



## Effects of Weight Training on Motor Abilities of Senior Secondary Volleyball Players-An Analysis

### KEYWORDS

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**ABSTRACT** *Physical fitness has been considered as one of the most important aspects of human existence. A sound body and an active mind are inter-related. No education is complete without sound physical health as it makes a person efficient and fit to work in any area of human endeavour. The subject of this study belonging to different nature, habit, personal exercise regimens, diet, family background and other natural factor which were not under the control of the investigator during the experiment and were considered as limitation of the study. The results of this study also shown improvement on sports person's arm power and leg strength thus the study also recommended to general public for better leg strength and arm power.*

### INTRODUCTION

Physical fitness is that state of body in which a person can carry his daily duties and responsibilities efficiently and with the energy left, enjoy hobbies and other recreational activities and meet the unusual demands. In other words physical fitness can be defined as that state of body in which a person can do work for a longer duration without undue fatigue. Physical fitness is the basis of all the activities of individuals to perform them efficiently and effectively. Johnson (1966) is of the opinion that "fitness should be considered to exist on a continuous scale, ranging from very low levels to maximum levels. The various levels will be controlled entirely by the individual and is affected by the amount and kind of regular physical activity and his mental and emotional states. There are many benefits of weight training like increased lean muscle mass and muscle strengths, power, endurance etc. So that everyone can benefits from being stronger we can work harder, and we can play more. We can work out longer and we can be more alive. It increase metabolic rate, strength training increases the body's metabolic rate, causing the body to burn calories throughout the day. Increasing and restoring bone density. Inactivity and aging can lead to a decrease in bone density and brittleness studies have clearly proven that consistent strength training can increase bone density.

### METHODOLOGY

In this chapter the selection of subjects, the experimental design, the collection of data, the administration of tests, training program and the statistical techniques employed to analyse the data have been presented. This investigation is done primarily to focus intention on the effect of weight training program in the development of components of motor ability of senior secondary volleyball players and highlight the importance of weight training in the field of physical education and sports. The present study was an experimental study which was conducted on senior secondary volleyball players of 16-19 years of age, from Ludhiana District of Punjab (India) only. The sports people selected for this ability were State level of Volley ball players and 100 students were selected from district who have not participated in any kind of sports competition but play games just for recreation purpose. The sample for this study was taken through random sampling technique.

### RESULT AND DISCUSSION

The table 1.1 reveals that the mean score of pre test and post test of control group is 2.79 and 2.77 and the standard deviation of the pre test is 0.458 and the post test value of standard deviation is 0.458 respectively, signifying that there

is no enough variation in the pre test and post test scores of control group. The calculated 't' value 0.14 is not significant at 0.05 level of confidence.

**Table- 1.1**  
**Pre- Test and Post -Test Scores of the standing broad jump of senior secondary volleyball players (male) of Control and Experimental Groups**

Groups	Tests	N	Mean	SD	df	t-value
Control	Pre-test	20	2.79	0.458	19	0.14
	Post-test	20	2.77	0.458	19	
Experimental	Pre-test	20	2.52	0.277	19	2.95**
	Post-test	20	3.39	0.332	19	

\* Significant at 0.05 level i.e. 2.09

\*\* Significant at 0.01 level i.e. 2.86

When pre test and post test means score of experimental groups are compared, it is found 2.52 and 3.39, the standard deviation of the pre test is 0.316 and the post test value of standard deviation is 0.332 respectively. The calculated 't' value 3.95 is statistically significant at 0.01 level of confidence.

On the basis of the result, it accomplished that the weight training programme have a significant impact on the standing broad jump (Strength and Power) of the subjects of experimental group. Therefore hypothesis No-1 which states that there exists significant effect of weight training on explosive legs Strength of Sr. Sec. male volleyball players is accepted. The findings of Anita (2001) and Kraemer et al (2006) are also supporting the result of the study.

### Standing Broad Jump (Male)

The table 1.2 reveals that the mean score of pre test and post test of control group is 2.11 and 2.77 and the standard deviation of the pre test is 0.111 and the post test value of standard deviation is 0.083 respectively, signifying that there is no enough variation in the pre test and post test scores of control group.

**Table-1.2**

Groups	Tests	N	Mean	SD	df	t-value
Control	Pre-test	20	2.18	0.111	19	0.27
	Post-test	20	2.17	0.083	19	
Experimental	Pre-test	20	2.09	0.334	19	2.29*
	Post-test	20	2.58	0.341	19	

\* Significant at 0.05 level i.e. = 2.09

\*\* Significant at 0.01 level i.e. = 2.86

The calculated 't' value is 0.27 which is not significant at 0.05 level of confidence. Significant Differences between Pre- Test and Post -Test Scores of the standing broad jump of senior secondary volleyball players (female) for the Control and Experimental Groups.

