

Body Fat Percentage of School Going Students of Tripura

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Abstract

To know the current body fat percentage of tribal students of Tripura, the present study was carried out on 240 male tribal students belonging to Tripura and falling in the age range of 10 to 12 years. Stature, body mass and skinfolds (triceps, subscapular) were taken to the standard procedure. Participants body mass was measured without shoes and with light clothing to the nearest 0.1 kg, using a digital weighing machine. Their stature was measured to the nearest 0.1 cm using a stadiometer. Skinfolds were measured to the nearest 0.1 mm using a Harpenden calliper. Percentage body fat (%BF) was calculated using the skinfold 2 sides equation of Slaughter et al for predicting body fat of tribal students of Tripura aged 10 to 12 years. The present study utilized the following equations to predict body fat by using triceps (TSKF) and subscapular (SSKF) skinfolds. the mean and SD of Triceps in 10 years tribal students was 5.23 ± 1.23 , 11 years tribal students was 5.48 ± 1.33 , 12 years tribal students was 5.57 ± 1.61 . The mean and SD of Subscapular in 10 years tribal students was 4.26 ± 1.35 , 11 years tribal students was 4.62 ± 1.28 , 12 years tribal students was 5.11 ± 1.68 . The result of 2 sides equation of Slaughter et al in 10 years tribal students category was 9.06, 11 years tribal students category was 9.71 and 12 years tribal students category was 9.99. The purpose of the study is to find out the current body fat percentage of tribal students of Tripura. Percentage of body fat fluctuated with their age in tribal students. The study will assess the total fat percentage of tribal students in Tripura.

KEYWORDS: Body fat percentage, School going students.

Introduction

The tribal populations of Tripura being neglected for long period in nutritional and health issues, needs to be uplifted and so we required empirical evidence which can be achieved through this research. In physical fitness, body composition is used to describe the percentages of fat, bone, water and muscle in human bodies. Because muscular tissue takes up less space in our body than fat tissue, our body composition, as well as our weight, determines leanness. Two people of the same sex and body weight may look completely different because they have a different body composition. To know the current body composition status of tribal students, the present study was carried out on 240 male tribal students belonging to Tripura and falling in the age range of 10 to 12 years. For the study researcher has applied body composition assessment by using the 2 sites skinfold equation of Slaughter et al. for predicting body fat in tribal students aged 10 to 12 years. The researcher has summarized by the American Council on Exercise Body Fat Categorization the range of body fat percentages of Tribal students are lay down in athletes position(6% - 13%) because of the Tribal students of Tripura their body fat percentage in between 9.06 to

9.99 %. The purpose of the study is to find out the current body fat percentage of tribal students of Tripura.

Objective of the study

- i. The study will assess the total fat percentage of tribal students in Tripura
- ii. To find out the current status of body fat percentage of tribal students in Tripura.

Methodology

Selection of the Subjects

For the purpose of the study one hundred eighty (N=240) students were randomly selected from the south district of Tripura. 80 subjects from each class i.e. (80x3) = 240 nos. 20 schools from south district were selected and their aged range in between 10-12 years.

Selection of the Variables

Keeping in mind the feasibility criteria, availability of equipments and the purpose of the investigation the following variables were selected.

Body composition:

- a) Body fat percentage was measured by the 2 sites skinfold equation of Slaughter et al.
 - i. $(\text{Triceps} + \text{Subscapular}) < 35 \text{ mm. (less than) for boys: \% of body fat} = 1.21(\text{TSKF} + \text{SSKF}) - 0.008(\text{TSKF} + \text{SSKF})^2 - 1.7$
- b) Body fat was calculated by using triceps (TSKF) and subscapular (SSKF) skinfolds.

Selection of Tools

Harpenden skinfolds calliper, marker, Weighing machine, calculator and stadiometer were used for the study.

Collection of Data

The data of the study was collected by using following method:-

- i. Body composition was determined by using the 2 sites skinfold equation of Slaughter et al.

Procedure

Stature, body mass and skinfolds (triceps, subscapular) were taken to the standard procedure. Participants body mass was measured without shoes and with light clothing to the nearest 0.1 kg, using a digital weighing machine. Their stature was measured to the nearest 0.1 cm using a stadiometer. Skinfolds were measured to the nearest 0.1 mm using a Harpenden calliper. Percentage body fat (%BF) was calculated using the skinfold equation of Slaughter et al for predicting body fat of tribal students of Tripura

Statistical Technique

For the purpose of the study to ensure the current body fat of tribal students in Tripura, descriptive statistics and 2 sites skinfold equation of Slaughter et al. were employed.

