-32

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