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## Effect of strength training on football and volleyball performance of male players

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### Abstract

The Purpose of this study to identify the significant difference of volleying ability in Volleyball Playing between pre & post-test. The study was delimited to north 24 Parganas district level football and volleyball players in West Bengal only. Other districts were excluded from this study. We can say that after 4 weeks regular above strength training activities also significantly increased the servicing quality of volleyball players.

**Keywords:** Strength training, football and volleyball male players, performance

### Introduction

Strength is the ability to consistently provide near-perfect performance in a specific activity. The key to building a strength is to identify your dominant talents, then complement them by acquiring knowledge and skills pertinent to the activity.

Strength training is a type of physical exercise specializing in the use of resistance to induce muscular contraction which builds the strength, anaerobic endurance, and size of skeletal muscles.

When properly performed, strength training can provide significant functional benefits and improvement in overall health and well-being, including increased bone, muscle, tendon and ligament strength and toughness, improved joint function, reduced potential for injury, increased bone density, increased metabolism, increased fitness, improved cardiac function, and improved lipoprotein lipid profiles, including elevated HDL ("good") cholesterol. Training commonly uses the technique of progressively increasing the force output of the muscle through incremental weight increases and uses a variety of exercises and types of equipment to target specific muscle groups. Strength training is primarily an anaerobic activity, although some proponents have adapted it to provide the benefits of aerobic exercise through circuit training.

Football (or soccer as the game is called in some parts of the world) has a long history. Football in its current form arose in England in the middle of the 19th Century. But alternative versions of the game existed much earlier and are a part of the football history.

The Olympic volleyball tournament was originally a simple competition: all teams played against each other team and then were ranked by wins, set average, and point average. One disadvantage of this round-robin system is that medal winners could be determined before the end of the games, making the audience lose interest in the outcome of the remaining matches. To cope with this situation, the competition was split into two phases with the addition of a "final round" elimination tournament consisting of quarterfinals, semifinals, and finals matches in 1972. The number of teams involved in the Olympic tournament has grown steadily since 1964. Since 1996, both men's and women's events count twelve participant nations. Each of the five continental volleyball confederations has at least one affiliated national federation involved in the Olympic Games.

Now INDIA word rank 47. Volley ball was invented by William. G. Morgan in 1895 when he was the Physical Director for the Y.W.C.A in Holyoke, Mass. During World Wars 1<sup>st</sup> and 2<sup>nd</sup>, it was popular among U.S. Servicemen, who helped to make it an international sport.

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Volley ball was first introduced at the Asian Games in 1958 at Tokyo where India gained the third position and the bronze. Men's volleyball was included as an event in the World Olympic Games in 1960. The Soviet Union, Italy, Japan, Cuba, Czechoslovakia, Poland and German Democratic Republic are among the finest teams today.

## 2. Statement of Problem

Performance ability components like leg, abdominal and hand strength training exercise are needed in football and volleyball playing. Football and Volleyball is a team game and every individual player makes a crucial role in play situation. Performance ability is also important in football and volleyball to coordinate with other. With this idea and this basic question and corresponding hunches, this study has been contemplated with this title; "Effect of Strength Training on Football and Volleyball Performance of Male Players".

## 3. Hypothesis

1. It was hypothesized that the 6 weeks regular programs significant increase the football playing performance.
2. It was also hypothesized that the 6 weeks regular strength training programs significant increase the volleyball playing ability.

## 4. Delimitation

1. The study was delimited to north 24 Parganas district level football and volleyball players in West Bengal only. Other districts were excluded from this study.
2. Performance between football and volleyball players, components of strength training.
3. The age range of the subject 20-25 years.
4. Only 20 male state level football and volleyball players were selected.
5. The study was delimited for selected performance ability and strength training variables. The variables were as follows-
6. Football performance ability variables delimited by only McDonald Soccer Skill Test.
7. Volleyball performance ability variables delimited by only-Russell Lange Volley Test.

## 5. Limitation

1. The different socio economic group, diet, daily, habits and other activities of the subject could not controlled by researcher.
2. Special treatment will use, while collection of data on state level football and volleyball players, which may be limiting factors.
3. The time and finance device was also limiting factors.
4. No motivation device was use during the testing of different variables. The difference that may occur in performance due to lack of motivation was recognized as one of the limitations to the study.
5. As the male football and volleyball performance participated in this study.
6. The regular practice was not under the investigator's control.
7. Non availability of sophistically was considered another limitation of the study.