Results and Discussion

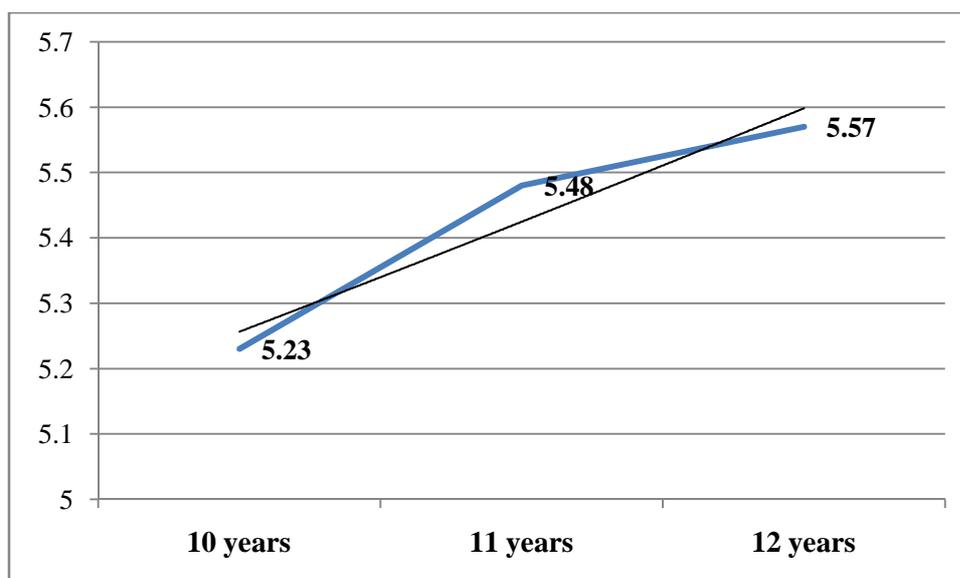
Table: I Mean values of Body fat percentage of Tribal students in Tripura

Mean Age (Year)	N	10 years	11 years	12 years
		80	80	80
Triceps	Mean	5.23	5.48	5.57
	SD	1.23	1.33	1.61
Subscapular	Mean	4.26	4.62	5.11
	SD	1.35	1.28	1.68

Table-I shows the mean and SD of Triceps in 10 years tribal students was 5.23 ± 1.23 , 11 years tribal students was 5.48 ± 1.33 and 12 years tribal students was 5.57 ± 1.61 .

The mean and SD of Subscapular in 10 years tribal students was 4.26 ± 1.35 , 11 years tribal students was 4.62 ± 1.28 and 12 years tribal students was 5.11 ± 1.68 .

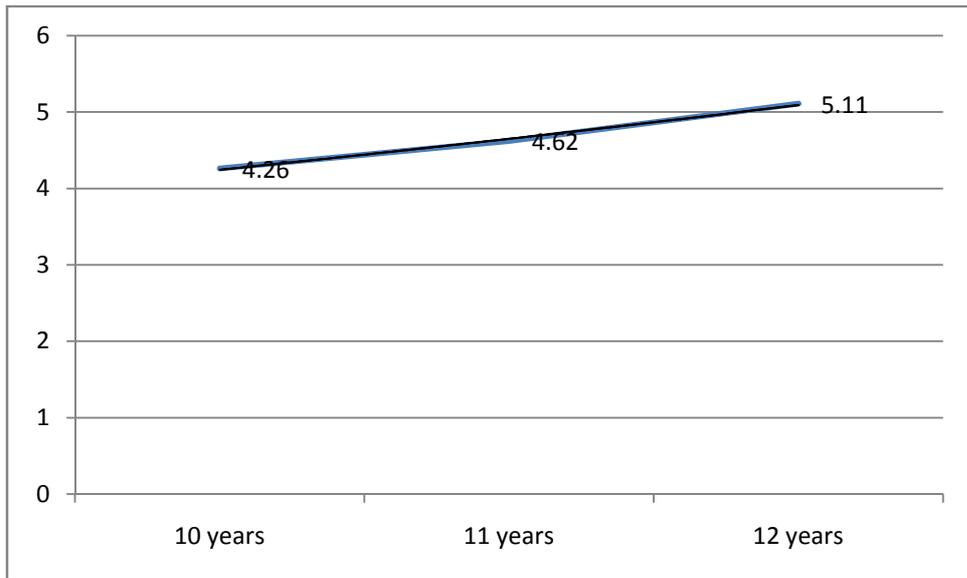
Fig- I Triceps percentage of tribal students in Tripura



