



IMPACT OF PLYOMETRIC EXERCISES ON THE DEVELOPMENT OF SPEED IN ERSTWHILE WARANGAL DISTRICT WOMEN'S VOLLEYBALL PLAYERS.

BHUKYA VAMSHI KRISHNA,

Research Scholar,

Department of Physical Education, Kakatiya University, Warangal, Telangana.

Abstract

Plyometrics are used to enhance performance by athletes, particularly martial artists, sprinters, and high jumpers, and are employed to a far lesser extent in the fitness industry. finding out how plyometric workouts affect the development of speed in women volleyball players from erstwhile warangal district is the aim of this study. ten of the 20 women volleyball players from erstwhile warangal district are in the experimental group, and the remaining 10 are in the control group. the experimental group received plyometric exercises such hopping, bounding, depth leaps, tuck jumps, pushups, and others on alternate days, or three sessions per week, whereas the control group received general training for six weeks. to compare the speed of the experimental and control groups, pre- and post-tests were carried out in a 30-meter run. this study demonstrates that plyometric training improves the experimental group's speed performance while decreasing that of the controls group. it has been determined that plyometric exercises will help the women's volleyball players in the erstwhile warangal district increase their speed.

Key words: Plyometric exercises speed, hopping, bounding etc.

Introduction:

In order to increase speed and power, plyometric exercises—also referred to as "jump training" or "plyos"—involve having muscles exert their maximal force in brief bursts of time. the goal of this training is to develop how to quickly or "explosively" transition from a muscle extension to a contraction, as in specialized repeated jumping. using a pre-stretch or counter-stretch that incorporates the stretch shortening cycle, plyometric workouts need a rapid, forceful action (1). a variety of jump training techniques and medicine ball upper body drills are examples of classical plyometric exercises. for many team and individual sports, plyometrics is an appropriate power training method. although many people may think of plyometrics as just jumping up and down, there are crucial rules and program design procedures that must be adhered to if plyometrics is to be as safe and efficient as feasible. pantelis t. nikolaidis, thomas rosemann, beat knechtel, ricardo lima, ana filipa silva, and filipe manuel clemente (2019) investigated how plyometric training affected volleyball players' performance. according to the results, the ability most frequently examined in plyometric training treatments was the vertical jump (15 studies), which was



followed by strength (4 studies), horizontal leap (4 studies), flexibility (4 studies), and agility/speed (3 studies). furthermore, it was noted that the majority of research was conducted on female athletes who were young (less than 18 years old). according to the included research, plyometric training appears to improve volleyball players' strength, agility/speed, flexibility, and vertical and horizontal jump performance. to fully comprehend the advantages of plyometric training on volleyball players' performance, more research is necessary. the effectiveness of a structured plyometric training program on young volleyball players' power capacities during their regular training session was investigated by vassil k. and bazanov b. (2012). twenty-one youth volleyball players, ages 12 to 19, participated in the 16-week plyometric training program. there were nine male volleyball players and twelve female volleyball players. three control tests were conducted. all participants took part in the following tests: maximal vertical leaps to the maximum height in 10 seconds, maximal vertical jump height, medicine ball throws up in 10 seconds, medicine ball overhead throws forward against the wall in 10 seconds, and standing long jump and depth leap long jump. according to statistical analysis of test results, athletes' arms and legs may reliably increase their speed. the results of tests measuring leg explosive power, such as standing long jump, depth leap long jump, and maximal vertical jump height, did not reveal any appreciable and consistent differences ($p > 0.05$). throwing a medicine ball and making the highest vertical jump in 10 seconds, which demonstrate speed force improvement, demonstrated a consistent difference. ($p < 0.01$).

Study goals:

The current study aims to determine how plyometric activities affect the speed development of female athletes in the erstwhile warangal district.

Method:

Twenty female athletes from the erstwhile warangal district make up the sample for this study; ten are in the experimental group and ten are in the control group. on alternate days, or three sessions each week, the experimental group received plyometric exercises such hopping, bounding, depth leaps, tuck jumps, pushups, etc., while the control group received general training for six weeks. to compare the speed of the experimental and control groups, pre- and post-tests were carried out in a 30-meter run.

**Results:**

The study's findings indicate that plyometric training improved the experimental group's speed whereas general training reduced the controls group's performance speed.

Table i. shows the mean scores of the 30-meter run test for the women's volleyball players in the erstwhile warangal district experimental and control groups.

variables	group	pre test mean	post test mean	t	p - value
30 m run test	experimental	4.61	4.20	2.58	0.00
	control	4.66	4.73		

The pre-test mean for the experimental group's 30-meter run was 4.61, whereas the controlled group's was 4.66. the experimental group mean in the post-test 30 m run dropped from 4.51 to 4.20, and the control group mean improved by 0.31 from the pre-test to the post-test, while the experimental group mean in the post-test is 4.20 and the controlled group mean is 4.73. the controlled group's performance dropped to 0.07, and the mean score after the test was 4.73, up 4.66 to 4.73 from the pre-test to the post-test. the experimental group has significantly improved as a result of the plyometric training.

Conclusion:

It is concluded that due to the plyometric training there is an increase of speed among the the women volley ball players. a plyometric exercise is an exercise, such as jumping, that trains your muscles, nervous system and connective tissues to effectively complete the stretch-shortening cycle. volleyball is considered a very explosive and fast-paced sport in which plyometric exercises is widely used for development of motor abilities. the included studies indicated that plyometric training seems to increase vertical jump performance, strength, horizontal jump performance, flexibility and agility/speed in volleyball players.

Suggestions:

Men's volleyball players and other sports and games could be the subject of comparable studies. the coaches can set up the program to help athletes improve their speed and other motor skills.

References:

1. ana filipa silva 1 , filipe manuel clemente 2 , ricardo lima 3 , pantelis t nikolaidis 4 , thomas rosemann 5 , beat knechtle (2017)the effect of plyometric training in volleyball players: a systematic review, int j environ res public health, 2019 aug 17;16(16):2960.doi: 10.3390/ijerph16162960.
2. vassil k, bazanov b. the effect of plyometric training program on young volleyball players in their usual training period. j. 3.9 hum. sport exerc. vol. 7, no. proc1, pp. s35-s40, 2012.