

Assessment of Body Mass Index of Tribal Students in Tripura

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Abstract

To know the current body mass index of tribal students of Tripura, the present study was carried out on 2400 male tribal students belonging to Tripura and falling in the age range of 9 to 14 years. Stature, body mass and BMI 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. BMI were measured by weight (kg)/height (cm.) X height (cm). Body mass index was calculated by using the BMI charts for children. Data on anthropometry revealed that out of total tribal students screened (N=2400), mean height and weight in all the age group was significantly increasing due to the amount of body fat changes with age. BMI of 9 to 14 years tribal students of Tripura was placed in healthy weight category due to shows greater than 5th percentiles. The purpose of the study is to find out the current body mass index of tribal students of Tripura.

KEYWORDS: Body Mass Index, Tribal 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. Nutritional status is the current body status of a person or a population group related to their state of nourishment (the consumption and utilization of nutrients). The nutritional status is determined by a complex interaction between internal/constitutional factors and external environmental factors: internal factors like age, sex, nutrition, behaviour, physical activity and diseases. External environmental factors like food safety, cultural, social and economic circumstances. Anthropometry is the measurement of body height, weight and proportions. It is an essential component of clinical examination of infants, children and pregnant women. To know the current nutritional status of tribal students, the present study was carried out on 2400 male tribal students belonging to Tripura and falling in the age range of 9 to 14 years. For the study researcher has applied nutritional assessment by Anthropometric methods that is Body mass index for children. The criteria used to interpret the meaning of the BMI number for children and teens are different from those used for adults. For children and teens BMI age and sex specific percentiles are used for two reasons these are the amount of body fat changes with age and the amount of body fat differs between girls and boys. The purpose of the study is to find out the current body mass index of tribal students of Tripura.

Objective of the study

- i. To find out the current body mass index of tribal students of Tripura.
- ii. The study will assess the nutritional status of tribal students of Tripura.

Methodology

Selection of the Subjects

For the purpose of the study four hundred eighty (N=2400) students were randomly selected from 8 districts of Tripura. 400 subjects from each class i.e. (400x6) = 2400 nos. 80 schools from Tripura state were selected and their aged range in between 9-14 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.

Nutritional status:

- a) Nutritional status was measured by Anthropometric methods of tribal students.
 - i. Height (cm.)
 - ii. Weight (kg.)
- b) The study was further delimited to the following indices to assess the nutritional status of tribal students of Tripura.
 - i. BMI for Children.
 - ii. Body mass index for age percentiles.

Selection of Tools

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. Nutritional status was determined by anthropometric methods that is BMI for children.

Procedure

The right BMI calculation requires getting the accurate height and weight measurements. Participants body weight was measured without shoes and with light clothing to the nearest 0.1 kg, using a digital weighing machine. Their stature or height was measured to the nearest 0.1 cm using a stadiometer.

Statistical Technique

For the purpose of the study to verify the current nutritional status of tribal students in Tripura, descriptive statistics and BMI index was employed.

Results and Discussion

Table: I Mean values of nutritional status of Tribal Students in Tripura

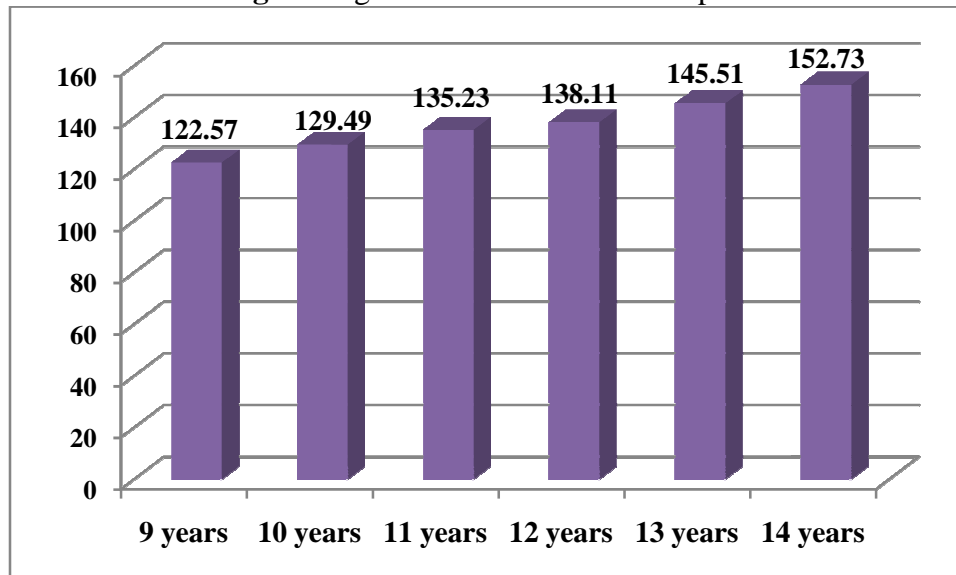
Mean Age (Year)		9 years	10 years	11 years	12 years	13 years	14 years
	N	400	400	400	400	400	400
Height	Mean	122.57	129.49	135.23	138.11	145.51	152.73

(cm.)	SD	5.58	6.11	6.52	7.35	8.43	7.68
	Mean	21.90	25.21	29.10	30.57	35.69	41.34
Weight (kg.)	SD	2.58	3.88	4.84	5.36	6.45	6.88
	Mean	21.90	25.21	29.10	30.57	35.69	41.34
BMI	Level	14.53	14.98	15.81	15.92	16.75	17.60
	Status	Healthy Weight	Healthy Weight	Healthy Weight	Healthy Weight	Healthy Weight	Healthy Weight
	Percentiles	5 th to 85 th	5 th to 85 th	5 th to 85 th	5 th to 85 th	5 th to 85 th	5 th to 85 th

Table-I shows the mean and SD of Height in 9 years tribal students was 122.57 ± 5.58 , 10 years tribal students was 129.49 ± 6.11 , 11 years tribal students was 135.23 ± 6.52 , 12 years tribal students was 138.11 ± 7.35 , 13 years tribal students was 145.51 ± 8.43 & 14 years tribal students was 152.73 ± 7.68 .

