

Standardization Of Physical Fitness Tests For Volleyball Players

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Abstract

Volleyball is played by six players on either side with an intention of grounding the ball on the opponent's court. Even though a team is allowed only six players on the court, it usually has twelve players on its roster. In official competition, each player has a special task to perform on the court. To exhibit a skill properly, the players must possess the basic physical fitness with the presence of mind and an understating between the team mates. For this, one should undergo a systematic and scientific physical, physiological and psychological training for the effective performance. Volleyball is the only sport in which a player's maximum force is typically applied while the body is unsupported (in the air). Some of the acrobatic skills executed artistically attract huge crowds and that is the reason volleyball is one of the most popular team sport in the world. The game is characterized by short, high energy burst and periods of rest.

Volleyball has developed into a highly competitive sport which requires a high level of fitness. The different skills involved in volleyball have their own different physical requirements. Consequently, the players either male or female must work on a wide-ranging programme designed to enhance their strength, muscular endurance, cardiovascular efficiency, flexibility and agility. The minimum requirements of individual techniques demand a certain degrees of physical abilities, example, volleying requires strength of fingers and wrists. Blocking and spiking require the ability to jump high enough to contact the ball, when it is above the net. The game in itself, at a high level of competition requires quick, sudden movement and fast reactions. To do this the player must be tall and must be agile. Main objective of the study was to construct norms on physical fitness test for volleyball players. For this purpose 428 players between the age group 16 – 19 years who had participated in state and national level were randomly selected as subjects. Objectivity and reliability of the 21 test variables were obtained. The limited 15 samples from selected subjects were considered for the administration of tests. The skill test norms were constructed on the basis of the findings of the statistical analysis. The standardized norms were constructed.

Keywords: Physical Fitness Test, Norms

Introduction

Team sports like Volley Ball make it even harder to determine what areas of fitness are required. The types required will depend upon positions and role in the team. But one key area is a skill. This doesn't mean that their athletic areas of fitness, speed, strength, flexibility etc. are not important, because they are, but skill and perhaps spirit are the most important. The goal of coach and Physical Educator is to produce measurable changes in psychomotor performance. Volleyball is a complex sports in which players need technical, deliberate and physical skills to succeed. Team sports like Volleyball make it even harder to determine what areas of fitness are required. Each Volleyball player is unique and fitness differs from one athlete to other according to their backgrounds and capabilities. Coaches and physical educators should be aware of the physical fitness requirements required to the volleyball players. There is multiplicity in opinion about the measuring, evaluating and selecting talented volleyball players.

The present study is focused on construction and standardization of physical fitness tests for men and women volleyball players. This study is useful to volleyball coaches and physical education teachers for assessing and evaluating their players and getting feedback for further improvements. It is also useful to make necessary modifications in their coaching and teaching strategies in preparing volleyball players. The norms for state and national level male Volley Ball player's in Karnataka state is not constructed so far. Hence the investigator felt the necessity of uniform norms and took up the study.

Methodology

The main objective of the study was to construct norms for physical fitness tests for volleyball players. For this purpose 428 players between the age group 16 – 19 years who had participated in state and national level competitions were randomly selected as subjects.

Selection of test Items

For this study, the researcher identified test variables by factor analysis. Five factors were identified namely Pull up's, Sideward jump, Medicine ball throw, Sit and Reach test and Volleyball reaction test. The researcher personally visited during coaching camps and practice session and administered the test to 428 subjects. Raw scores were converted into T scores. A T scale has been developed for volleyball players.

Statistical Techniques

The data, which was collected by administering the test, was statistically treated to develop norms for all the test items. Seven Point T Scale norms were developed. Further scores were classified into seven grades i.e., Excellent, Good, Above Average, Average, Below Average, Poor and Very Poor.

Results

Finally, 5 test items were identified and were included to the Physical Fitness for Volleyball Tests Battery. Seven point T scale was developed and further the scores were classified into seven grades i.e., Excellent, Good, Above Average, Average, Below Average, Poor and Very Poor.

**TABLE SHOWING T-SCORE FOR SACHIN G M AND AMARNATH K K VOLLEYBALL SKILL TEST FOR 16
- 19 YEARS MALE VOLLEYBALL PLAYERS**

| PULL UP'S | | SIDEWARD JUMP | | SMBT | | SRT | | VBDRT | | GRADE | ALPHABETICAL GRADE |
|-------------|---------------|---------------|---------------|-------------|---------------|---------------|-------------|-------------|-------------|---------------|--------------------|
| RS | TS | RS | TS | RS | TS | RS | TS | RS | TS | | |
| ≥18.73 | ≥80.64 | ≥32.85 | ≥80.04 | ≥7.86 | ≥80.04 | ≥47.74 | ≥80.04 | ≥4.50 | ≥80.21 | Excellent | A |
| 15.78-18.72 | 70.62 - 80.63 | 30.09 - 32.84 | 70.03 - 80.03 | 7.10 - 7.85 | 70.04 - 80.03 | 42.67-47.73 | 70.03-80.03 | 3.75 - 4.49 | 70.31-80.20 | Good | B |
| 12.83-15.77 | 60.6-70.61 | 27.33 - 30.08 | 60.02 - 70.02 | 6.34 - 7.09 | 60.04 - 70.03 | 37.60-42.66 | 60.02-70.02 | 3.00-3.74 | 60.41-70.30 | Above Average | C |
| 6.93-12.82 | 40.56 - 60.59 | 21.81 - 27.32 | 40.00 - 60.01 | 4.82 - 6.33 | 40.04 - 60.03 | 27.46 - 37.59 | 40.00-60.01 | 1.50-2.99 | 40.61-60.40 | Average | D |
| 3.98-6.92 | 30.54 - 40.55 | 19.05 - 21.80 | 29.99 - 39.99 | 4.06-4.81 | 30.04 - 40.03 | 22.39 - 27.45 | 29.99-39.99 | 0.75 - 1.49 | 30.71-40.60 | Below Average | E |
| 1.03-3.97 | 20.52 - 30.53 | 16.29 - 19.04 | 19.98 - 29.98 | 3.30 - 4.05 | 20.04 - 30.03 | 17.32 - 22.38 | 19.98-29.98 | 0.1 - 0.74 | 20.81-30.70 | Poor | F |
| ≤1.02 | ≤20.51 | ≤16.28 | ≤19.97 | ≤3.29 | ≤20.03 | ≤17.31 | ≤19.97 | 0 | ≤20.80 | Very poor | G |

RS: Raw Score; TS: T-score

Conclusion

The playing ability performance scores of the players were interpreted by using a grading scale on the basis of 7point T scale as A, B, C, D, E, F and G or Excellent, Good, Above Average, Average, Below Average, Poor and Very Poor respectively according to their performance score based on the Hull Scale Norm, which was developed for all the 5 items. The test constructed measured explosive power, coordination, strength, flexibility and reaction ability.

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