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Prevalence of Overweight/Obesity among School Children in Selected Private Schools at Erode, Tamil Nadu

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Abstract: *The present study was undertaken to determine the prevalence of overweight and obesity among children studying in private schools in the age group of 11-14 years. Total enumeration sampling method was used and the total of 2291 children was included in the present study. Height and weight were measured and then BMI was calculated, based on the BMI children were categorized as overweight and obese. Results showed that the prevalence of overweight and obesity were comparable with national level.*

Keywords; *School Children, Prevalence, Overweight, Obesity, BMI.*

INTRODUCTION

Childhood obesity is emerging as a major health problem in developing countries such as India, especially in urban populations. The World Health Organization (WHO) has declared overweight as one of the top ten health risks in the world and one of the top five in developed nations. The magnitude of overweight problem ranges from 9% to 27.5% and the obesity ranges from 1% to 12.9% among Indian children. Existing WHO standards and data from 79 developing countries including a number of industrialized countries suggest that about 22 million children 5 years old are overweight world-wide. Once considered a problem of affluence, obesity is fast growing in many developing countries also. Even in countries like India, which are typically known for high prevalence of under nutrition, a significant proportion of overweight and obese children now coexist with those who are under nourished. Overweight and obesity are major risk factors for a number of chronic diseases, including diabetes, cardiovascular diseases, and cancer. Obesity in children and adolescents is gradually becoming a major public health problem in many developing countries, including India.

Indian studies have shown that there is 50% of the increase in the prevalence of childhood obesity in two years with the highest incidence in boys. A study done with school children in urban Chennai found the number of overweight boys to be 17.8% and girls 15.8%. In affluent cities of India, the prevalence of obesity reaches the levels of industrialized countries, with values increasing with socioeconomic class.

Current evidence indicates that obesity is a multi-factorial condition influenced by many variables, including genetic, demographic and lifestyle factors. Genetic and demographic variables such as family history of obesity, age, ethnicity, and sex cannot be modified. However, obesity-associated lifestyle factors are often modifiable. In fact, previous research had shown that childhood obesity is associated with many lifestyle factors, including sedentary behaviours, physical inactivity, and unhealthy dietary choices.

STATEMENT OF THE PROBLEM

A Descriptive Study to Assess the Prevalence of Overweight and Obesity among School Children at Selected Schools in Erode, Tamil Nadu.

OBJECTIVE

- 1. To determine the prevalence of overweight/obesity among school children.

OPERATIONAL DEFINITION

- ▶ **Overweight /Obesity:** It refers to when the BMI exceeds more than 25 among school children.
- ▶ **Children:** It refers to the overweight/obese school children between the age group of 11-14 years, who are studying in selected schools at Erode.
- ▶ **BMI:** Body Mass Index is calculated by Quetelet Index which is supported by WHO.

$$\text{QI} = \frac{\text{Weight in Kilograms}}{\text{Height in (meter)}^2}$$

BMI	Weight Status
Below 18.5	Underweight
18.5 -24.9	Normal
25 - 29.9	Overweight
30 & Above	Obese

MATERIALS AND METHODS

The present study was undertaken to assess the overweight/obesity among School children studying in private schools. The researcher selected non experimental descriptive research design to accomplish the objectives. The setting of the study was selected private schools at Erode. Total enumeration sampling technique was used to determine the prevalence of overweight/obesity among school children aged 11-14 years. Total of 2291 children of both the schools was included in the study. Based on the sampling criteria the children were included in the study. The data was collected with the structured tool and it had two sections. Section I had general information included age and sex of the children and Section II had anthropometric measurements. The body weight was measured without shoes and the height was measured to the nearest centimetre by using a measuring scale. Then the BMI was calculated and interpreted the status of weight and classified to overweight and obesity.

RESULTS

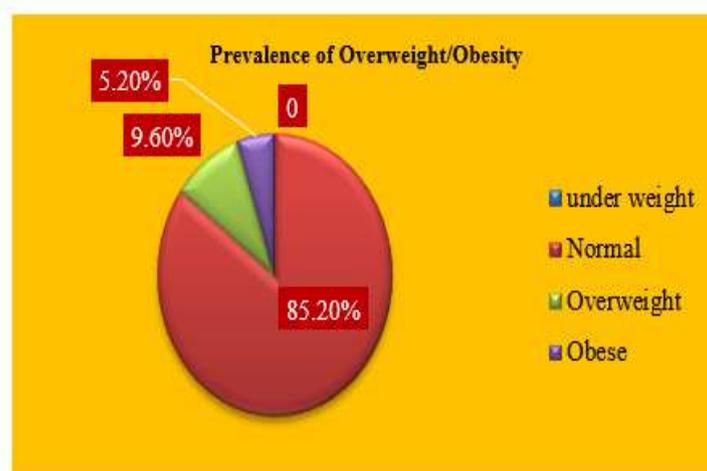


Fig 1: Prevalence of Overweight and Obesity among School Children

A total of 2291 screened for BMI, Majority 1952(85.2%) had normal BMI (below25), 219(9.6%) were Overweight and 120 (5.2%) were obese. None of the children were under weight. It was inferred that overweight and obesity were increasing among school children.

