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A Study Of Selected Anthropometric Variables Of 11 To 14 Years Boys

¹Dr. Nilesh D. Joshi, ²Mr. Aditya Kumar, ³Ms. Madhusmeeta Das

¹Assistant Professor, ²Research Scholar, ³Research Scholar

Department of Physical Education,

HVPM's Degree College of Physical Education, Amravati (M.S.), India

Abstract:

Anthropometric refers to the measurements and proportions of the human body. It is a scientific field focused on collecting and analyzing data about human physical dimensions, such as height, weight, limb lengths, body circumferences, and skinfold thickness. Anthropometrics plays a crucial role in physical education by helping to assess and improve physical fitness, performance, and overall health. The objective of this study was to find out the status of height and weight of 11 to 14 years boys hostellers. The target population of this study was all boys of ashram schools located in Amravati district (Maharashtra). For the present study 100 boys were select with random sampling method from Shree Ramakrushna Krida Vidyalaya, Amravati.

The findings indicate a significant increase in height and weight of boys with age, with the most rapid height growth observed between 13 and 14 years and the most rapid weight growth observed between 13 and 14 years. These findings can be beneficial for health professionals, educators, and sports trainers in monitoring and supporting the physical development of children in this age group.

Key Words: Anthropometric variables, Height, Weight.

Introduction:

Anthropometric refers to the measurements and proportions of the human body. It is a scientific field focused on collecting and analyzing data about human physical dimensions, such as height, weight, limb lengths, body circumferences, and skinfold thickness.

Anthropometrics plays a crucial role in physical education by helping to assess and improve physical fitness, performance, and overall health. These variables are specific physical measurements and characteristics used to analyze the size, shape, and composition of the human body. These variables are commonly used in fields like health, sports science, ergonomics, and physical education.

- Body Size Measurements
 - Height: Standing height, sitting height, or arm span.
 - Weight: Body mass in kilograms or pounds.
 - Body Surface Area (BSA): A calculated measurement based on height and weight.

- Body Proportions
 - Body Mass Index (BMI): A ratio of weight to height (kg/m^2).
 - Waist-to-Hip Ratio (WHR): A measure of fat distribution.
 - Waist-to-Height Ratio (WHtR): Used to assess cardiovascular risk.
- Limb Measurements
 - Arm Length: Distance from shoulder to wrist or fingertip.
 - Leg Length: Distance from hip to ankle.
 - Upper Arm Circumference: To assess muscle and fat stores.
 - Thigh Circumference: An indicator of muscle mass.
- Body Circumferences
 - Waist Circumference: Indicator of abdominal fat.
 - Hip Circumference: Assesses lower body fat.
 - Chest Circumference: Measured at the widest part of the chest.
 - Head Circumference: Commonly used for growth assessment in children.
- Body Composition Variables
 - Skinfold Thickness: Measured at specific body sites to estimate body fat percentage.
 - Fat Mass (FM): Total weight of fat in the body.
 - Lean Body Mass (LBM): Weight of muscles, bones, and organs.

Objectives:

- To find out the status of height and weight of 11 to 14 years boys hostellers.

Limitations:

- External factors like diet, daily routine and atmospheric conditions.
- Internal factors like body composition, heredity.
- The changes occur due to heredity in this age.

Delimitation:

- The study was delimited to boys only.
- The study was also delimited to 11 to 14 years age group.
- The study was further delimited to hostellers of Shree Ramakrushna Krida Vidyalaya, Amravati.

Population and Sample:

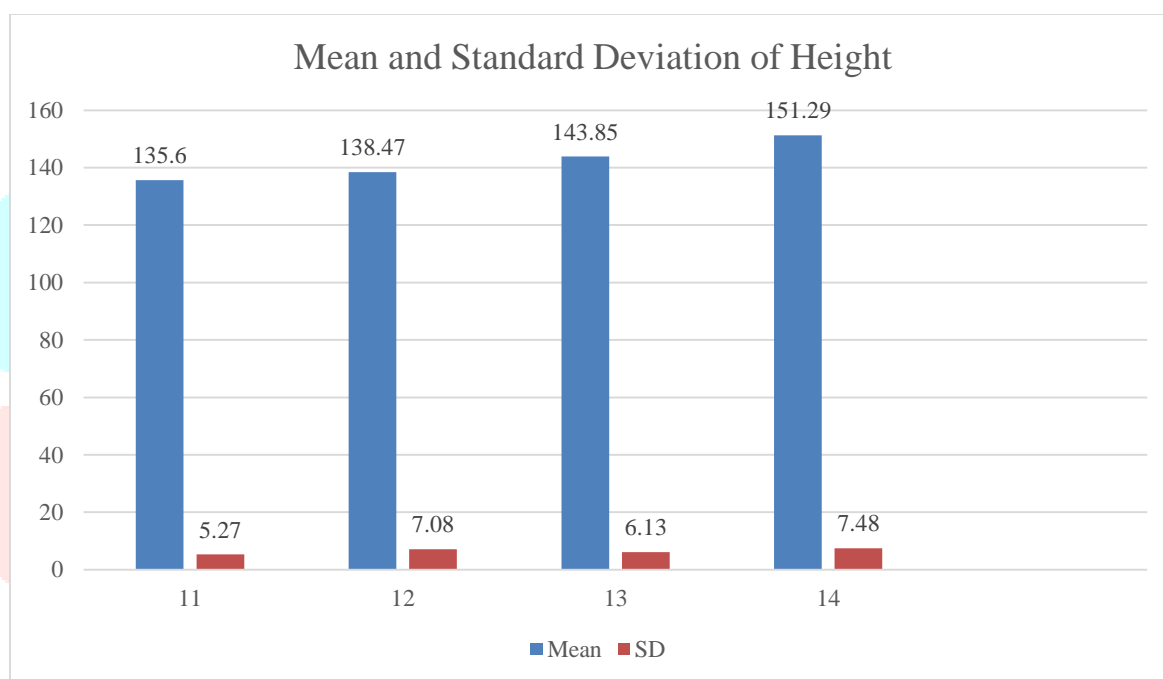
The target population of this study was all boys of ashram schools located in Amravati district (Maharashtra). For the present study 100 boys were select with random sampling method from Shree Ramakrushna Krida Vidyalaya, Amravati. The age range of boys were between 11 to 14 years.

