

## Analysis of Motor Fitness Components of Volleyball Players

**Mrs. Poonam Rawat**

Assistant Professor-Physical Education  
 Government P.G. (Autonomous) College,  
 Sri Dev Suman Campus, Rishikesh

**Prof. Joseph Singh**

LNIPE, Gwalior (M.P.)

### **Abstract**

*The purpose of this investigation was to analyze the motor fitness components of volleyball players. To achieve above purpose sixty male volleyball players those who have played the intercollegiate tournament, were selected as the subjects that is 30 front row players and 30 back row players. All subjects were selected from different college teams that are from Garhwal region who had participated in intercollegiate volleyball tournament. Their average age is 21 years; the study was delimited to the selected motor fitness components namely, Explosive strength, and Agility. The data of selected subject for motor fitness components (explosive strength, and agility) were recorded, data were observed by performing the vertical jump and shuttle run. There is significant difference found between the mean value of motor fitness components explosive strength ( $t= 8.2942$ ) between front row and back row players and no significant differences were found for the mean value of agility ( $t=1.4258$ ) between front row and back row players. With the limitations of the study it may be concluded that, there was significant difference between front row and back row players in relation to their motor fitness component (explosive strength) and there was no significant difference found between the front row and back row players in relation to their motor fitness component (agility).*

**Key words:** Front row players and back row players, explosive strength and agility.

### **INTRODUCTION**

Volleyball is a team game and there must be a good understanding and coordination among players to be effective as a group. To the extent motor components are concerned. Volleyball requires agility, coordination and reaction ability for playing and a good suspicion to lift and hit the ball. In volleyball changes in the speed of game and scoring system the set finishes quickly, players need high level of agility, coordination and reaction ability. The individual not only physically fit but also possesses good motor control body coordination in addition to excelling in the specific skills of his/her game of specialization.

Motor fitness is the final criterion through which all other elements of physical fitness are seen and measured in man. How continuously and efficiently he performs his daily work in

industry, on the farm, in the armed forces, or in athletic performance was at one time the only criterion that man had of physical fitness. The successful performances of skill components of motor abilities contribute independently and interdependently. The role of motor abilities for successful sports performance cannot be disputed. Strength, endurance, speed, flexibility, agility and coordinative abilities are the prerequisites for motor action in all sports. The improvement and maintenance of these components are very important in sports training. No doubt the performance of player influenced by many factors but still motor fitness components is the primary factor among these entire factors. The performance of players is influenced by many factors such as physical, physiological and psychological variables, technique, tactics, physique, body size, body composition and application of biomechanical principles.

An athlete to succeed in the competition must develop the motor fitness factor that is speed, agility, flexibility, strength and power. Games and sports are one of the avenues of mankind's never ceasing strive for superiority. Its uniqueness lies in the intimacy between the physical happenings of our bodies and their repercussions on our minds, as well as in the general re-cognoscibility of the social and aesthetic value.

#### **Purpose of the Study**

The purpose of this investigation was to analyzed the motor fitness components of volleyball players.

#### **PROCEDURE**

The purpose of this investigation was to analyzed the motor fitness components of volleyball players, to achieve above purpose sixty male volleyball players of different college teams that is from Garhwal region who had participated in intercollegiate volleyball tournament were selected as the subject that is 30 front row players and 30 back row players. Their average age is 21 years; the study was delimited to the selected motor fitness components that is, Explosive strength, and Agility.

The data of selected subject for motor fitness components were recorded for explosive strength and agility, data were recorded by performing the vertical jump and Agility T test respectively.

#### **Motor fitness tests**

| S. No. | Components         | Test           | Scoring                                          |
|--------|--------------------|----------------|--------------------------------------------------|
| 1.     | Explosive strength | Vertical jump  | Distance is recorded in centimeters              |
| 2.     | Agility            | Agility T test | Time is recorded in seconds and 1/10 of a second |

#### **Statistical analysis**

The t test was applied to find out the difference in the motor fitness components between front row and back row players at 0.05 level of significance.

#### **Results**

After collecting the data on motor fitness components from front row and back row players, the t test was applied to find out the difference in the motor fitness components between front row and back row players. The results of the study are presented in the tables given below.

**Table 1**  
**The t test on the explosive strength components between front row and back row players**

| Players   | N  | Mean | S.D. | S.E.D. | T              |
|-----------|----|------|------|--------|----------------|
| Front row | 30 | 73.2 | 4.6  | 1.013  | <b>8.2942*</b> |
| Back row  | 30 | 64.8 | 3.1  |        |                |

**\*Significant at 0.05 level,  $\text{tab.t}_{.05} (58) = 1.68$**

The table 1 shows that there is significant difference between front row and back row players on the explosive strength components.

**Table 2**  
**The t test on the agility components between front row and back row players**

| Players   | N  | Mean  | S.D. | S.E.D. | T             |
|-----------|----|-------|------|--------|---------------|
| Front row | 30 | 10.84 | 1.2  | 0.337  | <b>1.4258</b> |
| Back row  | 30 | 10.36 | 1.4  |        |               |

**$\text{tab.t}_{.05} (58) = 1.68$**

The table 2 shows that there is no significant difference between front row and back row players on the agility components.

### Discussion

The analysis of data reveals that there is a significant difference in explosive strength between front row and back row players on the explosive strength components were obtained. The significant difference may be attributed to the fact that front row players keep jumping during the play, they require to attack each time the ball came to their side, while doing attack they have to jump higher to beat the defenders of the other side. Front row players perform this type of movement more number of time while doing the attack as compare to back row players.

Insignificant difference between front row and back row players on the agility components were obtained. The insignificant difference may be due to the type of test selected or usually front row and back row players are employed same type of movement while taking part in the game.

### Conclusions

|                                                                                  |                                                                                                                                                                                                                                                                                                        |                                                                                    |
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With the limitations of the study it may be concluded that, there was significant difference found between front row and back row players on the explosive strength components. On the other hand, there was no significant difference found between front row and back row players on the agility components.

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