Study on Body Mass Index and Anthropometric Measurement of DAV students

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ABSTRACT

The prevalence of childhood obesity and overweight has reached epidemic proportions over the world. Obesity in youngsters has been identified as a major health issue that necessitates inhibitory exertion across the world. Obesity prevention is best aimed at school-aged children, but few research studies have focused on this population, and the majority of those that have were undertaken in other Indian states. Obesity in children is becoming a big public health issue. The goal of this study was to see how a physical education programme affected obese children in a specific age range in Punjab.

Keywords: DAV Schools, Anthropometric Measurements, Punjab.

INTRODUCTION

Childhood obesity has emerged as an epidemic in industrialised countries and a cause of worry globally in the final part of the twentieth century, since it has been recorded in substantial numbers from countries traditionally considered poor or developing. It is no longer only a concern for wealthy countries.

Obesity is one of today's most critical 'Public Health Problems,' according to the World Health Organization (WHO), which has defined it as a 'Global Epidemic' and one of today's most ignored Public Health Problems (Health & Survey, 2002). Overweight affects around 1.4 billion persons aged 20 and up. In underdeveloped nations, there are around 35 million overweight children and 8 million in industrialised countries. As a result, tackling obesity should be a top focus. Overweight in adolescence is a predictor of obesity in adulthood and is linked to disorders including diabetes and cardiovascular disease. Obesity was found to be prevalent in both urban and rural regions of Surat city in the 14–16 year age group, according to a study done by Alok et al. Obesity prevalence was estimated to be 12.8 percent in rural and 14.6 percent in urban teenagers. In Surat, JP Goyal et al. studied the prevalence of obesity in adolescents aged 12–15 years, whereas RK Goyal et al. studied adolescents aged 12–18 years from various socioeconomic backgrounds. The study's data were gathered to determine the prevalence of obesity in 14–16-year-olds and to look into the particular causes of overweight and obesity.

RESEARCH METHODOLOGY

The research was divided into two sections: 1) A cross-sectional study of pupils at DAV schools in Punjab's tenth grade, chosen at random. The data was double-checked for correctness and completeness. IBM SPSS Statistics Version 25 was used to computerise and analyse the coded data. For boys and girls individually,

descriptive statistics were reported in frequency tables, ranges, minimum and maximum descriptive, mean, standard deviation, and variance (Ricardo, Gil, & Arajo, 2002).

After directing the children to remove heavy clothing, the school instructors from the department of physical education collected various anthropometric (height, weight, triceps, biceps, belly, suprailiac, calf, and fat percentage) measures in the examination room. The number of students in the sample (N) is 150. A appropriate weight balance was employed, which was calibrated to the nearest 0.5 kg (Division & Report, 2017). While wearing a light school uniform, students were weighed. A suitable metallic metre scale, fastened to the scale and measuring to the closest 0.5 cm, was employed. The BMI was computed by multiplying the weight in kilogrammes by the square height in metres (Chou & Huang, 2017).

FINDINGS

The data was double-checked for correctness and completeness. IBM SPSS Statistics Version 25 was used to computerise and analyse the coded data. For boys and girls individually, descriptive statistics were reported in frequency tables, range, minimum and maximum descriptive, mean, standard deviation, and variance. After directing the children to remove heavy clothing, the school instructors from the department of physical education collected various anthropometric (height, weight, triceps, biceps, belly, suprailiac, calf, and fat percentage) measures in the examination room.

The sample size (N) of students is 150. One suitable weight balance measuring to nearest 0.5 kg was used. Students were weighed while wearing light school uniform. Suitable metallic meter scale measuring to the nearest 0.5 cm, fixed on the scale was used. Body Mass Index was calculated by dividing weight in kg by square height in meters(Therapy, 2016).

Table No. 1: Descriptive Statistics (Boys)							
	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
Height	150	38.0	141.0	179.0	161.647	7.6677	58.794
Weight	150	42.0	58.0	100.0	75.887	8.4038	70.625
BMI	150	15.3	25.0	40.3	29.135	3.0116	9.070
Triceps	150	13.0	19.0	32.0	25.033	2.9751	8.851
Biceps	150	14.0	12.0	26.0	17.060	2.3294	5.426
Abdomen	150	13.0	27.0	40.0	31.653	2.7733	7.691

The table number 1 depicted that, the difference between the largest descriptive (179.0) and smallest descriptive (141.0) a value were 38.0 and provides an indication of statistical dispersion. The arithmetic mean was 161.647. The amount of variation or dispersion of a set of data values was 7.6677. The expectation of the square deviation of a random variable from its mean was 58.794. It measures how far a set of (random) numbers are spread out from their average value. The difference between the largest descriptive (100.0) and smallest descriptive (58.0) value were 42.0 and provides an indication of statistical dispersion. The arithmetic mean was 75.887. The amount of variation or dispersion of a set of data values was 8.4038. The expectation of the square deviation of a random variable from its mean was 70.625. It measures how far a set of (random) numbers are spread out from their average value. The difference between the largest descriptive (40.3) and smallest descriptive (25.0) values were 15.0 and provides an indication of statistical dispersion. The arithmetic mean was 29.135. The amount of variation or dispersion of a set of data values was 3.0116. The expectation of the square deviation of a random variable from its mean was 9.070. It measures how far a set of (random) numbers are spread out from their average value. The difference between the largest descriptive (32.0) and smallest descriptive (19.0) values were 13.0 and provides an indication of statistical dispersion. The arithmetic mean was 25.033. The amount of variation or dispersion of a set of data values was 2.9751. The expectation of the square deviation of a random variable from its mean was 8.51. It measures how far a set of (random) numbers are spread out from their average value. The difference between the largest descriptive (26.0) and smallest descriptive (12.0) values were 14.0 and provides an indication of statistical dispersion. The arithmetic mean was 17.060. The amount of variation or dispersion of a set of data values was 2.3294. The expectation of the square deviation of a random variable from its mean was 5.426. It measures how far a set of (random) numbers are spread out from their average value. The difference between the largest descriptive (40.0) and smallest descriptive (27.0) values were 13.0 and provides an indication of statistical dispersion. The arithmetic mean was 31.653. The amount of variation or dispersion of a set of data values was 2.7733. The expectation of the square deviation of a random variable from its mean was 7.691. It measures how far a set of (random) numbers are spread out from their average value.

CONCLUSION

This was the first research in Punjab to employ qualitative technique to assess the height, weight, triceps, biceps, belly, suprailiac, calf, and fat percentage measures for paediatric obesity (Abuse et al., 2016). In the state of Punjab, the prevalence of overweight and obesity in school students was lower than in most other states. This is critical given the community's sociological changes, as well as the rapid proliferation of fast food outlets and western nutritional habits (Pandit & Ojha, 2013). The focus group data offered valuable context, confirming some of the findings from the cross-sectional study and informing the creation of future obesity prevention treatments tailored to the local environment. The need for early intervention is crucial in Punjab, where the diagnosis of overweight or obesity is on the rise (Ja, 2003). There is an obvious need for government authorities, parents, and teachers to work together to implement methods that improve the prevention, control, and management of overweight and obesity among Punjab DAV students. By screening, monitoring, and giving

health education to parents and their children, school nurses may make a significant difference (Nutrition & Manangement, 2000).

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