Data Collection:

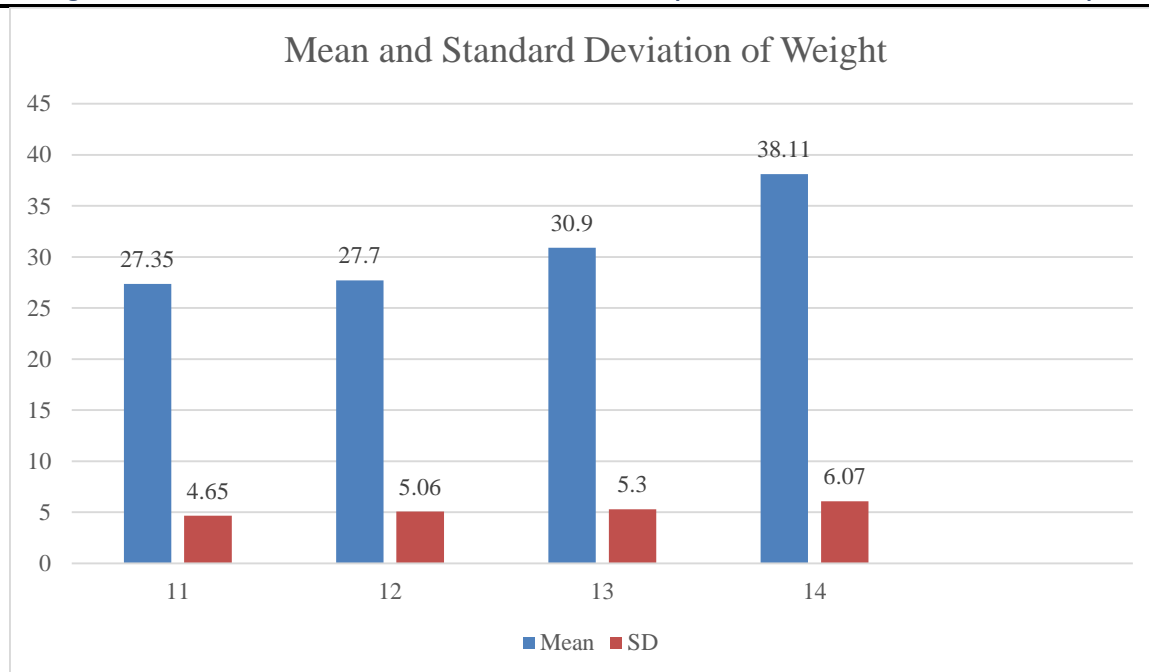
In all two tests were selected for the data collection to evaluating the development of height and weight. After collecting the data, it was arranged in tabular form and mean and standard deviation were used for data analysis.

Result:

Age	Height		Weight	
	Mean	SD	Mean	SD
11	135.60	5.27	27.35	4.65
12	138.47	7.08	27.70	5.06
13	143.85	6.13	30.9	5.30
14	151.29	7.48	38.11	6.07



The mean of height of 11 years boys found 135.6 cm and standard deviation is 5.27; 12 years boys found 138.47 cm and standard deviation is 7.08; 13 years boys found 143.85 cm and standard deviation is 6.13; 14 years boys found 151.29 cm and standard deviation is 7.48.



The mean of weight of 11 years boys found 27.35 kg and standard deviation is 4.65; 12 years boys found 27.7 kg and standard deviation is 5.06; 13 years boys found 30.9 kg and standard deviation is 5.3; 14 years boys found 38.11 kg and standard deviation is 6.07.

Conclusion:

The findings indicate a significant increase in height and weight of boys with age, with the most rapid height growth observed between 13 and 14 years and the most rapid weight growth observed between 13 and 14 years. These findings can be beneficial for health professionals, educators, and sports trainers in monitoring and supporting the physical development of children in this age group.

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