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Comparative study of body fat percentage for the different age group school going boys' students of Madhya Pradesh

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Abstract

The subjects selected for this study was 1000 students from Private Schools of Indore, Bhopal, Gwalior and Jabalpur (M.P). The subjects was selected on the basis of their Body fat percentage. The selection of the variables Body fat percentage different age groups from 10 years to 14 years of school going boys' students from urban city of Indore, Bhopal, Jabalpur and Gwalior of Madhya Pradesh. Keeping in view the purpose of the study, a large number of students was randomly selected on the basis of their Body fat percentage. The measurement of the selected students was taken. The dates of birth of all subjects was take from their respective schools records. The all the subjects from Private Schools of various district, Indore, Bhopal, Gwalior and Jabalpur, of Madhya Pradesh. In this study Descriptive statistics was used for to compare the Body fat percentage Analysis of variance (ANOVA) with LSD post hoc test was used The information studying tools spss- 21 software turned into used. There was significance Mean score of Body fat percentage the different age groups like 10 year to 14 year school going boys' students of various district of urban city of Indore, Bhopal, Jabalpur and Gwalior Madhya Pradesh.

Keywords: Body, percentage, Gwalior, Madhya Pradesh, urban, etc.

Introduction

Lifestyle issues have penetrated very deeply into our society. Lifestyle modifications are mirrored in each adult and children, as many contributing elements are common. Childhood weight problems is an alarming growing style in city areas of India. Interestingly, in our country, we see instances of each malnutrition and overeating, of course, in two distinct strata of society^[1].

Health can be described as the physical, social, psychological and non-secular well-being of people. The commonplace fitness of the populace is decided by way of income, education, employment and housing, as nicely as with the aid of a mixture of prevention and rehabilitation processes and services.

Objectives of the study

1. To Describe of Body fat percentage between various age groups school going boys students of urban areas of Madhya Pradesh.
2. To compare of Body fat percentage between various age groups school going boys' students of urban areas of Madhya Pradesh.

Statistical Procedure

In this study Descriptive statistics was used for to compare the Body fat percentage different age groups from 10 years to 14 years of school going boys' students from urban city of Indore, Bhopal, Jabalpur and Gwalior of Madhya Pradesh. Analysis of variance (ANOVA) with LSD post hoc test was used the information studying tools SPSS- 21 software turned into used.

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¹ www.thehealthsite.com/diseases-conditions/world-obesity-day-why-childhood-obesity-is-on-the-rise/

Methodology

The subjects selected for this study was 1000 students from Private Schools of Indore, Bhopal, Gwalior and Jabalpur (M.P). The subjects was selected on the basis of their Body Fat Percentage. The selection of the variables Body fat percentage different age groups from 10 years to 14 years of school going boys’ students from urban city of Indore, Bhopal, Jabalpur and Gwalior of Madhya Pradesh. Keeping in view the purpose of the study, a large number of students was randomly selected on the basis of their Body Fat Percentage. The measurement of the selected students was taken. The dates of birth of all subjects was take from their respective schools records. The all the subjects from Private Schools of various district, Indore, Bhopal, Gwalior and Jabalpur, of Madhya Pradesh. In this study Descriptive statistics was used for to compare the Body fat percentage Analysis of variance (ANOVA) with LSD post hoc test was used The information

studying tools spss- 21 software turned into used.

Criterion measure

Fat percentage (US Navy Method)

The formula for calculating body by US Navy method is
 Fat % = (86.01x log10 (waist circumference- Neck Circumference))-(70.041xLog10 (Height)) + 30.3

The formula used to be used in the excel telephone to calculate the physique fats share through the usage of three variables i.e. waist circumference (in cm) Neck circumference (in cm) and Body Weight (in kg).

Body fat percentage (U.S. Navy Method)

The mean, standard deviation, minimum and maximum scores Body Fat Percentage U.S. Navy Method are presented in Table – 1.

Table 1: Descriptive statistics of body fat percentage (U.S. Navy method for various age group boys of various district of Madhya Pradesh

Variables	Groups	Mean	Std. Deviation	Minimum	Maximum
Body Fat Percentage (U.S. Navy Method)	10 Years	19.8	7.4	4.50	38.10
	11 Years	18.3	7.3	1.80	38.70
	12 Years	17.8	7.9	1.90	40.90
	13 Years	17.7	7.1	5.10	35.80
	14 Years	16.4	7.5	1.90	36.30
	Total	18.0	7.5	1.80	40.90

Table-1 This study was carried results for the various groups under 10 years, under 11 years, under 12 years, under 13 years, and under 14 years boys students from urban city of Indore, Bhopal, Jabalpur and Gwalior of Madhya Pradesh heights mean and standard deviations let me lean this up here standard deviations are extremely helpful in analyzing the data sets, hence, that Body Fat Percentage (U.S. Navy Method), group statistics, is shown in figure 1 this table includes descriptive statistics mean and standard deviations for each group of value of Body Fat Percentage (U.S. Navy Method) for various groups 10 years, 11 years, 12 years, 13 years, and 14 years boys students. In detail table includes that

the mean and standard deviations of Body Fat Percentage (U.S. Navy Method) for the show various groups under 10 years (19.8±7.4), under 11 years (18.3±7.3), under 12 years (17.8±7.9), under 13 years (17.7±7.1), and under 14 years (16.4±7.5), boys students from urban city of Indore, Bhopal, Jabalpur and Gwalior of Madhya Pradesh The Analysis of Variance of Body Fat Percentage (U.S. Navy Method) of boys students at different age groups is presented in table –2

The analysis of variance (ANOVA), for analyzing the difference between the means of Body Fat Percentage (U.S. Navy Method between various age groups are presented in Table – 2.