Table 1; Frequency and Percentage Distribution of Overweight & obesity pertaining to Gender of the School Children

Sl. No	Gender	Overweight		Obese	
		f	%	f	%
01	Girls	129	38	69	20.4
02	Boys	90	26.5	51	15

Regarding the gender of the school children, among girls 129 (38 %) were overweight and 69(20.4%) were obese. Among boys 90(26.5%) were overweight and 51(15%) were obese. It was inferred that girls BMI were higher and more affected than the boys.

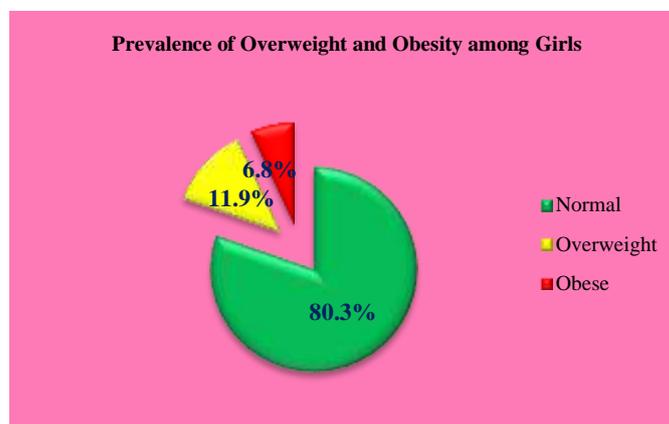


Fig 2: Percentage Distribution of Overweight and Obesity Among girls

Fig 2 results showed that among 1008 girls, 810 (80.4 %) had normal BMI, 129(12.8 %) were overweight and 69(6.8) were obese.

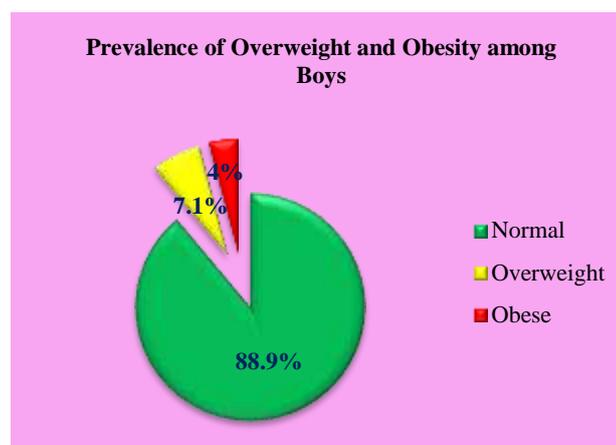


Fig 3: Percentage Distribution of Overweight and Obesity among Boys

From fig 3 it is incorporated that among 1283 boys, 1139 (88.9 %) had normal BMI, 90(7.1 %) were overweight and 51(4%) were obese.

Age in years	Overweight				Obese			
	Girls		Boys		Girls		Boys	
	f	%	f	%	f	%	f	%
11	14	4	6	1.8	3	0.9	5	1.5
12	29	8.6	18	5.3	12	3.5	7	2
13	40	11.8	29	8.6	25	7.4	17	5
14	46	13.6	37	10.9	29	8.6	22	6.5

Table 2: have shown that the frequency and percentage distribution of overweight and obesity among school children pertaining to age and gender. It was inferred that overweight and obesity were higher in 13 and 14 years of age group than the 11 and 12 years of age and also higher in girls than boys.

DISCUSSION

In the Present study, it was observed that there has been a significant increase in overweight and obesity among school children belonging to urban private schools. Among the selected Private school children the prevalence of overweight and Obesity was 9.6% and 5.2% respectively based on the BMI status. In a study conducted by Eshwar et.al.(2017) the Prevalence of obesity and overweight and their comparison by three growth standards among affluent school students aged 8–18 years in Rajkot. They reported that obesity was 14% by IAP standards, 11.1% by WHO standards, and 5.1% by IOTF standards. Overweight children prevalence was reported more (19.1%) with IAP standards, followed by 15.8% with IOTF standards and 15.3% by WHO standards. High prevalence of obesity and overweight was reported with IAP 2015 standards and WHO 2007 standards. The higher prevalence of overweight in the study indicated that more children are becoming obese.

CONCLUSION

It was concluded that Overweight and obesity was prevalent in urban private school children and the results are par with the other studies done in many cities of India. Since, the increasing trend of obesity in school children, it is necessary to take action at school, community and home level to control the overweight and obesity along with the coordinated effect of the parents.

RECOMMENDATIONS

1. School and community based group programme may be initiated to control the overweight and obesity among School Children.
2. Large scale Multi level Study can be done to know the exact magnitude of the problem.

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