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A correlation study of selected anthropometric variables with arm and shoulder strength of intercollegiate men javelin throwers

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Abstract
The purpose of the study is to correlate the selected anthropometric variables with arm and shoulder strength of inter-collegiate men javelin throwers. Methodology: to achieve the purpose 25 inter-collegiate men javelin throwers were selected as the subjects. During inter collegiate athlatic championship of law University the ranging age of 18 to 25 years were selected for the study. The arm and shoulder strength was measured with the push-up test score was measured in total number of pushups performed by the subject was recorded. Selected anthropometric variable such as Body weight was measured by weighing machine and the score was measured in kilograms. Standing Height was measured by stadiometer and the score was measured in cm. arm length, forearm length, leg length, chest girth, shoulder circumference upper arm girth, forearm circumference, and thigh girth were measured by gullick tape and scores was recorded in cm. For analysis and interpretation of data, the investigator was used Pearson Product Moment Correlation statistical techniques with the help of SSPSS analytic software. Results: There Were Significant Relationship Found Between selected anthropometric variables with arm and shoulder strength of inter-collegiate men javelin throwers.

Keywords: anthropometric, shoulder strength, javelin throwers

1. Introduction

The world of games and sports has crossed many milestones, as a result of different achievements in general and their application in the field of sports in particular. Scientific investigation into performance of sportsman has been playing an increasingly importance role to attain excellence of performance in different sports. Now the sports-man have been able to give outstanding performance because of involvement of new scientifically substantiated training methods and means of execution of sports exercise such as sports techniques and tactics, improvement of sports grass, and equipment, as well as other components and condition of the system of sports training Sportsmen concentrate on the development of speed, strength, agility flexibility, endurance etc. as a part of preparation in their respective sports General motor abilities assist a sportsman in learning specific skills from a solid base over which he can develop excellence in the particular game

The human physique differs in a thousand ways. It can be analyzed by studying the size, shape and form of an individual. For this purpose, sets of selected anthropometric measurements are taken on an individual. The Inter group comparisons are made to understand the physical peculiarities of a population. From such body measurements, it is also possible to estimate the distribution of fat and development of bone and muscle in one's body. This is known to be more important in the case of athletes and sportsmen where the physical fitness plays a vital role in the competitive performance

Performance of the players depends upon the motor fitness, physiological and psychological variables. More specifically, motor fitness referred to as efficient performance in such basic requirements as running, jumping, dodging, falling, climbing, swimming, lifting, throwing, weighing, carrying load, and enduring sustained effort in a variety of situations. Movement in the games and sports are highly specific and are the result of training an experience for successful performance of a skill, the components of motor fitness contribute independently and interdependently. Strength, endurance, flexibility, speed, balance and co- ordination abilities are the prerequisites for motor action in any events.

Throws (Shot-put, Discuss, Javelin, Hammer) are field events in athletics. They measures explosive strength (power) in a human being. The throws were included in the Olympic Games at different times as Short put and Discus throws were included in the 1896 Athens Olympic Games. The Javelin and Hammer throws were included in the 1980 London Olympic. The throwers of Discus, shot put, Javelin and Hammer differ greatly in physique from the other athletes. As a group, they are taller and heavier, with longer arms in relation to their legs. They have broader shoulders and broader hips. Even their trunk size is somewhat fatter than the track athletes. Their proportion of legs to the trunk is similar to that of middle distance runners. The Discus throwers are the largest of all the athletes. Their arms in particular are exceptionally larger, being not only broader in both muscle and bone, relative to the muscle and bone in the legs but also longer than the legs.

Strength is an important prerequisite for good athletic performance. This is especially true in activities that require the application of force to an external object such as the shot put, discus throw, or javelin throw. In golf, tennis, badminton and handball, strength needed for best performance is probably less than in activities requiring the moving of greater

loads. If the athlete does not possess enough strength in a sport, he will limit his best performance.

The purpose of the study is to correlate the selected anthropometric variables with arm and shoulder strength of inter-collegiate men javelin throwers.

2. Methodology

2.1. Selection of Subjects

To achieve the purpose 25 inter-collegiate men javelin throwers were selected as the subjects. During inter collegiate athlatic championship of law University the ranging age of 18 to 25 years were selected for the study.

2.2. Administration of Tests

The arm and shoulder strength was measured with the push-up test score was measured in total number of pushups performed by the subject was recorded. Selected anthropometric variable such as Body weight was measured by weighing machine and the score was measured in kilograms. Standing Height was measured by stadio meter and the score was measured in cm. arm length, forearm length, leg length, chest girth, shoulder circumference, upper arm girth, forearm circumference and thigh girth were measured by gullick tape and scores was recorded in cm.

2.3. Statistical Analysis

To determine whether relationship among the research variables exists or not, Pearson Product correlation method was applied. The data was computed on the SPSS Statistical Package for the Social Sciences.

3. Results

To establish the Correlation of selected anthropometric variables with arm and shoulder strength of inter-collegiate men javelin throwers, Pearson moment correlation (r) was computed and data pertaining to this, has been presented in table-1.

Table 1: Correlation of Selected Anthropometric Variables with Arm and Shoulder Strength of Inter-Collegiate Men Javelin Throwers

Si no	Variables	Correlation co-efficient
1	Arm and Shoulder strength and body weight	0.39*
2	Arm and Shoulder strength and standing height	0.46**
3	Arm and Shoulder strength and arm length	0.49**
4	Arm and Shoulder strength and forearm length	0.38*
5	Arm and Shoulder strength and leg length	0.55**
6	Arm and Shoulder strength and chest girth	0.57**
7	Arm and Shoulder strength and shoulder circumference	0.54**
8	Arm and Shoulder strength and upper arm girth	0.49**
9	Arm and Shoulder strength and forearm circumference	0.58**
10	Arm and Shoulder strength and thigh girth	0.37*

** Correlation is significant at the 0.01 level. (2-tailed)

*Correlation is significant at the 0.05 level.

Above table says that the correlations of selected anthropometric measurements such as body weight (r=0.39), standing height (0.46), arm length(r=0.49), forearm length (r=0.38), leg length (r=0.55), chest girth (r=0.57), shoulder circumference (r=0.54), upper arm girth (r=0.49), forearm circumference (r=0.58) and thigh girth (r=0.37) with arm and shoulder strength of inter-collegiate men javelin throwers.

4. Conclusion

As per above interpretation the researcher showed that the selected anthropometric variables are important for performance of inter-collegiate men javelin throwers, because arm and shoulder strength are improve the performance of inter-collegiate men javelin throwers and shoulder strength and selected anthropometric variables are direct and positive correlation.

5. References

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