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“Anthropometric Characteristics Between Rural And Urban Collegiate Athletes”**K.G.Shivanka**

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Abstract:

The purpose of this study was to determine the differences of Anthropometric Characteristics between Urban and Rural collegiate students with respect to chest muscle circumference, upper arm muscle circumference, fore arm muscle circumference, thigh muscle circumference and calf muscle circumference. In this study fifty urban and fifty rural collegiate athletes from Marathwada Region , were selected as subjects for present study. The criterion measures were recorded in centimeters. To find out the significant differences on selected anthropometric measurements with respect to chest muscle circumference, upper arm muscle circumference, fore arm muscle circumference and calf muscle circumference were found between Urban and Rural collegiate athletes and in case of thigh muscle circumference no significant effect was found

Introduction :

Anthropometric is the study of human body measurements especially on a comparative basis. The interest in anthropometric characteristics, in sports has increased over the last three decades. It has been well described that there are specific physical characteristics in many sports, such as the anthropometric profile, that indicate whether the player would be suitable to compete at the highest level in a specific sport. The quantification of anthropometric characteristics of elite athletes can be a key point in relating body structure to sports performance. During the past two decades, great changes have taken place in tennis with respect to technique and tactics, and even more so with respect to the physical performance of the players. Nowadays, tennis is one of the most popular sports in the world and is extensively studied. Most of the scientific literature has focused on physiological and biomechanical variables and physical performance. Therefore, the purpose of this study was to determine the anthropometric characteristics, between Urban and Rural collegiate athletes

Method

In this study fifty urban and fifty rural collegiate athletes from Marathwada Region , were selected as subjects for present study. The chest muscle circumference, upper arm muscle circumference, forearm muscle circumference, thigh muscle circumference and calf muscle circumference were selected anthropometric measurements for this study.

Criterion Measures : The criterion measures selected to collect the data were as under :

Calf Muscle Circumference : The circumference of calf muscle was obtained in standing position. The steel tape was wrapped horizontally around the naked lower leg of the subject at the maximal budge of the calf muscle. With slight up and down movements of the steel tape keeping it in a horizontal direction, the maximal circumference entail measurement gave the value of calf muscle circumference and was measured to the nearest 0.1 cm.

Thigh Muscle Circumference :

The subject were asked to stand at ease with equal weight on both the feet. The middle of the thigh was marked by a horizontal line dividing the distances between the trochantanterior and the lateral and the lower most point on the lateral condyle of femur in equal two parts. The steel tape was then wrapped around the thigh at the level of horizontal line and circumference was measured by keeping steel tape in a horizontal direction. The tape rested firmly on the skin without compressing the skin. The thigh muscle circumference was measured to the nearest 0.1 cm.

Chest Muscle Circumference :

The subjects were asked to take of shirt and under-shirt and stand in erect position. Steel tape was wrapped around chest of subject in such a way it touches the body all round lightly. Tape was kept over the nipples in front and passed just below the interior borders of the scapular at the back. To note the normal chest circumference, the subject is asked to inhale as deep as possible and a maximum value was achieved from the expanded chest at the end of the best inspiration. The measurement was recorded in 0.1 cm.

Upper Arm Muscle Circumference :

The subjects were asked to stand erect with both arms in relaxed and flexed position with hands hanging freely. The upper arm circumference was measured on left naked upper arm. The measuring tape was placed around the upper arm at the marked point perpendicular to the long axis of the upper arm. The tape rests on the skin without compressing the skin and measurement was recorded nearest 0.1 cm.

Fore Arm Circumference :

The subjects were asked to stand in erect position with arms relaxed and hanging. The steel tape was wrapped around the forearm just below the elbow point and maximal measurement was recorded by moving the steel tape slightly up and down keeping the circle of tape in horizontal direction and touching all around.

Results and discussion: The anthropometric measurements were analyzed by employing t test. The mean, standard deviation and t value analyzed each dependent variable separately. For the sake of convince and methodical presentation of results, following order has been adopted:

Table – 1
Mean Scores and Standard Deviation of selected components of Rural and Urban Collegiate Athletes.

