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Relationship of arm length and leg length with the performance score of women sprinters of universities of Punjab

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Abstract

The objective of the study was to find out the relationship of Arm Length and Leg Length with the performance score of women Sprinters of Universities of Punjab. To achieve the purpose of the study total 30 female throwers of selected universities were selected as subjects. Only first six position holder women athletes in Inter college competition of the universities namely Guru Nanak Dev University Amritsar, Punjabi University Patiala, and Panjab University Chandigarh were considered in this study. The age limit of the subjects was ranged from 18 to 28 years. To measure the Arm Length and Leg Length of female Sprinters was measured with the help of standardized Measuring tape. To scrutinize the relationship of Arm Length and Leg Length with the performance score of women Sprinters of universities of Punjab, Karl Pearson's product moment coefficient correlation statistical technique was used by the investigator.

Keywords: Relationship, arm length, leg length, performance score, women sprinters

Introduction

Athletics in India has a history which dates back to the vedic period and it can be said that the principles of the atharvaveda gave shape to the formation of Indian athletics. Never the less it is indeed a mystery as to when exactly athletics in India made its presence felt as a distinct sports form.

Sports like chariot racing, archery, horsemanship, military tactics, wrestling, weight lifting, swimming and hunting made athletics a colossal presence in the vedic age or much later in the period of Ramayana and Mahabharata. Historical evidence shows that Indian athletics acquired a remarkable dimension, during the Buddhism era and many events like archery, equitation, hammer throwing and chariot-racing were in vogue during that period. All these games were made compulsory in the military training sessions the Indian empires, during that period.

Kinanthropometry is an emerging scientific specialization concerned with the application of measurement to appraise human size, shape, proportion, composition, maturation and gross function. It is a basic discipline for problem-solving in matters related to growth, exercise, performance and nutrition. The area has been defined as the quantitative interface between anatomy and physiology. It puts the individual athlete into objective focus and provides a clear appraisal of his or her structural status at any given time, or, more importantly, provides for quantification of differential growth and training influences. Without an understanding of the growth of children and youth and their structural evolution, selection of talent and monitoring of training is largely a matter of sophistry and illusion. Kinanthropometry provides the essential structural basis for the consideration of athletic performance.

Procedure and Methodology

Selection of Subjects: To achieve the purpose of the study total 30 female (N= 30) Sprinters of selected universities were selected as subjects. Only first six position holder women athletes in Inter college competition of the universities such as Guru Nanak Dev University Amritsar, Punjabi University Patiala, and Panjab University Chandigarh were considered in this study. The age limit of the subjects was ranged from 18 to 28 years.

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Tool for Data collection: The Arm Length and Leg Length of female Sprinters was measured with the help of standardized measuring tape. Further to find out the relationship of Arm Length and Leg Length with the performance score of women Sprinters of universities of Punjab, best recent performance of all athletes were considered as the performance score of female athletes.

Leg Length Measurement: The subject wearing minimal dress exposing the greater Trochanter stood in bare feet. With a tape, the length of the leg was estimated from greater Trochanter to the floor. The leg length was recorded in centimeters.

Arm Length Measurement: The subject stood without any clothing on the Torso. The arm length was measured from the acromion process to the tip of the third finger. The length of arm was recorded in whole centimeter.

Statistical Analysis: To scrutinize the relationship of Arm Length and Leg Length with the performance score of women Sprinters of universities of Punjab, Karl Pearson’s product moment coefficient correlation statistical technique was used by the investigator.

Data Analysis and Results of the Study

Table 1: Relationship between Total Arm Length and performance of Sprinters

Variable	Mean	S.D.	'r' Value
Total Arm Length (cm)	76.86	1.94	.461*
Performance	37.80	8.49	

$r_{0.05(28)}=0.361$

Table 1: represent that the mean of the Total Arm Length and Sprinters performance is 73.38 and 4.50 respectively. Whereas standard deviation of the Total Arm Length and Sprinters performance is 3.19 and .51 respectively, 'r' value is -.171. The result shows that insignificant correlation between Total Arm Length and Sprinters performance.

Table 2: Relationship between Leg Length and performance of Sprinters

Variable	Mean	S.D.	'r' Value
Leg Length (cm)	85.17	2.09	-.403*
Performance	4.50	.51	

$r_{0.05(28)}=0.361$

Table 2 represent that the mean of the Leg Length and Sprinters performance is 85.17 and 4.50 respectively. Whereas standard deviation of the Leg Length and Sprinters performance is 2.09 and .51 respectively, 'r' value is -.403. The result shows that significant correlation between Leg Length and Sprinters performance.

Discussion

The result of the study informs that there was significant relationship between Total Arm Length with performance of Sprinters. Further the results of the study explain that there is significant relationship of Leg length with Sprinters performance.

Conclusion

After the analysis of data, it was concluded that there was significant relationship of total arm length with the

performance score of women Sprinters of universities of Punjab. Further it was concluded that there was significant relationship of leg length with the performance score of women Sprinters of universities of Punjab.

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