## 6. Methodology

### 6.1 Selection of the Subject

Total forty (40) male state level football and volleyball

players, i.e. twenty footballers (n=20) and twenty (n=20) volleyball players were purposively selected from North 24 Parganas district of West Bengal. 42 days before of data collection the research scholar made contact of the association of Barasat and Subhas Institute of Barasat for collection of data.

## 6.2 Selection of Variables

The variables under taken for this study is as follows:-

1. Mc-Donald soccer skill test.
2. Russell Lange Volleyball test.

## 6.3 Criterion Measures

1. Age was calculated by their birth certificate in years.
2. Height was measure with help of stadiometer in inch.
3. Weight was measure by weighing machine in kg.

## 6.4 Statistical Procedure

The following statistical procedures were used for the analysis of data.

- Computed mean and S.D for calculating the average football and volleyball performance ability. (Microsoft Excel 2010 used for calculating the Mean and S.D).

The calculated data were put into t-test to find out the significant difference of mean between pre and post-performance for volleyball as well as in Football. ([www.graphpad.com](http://www.graphpad.com) used for calculating the signification of mean difference value).

## 7. Result and Discussion

**Table 1:** Mean and Standard Deviation for football playing ability (McDonald soccer test) of pre & post-test

N	Variable	Test	Mean	SD
20	McDonald	Pre-test	17.90	$\pm 4.06$
	Soccer Test	Post-test	20.50	$\pm 3.25$

Table 1, shows that the pre-test mean and S.D. value of football playing ability was  $17.90 \pm 4.06$  and post-test value was  $20.50 \pm 3.25$  of North 24 Pargana football players. Mean and S.D. value of football playing ability have been graphically below.

**Table 2:** Pre & Post-test Mean and Standard Deviation value for Volley test

N	Variable	Test	Mean	SD
20	Volley test	Pre-test	20.05	$\pm 5.60$
		Post-test	24.25	$\pm 4.09$

Table 2. shows that the pre and post-test average value of volley test. The average value was  $20.04 \pm 5.60$  found in respect of pre and  $24.25 \pm 4.09$  in respect of post-test.

**Table 3:** Pre & Post-test Mean and Standard Deviation value for Service test

N	Variable	Test	Mean	SD
20	Service test	Pre-test	30.55	$\pm 4.78$
		Post-test	35.30	$\pm 5.16$

Table 3 shows that the average value of service test of volleyball playing ability in pre-test and post-test. The average service pre-test was  $30.55 \pm 4.78$  and the average post-test value of volleyball service ability was  $35.30 \pm 5.16$ .

**Table 4:** Significant difference of Football Playing Ability between pre & post-test.

N	Variable	't' Value
20	McDonald soccer test	2.78

Table Value = 2.093 at 0.05 level

df = 19

Table-4 shows that significant difference of football playing ability between pre and post -test, calculated significant difference value was 2.78 which higher than the table value of 2.093 at 0.05 level where the df value was 19.

**Table 5:** Significant difference of volleying ability in Volleyball Playing between pre & post-test.

N	Variable	't' Value
20	Volley Test	3.85

Table Value = 2.093 at 0.05 level

df = 19

Table-5 exhibits the significant of mean difference of volleying ability in volleyball playing between pre and post-test calculation t-value was 3.85 which higher than the table value that is 2.093 at 0.05 level where the df value was 19.

**Table 6:** Significant difference of Service ability in Volleyball Playing between pre & post-test.

N	Variable	't' Value
20	Service Test	3.68

Table Value = 2.093 at 0.05 level

df = 19

Table-6 also exhibits the significant difference of service ability in volleyball playing between pre and post-test. The calculation significant difference value was 3.68 which higher than the t-value.

## 8. Conclusion

1. 4 weeks regular strength training significantly developed the football playing ability of state level male players.
2. 4 weeks same strength training also significantly improved the volleying performance of volleyball players.
3. After 4 weeks regular above strength training activities also significantly increased the servicing quality of volleyball players.

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