Table 2: Analysis of variance of means of body fat percentage for various age groups boys of various district of Madhya Pradesh

Variable	Variance	Sum of Squares	df	Mean Square	F	Sig.
Body Fat Percentage (U.S. Navy Method)	Between Groups	1198.449	4	299.612	5.416	.000
	Within Groups	55038.263	995	55.315		
	Total	56236.711	999			

*Significant at 0.05 level 4, 995 (2.38)

Table 2 reveals that analysis of variance (ANOVA) for Body Fat Percentage (U.S. Navy Method) for various age groups of boys students from Private Schools of Indore, Bhopal, Gwalior and Jabalpur Madhya Pradesh is found significant as the calculated “F” value is 5.416 as the p-value is .000 This p-value indicates that “F” is significant at 0.05 level of

significance. As the “F” value is found significant the LSD Post Hoc test is applied to find between which groups the significant difference is found. The finding of the LSD Post Hoc test and their p-value is presented in table 3. The mean of the Fat Percentage (USNF %) for 10 to 14 Years are presented in Fig- 1

Table 3: Mean, mean difference and critical mean difference value of LSD post hoc test for body fat percentage

10 Years	Mean of Groups				Mean	CD
	11 Years	12 Years	13 Years	14 Years	Difference	
19.8	18.3				1.52850*	1.4592
19.8		17.8			2.01850*	
19.8			17.7		2.06000*	
19.8				16.4	3.40100*	
	18.3	17.8			.49000	
	18.3		17.7		.53150	
	18.3			16.4	1.87250*	
		17.8	17.7		.04150	

		17.8		16.4	1.38250
			17.7	16.4	1.34100

The above table indicates the body fat percentage (U.S. Navy method) that means the value of 10 Years students (19.8) and 11 years (18.3) it is determined that groups were found significant whereas that the greater than the calculated “F” value was observed significant and mean difference (1.52850*) is more than the CD Value (1.45). There was a significant difference between 10 years (19.8) and 12 (17.8) years students Mean difference MD (2.01850*) fee is more than the CD (1.45). And there was significant difference between 10 years (19.8) and 13 years students (17.7) students Mean difference vale (2.06000*) is more than the CD value (1.45). There was a significant difference between 10 years (19.8) and 14 years (16.4) students it is determined that groups were found significant whereas that the greater than the calculated “F” value was observed significant and mean difference (3.40100*) is more than the CD Value (1.45).

The Body Fat Percentage (U.S. Navy Method) of mean value of 11 Years students (18.3) and 12 years (17.8) it is determined that groups were found no significant difference whereas that the greater than the calculated “F” value was observed no significant and mean difference (.49000) is less than the CD Value (1.45). This groups indication that mean value of 11 years (18.3) and 13 years students (17.7) it is determined that groups were created no significant difference mean difference value (.53150) is less than the CD value (1.45). There was significant difference between 11 years (18.3) and 14 years students (16.4) mean difference (1.87250*) is more than the CD value (1.45).

Show that BODY FAT Percentage (U.S.NEVY METHOD) of means score of 12 Years students (17.8) and 13 years (17.7) it is determined that groups were found no significant difference whereas that the less than the calculated “F” value was observed no significant and mean difference (.04150) is less than the CD Value (1.45). there was a no significant difference between 12 year (17.8) and 14 years students (16.4) so that mean difference value (1.38250) is less than the CD (1.45) value for those groups. And last both groups between 13 years (17.7) and 14 years (159.9800) were found no significant difference mean difference value (1.34100) is less than the CD value (1.45). The graphical representation of the mean of the BODY FAT Percentage (U.S. Navy Method) is shown in Fig 1.

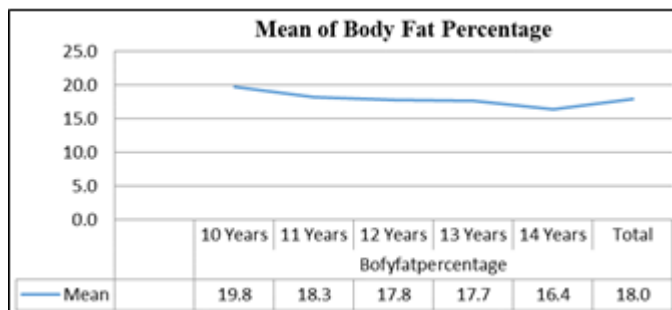


Fig 1: Mean of Fat Percentage (USNF %) for 10 to 14 Years of Students

Discussion of Findings

To find out the Mean and Standard Deviation score of Body fat percentage the different age groups like 10 year to 14 year school going boys’ students of various district of urban city of Indore, Bhopal, Jabalpur and Gwalior Madhya Pradesh. To find out the compare (f-value) and multiple compare of Body

fat percentage the different age groups like 10 year to 14 year school going boys’ students of various district of urban city of Indore, Bhopal, Jabalpur and Gwalior Madhya Pradesh. The reason of these differences can be associated with above results this is probably due to the different nature of the physical components training and pre-requisite for students. Number of participation and level of participation. The reason may be attributed that the physically trained student or level of achievements and taken deferent types nutrition food. These results may be due to a small sample of size and other factors such as different types of body, differences in body composition. These results may be nutrition diet schedule deference. The reason may be Psychological variables like stress, sports competition anxiety, aggression, fear, motivation confidence, attention concentration etc.

Conclusions

According to objectives of the study the following conclusions were drawn

- There was significance Mean score of Body fat percentage the different age groups like 10 year to 14 year school going boys’ students of various district of urban city of Indore, Bhopal, Jabalpur and Gwalior Madhya Pradesh.

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