Source: Primary Survey, 2018-19

Fig-I Shows the mean value of triceps on tribal students of Tripura aged between 10-12 years. The figure shows that the frequency of triceps was increasing due to their age and nutritional status etc.

Fig- II Subscapular percentage of tribal students in Tripura



Source: Primary Survey, 2018-19

Fig-II Shows the mean value of subscapular on tribal students of Tripura aged between 10-12 years. The figure shows that the frequency of subscapular was increasing due to their age and nutritional status etc.

Table: II Result of 2 sites skinfold equation of Slaughter et al.

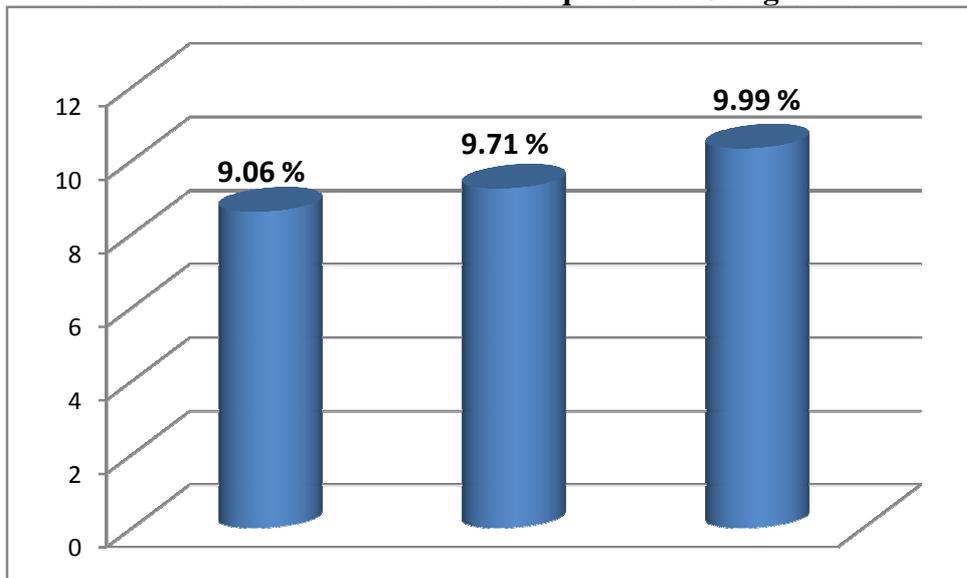


Table-II shows the results of 2 sites skinfold equation of Slaughter et al in 10 years tribal students was 9.06%, 11 years tribal students was 9.71% and 12 years tribal students was 9.99%.

The typical body fat amounts, according to Health Check Systems, The American Council on Exercise has categorized the range of body fat percentages are as follows:

Description	Women	Men
Essential fat	10% - 13%	2% - 5%
Athletes	14% - 20%	6% - 13%**

Fitness	21% - 24%	14% - 17%
Average	25% - 31%	18% - 24%
Obese	32% and above	25% and above
Recommended amount for students is 8-14%		
** Tribal students of Tripura these are lay down in athletes position(ACE)		

Supported by the American Council on Exercise Body Fat Categorization researcher was summarized that the range of body fat percentages of Tribal students are lay down in athletes position(6% - 13%) because of the Tribal students of Tripura their body fat percentage in between 9.06 to 9.99 %.

Conclusion

Base on the study we can conclude that the:

- Triceps that were increasing with their age, height, weight and nutrition.
- The subscapular also increasing with their age, height, weight and nutrition.
- The result of 2 sites skinfold equation in Tribal students that also increasing due to the amount of body fat changes with age.
- The ranges of body fat percentages of Tribal students are lay down in athletes position (6% - 13%).

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