ANALYSIS OF ANTHROPOMETRIC CHARACTERS AMONG TAMILNADU UNIVERSITIES ATHLETES

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Abstract

The purpose of the study is to analyse the selected anthropometriccharacters among university level athletes. To achieve the purpose 20 sprinters, 20 middle distance runners, 20 high jumpers and 20 long jumpers was taken as subjects they are selected from who are participating 2019-20 South-zone inter university athletic meet held at Annamalai University and their age ranged between 18-24 years. The present study will be undertaken primarily to assess the analysis of Anthropometric characters among Tamil Nadu athletes. The selected dependent variables for this study are as follows Height, Arm girth, Thigh girth, Arm length, and Leg length. Height was measured by stadiometer and other variables are measured by Lufkin Anthropometric tape. The collection of data was analysed by one-way ANOVA. Level of significance fixed at 0.05.There was significant difference on height, arm girth, thigh girth, arm length and leg length between different groups of athletes. It found that high jumpers are better than sprinters, middle distance runners and long jumpers on height, arm length and leg length. It found that sprinters are better than high jumpers, middle distance runners and long jumpers on arm girth. It found that long jumpers are better than sprinters, middle distance runners and high jumpers on thigh girth.

Keywords :- *Anthropometric Measurements and Athletes*

Introduction

Anthropometry provides scientific methods and observation to help in finding out talent in sports. (Anthropometry means the measurement of man). Anthropometry refers to the measurement of living human individuals for the purposes of understanding human physical variation. The French savant, Alphonse Bertillon (born in 1853), gave this name in 1883 to a system of identification depending on the unchanging character of certain measurements of

parts of the human frame. Actually, Hippocrates first realized this fact and classified human beings according to two basic physiques – long and thin, or short and thick.

Anthropometry is derived from two Greek terms 'ANTROPOS' and 'METREIN' giving birth to a modern concept known as "ANTHROPOMETRY" Anthropos means 'MAN' and Metrein means 'TO MEASURE' therefore when we speak literally, anthropometry is the calculation of the human body to discover its exact measurement and the proportions of its piece. An early method in physical anthropology, it has been used for identification, for the purpose of understanding human physical variation for paleoanthropology and for various attempts to connect physical with racial and psychological traits. Anthropometry include the systematic calculation of the physical properties of the human body, mainly dimensional descriptors of body size and shape. Because the tools and techniques widely used to evaluate living conditions were not helpful enough. Batch et al., (2004) Anthropometry is the measurement of body size and proportions. The measurement includes body weight, height, circumference, skin fold thickness and bony widths and lengths. An athletes anthropometric and physical characteristic may represent important prerequisites for successful participation in any given sports. Indeed, it can be assumed that an athlete's anthropometric characteristics can in some way influence his/ her level of performance, at the same time helping to determine a suitable physique for a certain sport. It has been well established that specific physical characteristics or anthropometric profiles indicate whether the player would be suitable for the competition at the highest level in a specific sport. Naskar et al., (2017)

Anthropometry is a measurement of the proportions of the various parts of human body. There are two types of measurements: Static dimension and Dynamic dimension. Only static dimension is considered for the use of anthropometric variables to calibrate EMG-based MCI system. There are some many variables, height, leg length, chest circumference, weight, shoulder circumference, breadth, waist front and back length etc. Anthropometry has a long tradition of sports science and sports medicine. Although various words have been used at different times such as dynamic anthropometry, sort anthropometry, biometry, physiology anthropometry, anthropometry, Ki-anthropometry, etc., by scientists to create certain relationship between the structure of the body and the specialized functions needed for the different tasks. Koley (2006)

Athletics is a collection of sporting events that involve competitive running, jumping, throwing, and walking. The most common types of athletics competitions are track and field, road running, cross country running, and race walking.

The results of racing events are decided by finishing position (or time, where measured), while the jumps and throws are won by the athlete that achieves the highest or furthest measurement from a series of attempts.

Statement of the problem

The purpose of the study is to investigate the analysis of Anthropometric characters such as: height, arm girth, thigh girth, arm length and leg length among Tamil Nadu universities athletes.

Methodology

The purpose of the study is to analyse the selected anthropometric characters among university level athletes. To achieve these purpose 20 sprinters, 20 middle distance runners, 20 high jumpers and 20 long jumpers was taken as subjects they are selected from who are participating 2018-19 South-zone inter university athletic meet held at Annamalai University and their age ranged between 18-24 years.

The present study will be undertaken primarily to assess the analysis of Anthropometric characters among Tamil Nadu Universities athletes.

The selected dependent variables for this study are as follows Height, Arm girth, Thigh girth, Arm length, and Leg length. The investigator analysed various literature, has consulted the experts in physical education and selected the test items, which were standardized and most suitable to this study, they were presented in Table – I

TABLE – I

S.no	VARIABLES	MEASUREMENT	SCORE
1.	Height	Stadiometer	Centimetres
2.	Arm girth	Lufkin Anthropometric tape	Centimetres
3.	Thigh girth	Lufkin Anthropometric tape	Centimetres
4.	Arm length	Lufkin Anthropometric tape	Centimetres
5.	Leg length	Lufkin Anthropometric tape	Centimetres

Statistical technique

The collection of data was analysed by one-way ANOVA. Level of significance fixed at 0.05.

Analysis of variance on anthropometric between different types of athletes

Variables	Long Jumpers (N=20)		High Jumpers (N=20)		Middle distance runners(N=20)		sprinters (N=20)		F-Value
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	
Height (cm)	179.37	4.09	182.50	1.63	179.95	2.65	174.00	1.39	17.91*
Arm girth (cm)	27.68	0.66	26.50	0.46	25.76	0.51	27.78	0.90	21.70*
Thigh girth (cm)	52.43	2.68	50.37	1.28	49.45	1.06	50.21	0.67	6.21*
Leg Length (cm)	101.1	2.48	103.47	1.06	101.59	1.46	98.03	0.67	20.58*
Arm Length (cm)	79.74	1.79	80.68	0.88	79.89	1.15	78.13	0.63	7.97*

***** *Required table value for significance at 0.05 level of confidence for df of 3, 76 is 2.73*

Conclusions

The following conclusions are drawn from the results obtained from this study.

- There was significant difference on height, arm girth, thigh girth, arm length and leg length between different groups of athletes.
- It found that high jumpers are better than sprinters, middle distance runners and long jumpers on height, arm length and leg length.
- It found that sprinters are better than high jumpers, middle distance runners and long jumpers on arm girth.
- It found that long jumpers are better than sprinters, middle distance runners and high jumpers on thigh girth.

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