Sr.No.	Components	Urban		Rural	
		Mean	Standard Deviation	Mean	Standard Deviation
1)	Age (Year)	22.20	2.39	22.98	2.67
2)	Weight (Kg)	65.78	7.20	66.11	7.32
3)	Height (Cm)	169.20	9.89	170.32	9.94
4)	Training days (Week)	3.40	0.88	3.76	1.03
5)	Training duration (Hours)	2.43	.87	2.87	.89
6)	Competition in one year	9.07	2.30	10.89	2.54

Table 1 shows the Mean scores and Standard Deviations of the different components of Urban and Rural collegiate students.

Table -2
Anthropometric Characteristics of Rural and Urban Collegiate Athletes .

Parameter	Name of Athletes	Numbers	Mean scores	S.D.	t-ratio
Chest muscle circumference	Urban collegiate students	50	91.78	5.56	(t=p<.05),
	Rural collegiate students	50	94.56	5.90	
Forearm muscle circumference	Urban collegiate students	50	23.67	3.12	(t=p<.05),
	Rural collegiate students	50	26.78	3.78	
Upper arm muscle circumference	Urban collegiate students	50	25.67	3.45	(t=p<.05),
	Rural collegiate students	50	27.87	3.97	
Thigh muscle circumference	Urban collegiate students	50	50.89	3.70	NS
	Rural collegiate students	50	50.76	3.62	
Calf muscle circumference	Urban collegiate students	50	52.46	4.40	(t=p<.05),
	Rural collegiate students	50	54.80	4.75	

NS= Not Significant.

Table -2 Shows the Mean Scores, Standard Deviation and t- ratio of Anthropometric Characteristics of Rural and Urban Collegiate Athletes.

Discussion

The mean scores (SDs) of Chest muscle circumference of Urban collegiate athletes were obtained 91.78 (5.56), and Chest muscle circumference of rural collegiate athletes were observed 94.56 (5.90) respectively. The result of the study revealed that there was significant difference of Chest muscle circumference was found between Urban and Rural collegiate athletes. Rural collegiate athletes was found to have got more Chest muscle circumference to Urban collegiate athletes.

The mean scores (SDs) of Forearm muscle circumference of Urban collegiate athletes were obtained 23.67 (3.12), and Forearm muscle circumference of rural collegiate athletes were observed 26.78(3.78) respectively. The result of the study revealed that there was significant difference of Forearm muscle circumference was found between Urban and Rural collegiate athletes. Rural collegiate athletes was found to have got more Forearm muscle circumference to Urban collegiate athletes.

The mean scores (SDs) of Upper arm muscle circumference of Urban collegiate athletes were obtained 25.67 (3.45), and Upper arm muscle circumference of rural collegiate athletes were

observed 27.87 (3.97) respectively. The result of the study revealed that there was significant difference of Upper arm muscle circumference was found between Urban and Rural collegiate athletes. Rural collegiate athletes was found to have got more Upper arm muscle circumference to Urban collegiate athletes.

The mean scores (SDs) of Thigh muscle circumference of Urban collegiate athletes were obtained 50.89 (3.70), and Thigh muscle circumference of rural collegiate athletes were observed 50.76 (3.62) respectively. The result of the study revealed that there was no significant difference of Thigh muscle circumference was found between Urban and Rural collegiate athletes.

The mean scores (SDs) of Calf muscle circumference of Urban collegiate athletes were obtained 52.46 (4.40), and Calf muscle circumference of rural collegiate athletes were observed 54.80 (4.75) respectively. The result of the study revealed that there was significant difference of Calf muscle circumference was found between Urban and Rural collegiate athletes. Rural collegiate athletes were found to have got more Calf muscle circumference to urban collegiate athletes.

Majority of Indian population live in rural areas, mainly depending on agriculture for their livelihood, and carry out more physical activities when compared to urban population who are accustomed to Rural life style. Healthy body is necessary for increasing the working capacity and maintaining physical fitness of any individual to perform his daily tasks vigorously and alertly, with left over energy to enjoy leisure time activities

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