When pre test and post test means score of experimental groups are compared, it is found 2.09 and 2.58 and the standard deviation of the pre test is 0.334 and the post test value of standard deviation is 0.341 respectively .The calculated 't' value 2.29 is statistically significant at 0.05 level of confidence.

On the basis of the result, it accomplished that the weight training programme have a significant impact on the standing broad jump (Strength and Power) of the subjects of experimental group. Therefore hypothesis No-2 which states that there exists significance effect of weight training on explosive legs Strength of Sr. Sec. female volleyball players is accepted. The findings of Anita (2001) and Kraemer et al (2006) are also supporting the result of the study.

**Standing Broad Jump (Female)**

The table 1.3 reveals that the mean score of pre test and post test of control group is 7.99 and 8.33 and the standard deviation of the pre test is 1.10 and the post test value of standard deviation is 1.20 respectively signifying that there is no enough variation in the pre test and post test scores of control group. The calculated't' value is 1.01 which is not significant at 0.05 level of confidence.

When pre test and post test means of experimental groups are compared, it is found 8.01 and 9.80 and the standard deviation of the pre test is 0.84 and the post test value of standard deviation is 0.69 respectively. The calculated't' value 2.99 is statistically significant at 0.01 level of confidence.

**Table- 1.3**

Groups	Tests	N	Mean	SD	df	t-value
Control	Pre-test	20	7.99	1.10	19	1.01
	Post-test	20	8.33	1.20	19	
Experimental	Pre-test	20	8.01	0.84	19	2.99**
	Post-test	20	9.80	0.69	19	

\* Significant at 0.05 level i.e. = 2.09  
 \*\* Significant at 0.01 level i.e. = 2.86

On the basis of the result, it accomplished that the weight training programme have significant impact on the medicine ball put (Strength and power) of the subjects of experimental group. Therefore hypothesis No-3 which states that there exists significance effect of weight training on explosive Arm Strength of Sr. Sec. male volleyball players is accepted. The findings of Anita (2001) and Kraemer et al (2006) are also supporting the result of the study.

**Medicine Ball Put (Male)**

Significant differences between the Pre-Test and Post-Test

scores on Medicine Ball put of senior secondary volleyball players (female) for the Control and Experimental Group.

The table 1.4 reveals that the mean score of pre test and post test of control group is 7.99 and 8.33 respectively and the standard deviation of the pre test is 1.10 and the post test value of standard deviation is 1.20, signifying that there is no enough variation in the pre test and post test scores of control group. The calculated't' value is 1.01 which is not significant at 0.05 level of confidence.

When pre test and post test means of experimental groups are compared, it is found 8.01 and 9.80 respectively and the standard deviation of the pre test is 0.84 and the post test value of standard deviation is 0.69 and the calculated't' score is 2.99 which is statistically significant at 0.01 level of confidence.

**Table 1.4**

Groups	Tests	N	Mean	SD	df	t-value
Control	Pretest	20	5.65	1.04	19	0.40
	Posttest	20	5.64	1.09	19	
Experimental	Pretest	20	4.95	0.61	19	2.47*
	Posttest	20	7.02	0.78	19	

\* Significant at 0.05 level i.e. = 2.09  
 \*\* Significant at 0.01 level i.e. = 2.86

On the basis of the result, it accomplished that the weight training programme have significant impact on the medicine ball put (Strength and power) of the subjects of experimental group.

**Conclusion**

There was significant difference was found between experimental group and control group of Standing broad jump(explosive Legs strength) of senior secondary level female volleyball players. Statically significant difference was found between experimental group and control group of Medicine Ball put (explosive Arms strength) of senior secondary level male volleyball players. Statically significant difference was found between experimental group and control group of Medicine Ball put (explosive Arms strength) of senior secondary level female volleyball players. It is recommend that weight training exercises helpful in developing arm strength and power. The results of this study also shown improvement on sports person's arm power and leg strength thus the study also recommended to general public for better leg strength and arm power.It is recommend that weight training exercises helpful for those people who want to Increase the strength of arm and legs. It is recommend that weight training exercises helpful for volleyball players because they help to maintain healthy bones, muscles, and joints. It was also recommend for doctors because the literature shows that weight training exercise has beneficial in reducing risks of many types of dangerous diseases like diabetes, blood pressure, cancer and many types of heart diseases.

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