The mean and SD of Weight in 9 years tribal students was 21.90 ± 2.58 , 10 years tribal students was 25.21 ± 3.88 , 11 years tribal students was 29.10 ± 4.84 , 12 years tribal students was 30.57 ± 5.36 , 13 years tribal students was 35.69 ± 6.45 & 14 years tribal students was 41.34 ± 6.88 .

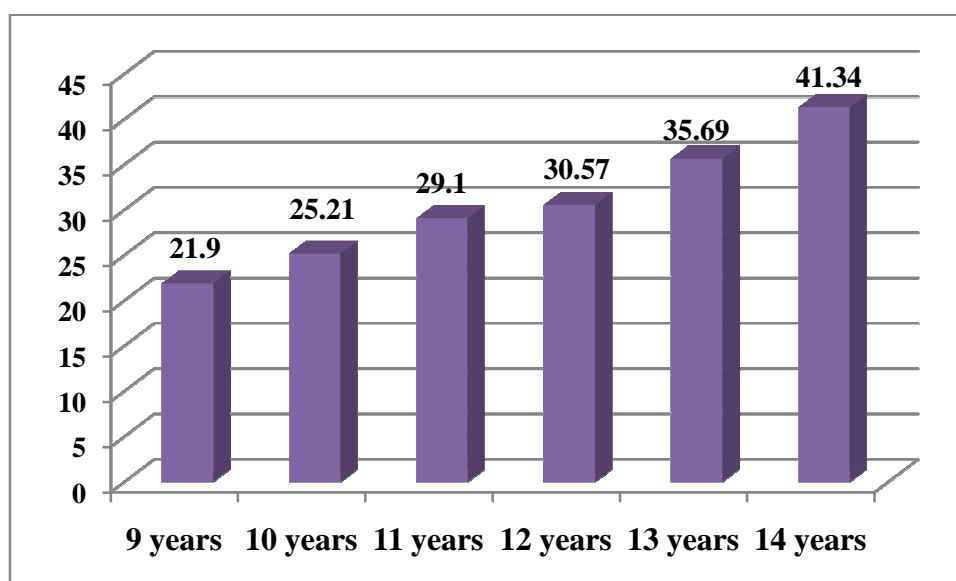
Fig- I Height of tribal students in Tripura



Source: Primary Survey, 2018-19

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

Fig- II Weight of tribal students in Tripura



Source: Primary Survey, 2018-19

Fig-II Shows the mean value of weight on tribal students of Tripura. The figure was increasing frequently due to their age, physical exercise and nutrition etc.

Fig: III Body mass index of tribal students in Tripura

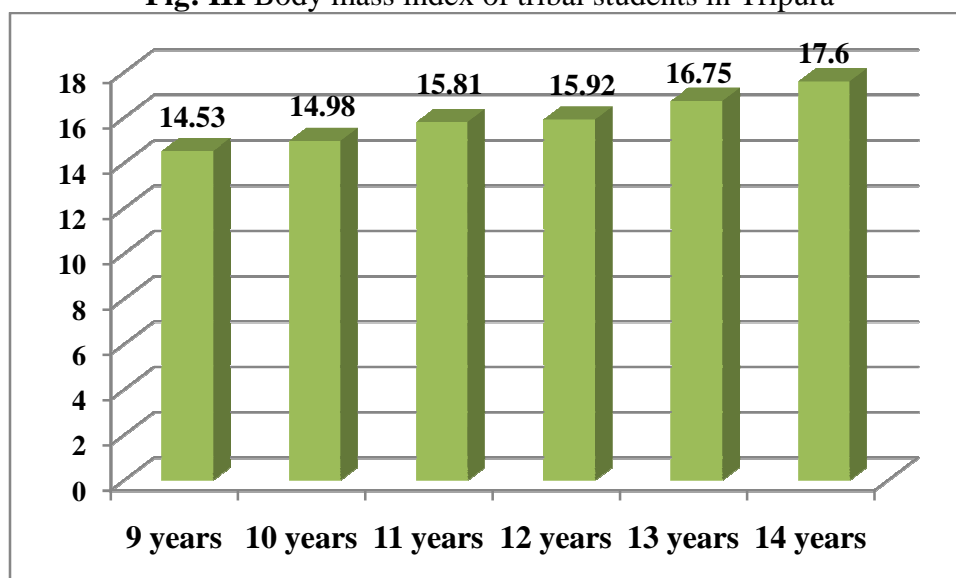


Fig-III Shows the body mass index of tribal students in Tripura. The figure was increasing frequently due to the amount of body fat changes with age, height, weight and nutrition etc. The level of BMI shows that all the tribal students were laid down in healthy weight category due to greater than 5th percentile.

Conclusion

Base on the study we can conclude that the:

- Height that were increasing with their age.
- The weight also increasing due to the amount of body fat changes with age.

- BMI of tribal students of Tripura was placed in healthy weight category due to shows greater than 5th percentiles.

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