Original Article

Assessment Of Prevalence Of Obesity Among School Children Of Age Group 5-12 Years Of Bangalore

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Doi: 10.47750/pnr.2022.13. S05.70

Abstract

Background: Overweight and obese are the terms used to describe body weight in excess of what is considered healthy for a particular height The present study was conducted to assess prevalence of obesity among school children of age group 5-12 years of Bangalore.

Materials & Methods: 130 school children of age group 5-12 years of both genders were enrolled. Weight (kg) and height (cm) of each child and BMI was calculated as weight (kg)/ height 2 (m2). Children were categorized into three groups: obese (>95th percentile), overweight (≥85th percentile) and normal (5th percentile) using age- and sex specific percentiles of BMI.

Results: Out of 130 children, boys were 70 and females were 60. There were 15% underweight, 70% normal, 8% overweight and 7% obese boys. Girls were 11% underweight, 76% normal, 6.5% overweight and 4.5% obese. The difference was significant (P< 0.05). Maximum overweight was seen in age group 9-10 years and obese in age group 9-10 years.

Conclusion: Maximum overweight and obese children were seen in age group 9-10 years.

Key words: overweight, Obese, Nutrition

INTRODUCTION

Overweight and obese are the terms used to describe body weight in excess of what is considered healthy for a particular height.[1,2] According to the World Health Organization (WHO), for children aged 5–19 years, overweight is defined as a Body Mass Index (BMI)- for-age greater than one standard deviation, and obese as a BMI-forage greater than two standard deviations above the WHO growth reference median. Overweight/obesity is defined as abnormal or excessive fat accumulation that may impair health.[3]

Reports of the World Health Organization (WHO) showed that Iran is one of the seven countries having the highest prevalence of childhood obesity while the percentage of increase in obesity and being overweight doubled in Iranian children and adolescents between 1993 and 2001. In addition, obesity is considered an important risk factor in developing hypertension, type 2 diabetes, and hyperlipidemia. It is also noted that obesity is not only associated with medical consequences but also with social status.[4] In recent years, changes in lifestyles in different countries have led them to face the challenges and consequences of being overweight and obese in all ages. Meanwhile, childhood and adolescence obesity has become a public health problem whether in developed or developing countries.[5] The present study was conducted to assess prevalence of obesity among school children of age group 5-12 years of Bangalore.

MATERIALS & METHODS

The present study comprised of 130 school children of age group 5-12 years of both genders.
Parents gave their written consent for the participation in the study.
Data such as name, age, gender etc. was recorded. A weighing scale and stadiometer were used to measure the weight (kg) and height (cm) of each child using standard procedure. BMI was calculated as weight (kg)/ height 2 (m2). The date of birth of each child was taken from the school records. Data was collected. Children were categorized into three groups: obese (>95th percentile), overweight (≥85th percentile) and normal (5th percentile) using age- and sex specific percentiles of BMI. Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

RESULTS

Table I Distribution Of Patients

Total- 130		
Gender	**Boys**	**Girls**
Number	70	60

Table I shows that out of 130 children, boys were 70 and females were 60.

Table II Prevalence Of Obesity

Gender	Underweight	Normal	Overweight	Obese	P value
Boys	15%	70%	8%	7%	0.05
Girls	11%	82%	5%	2%	0.04
Total	12%	76%	6.5%	4.5%	0.05

Table II shows that there were 15% underweight, 70% normal, 8% overweight and 7% obese boys. Girls were 11% underweight, 76% normal, 6.5% overweight and 4.5% obese. The difference was significant (P< 0.05).

Graph I Prevalence Of Obesity

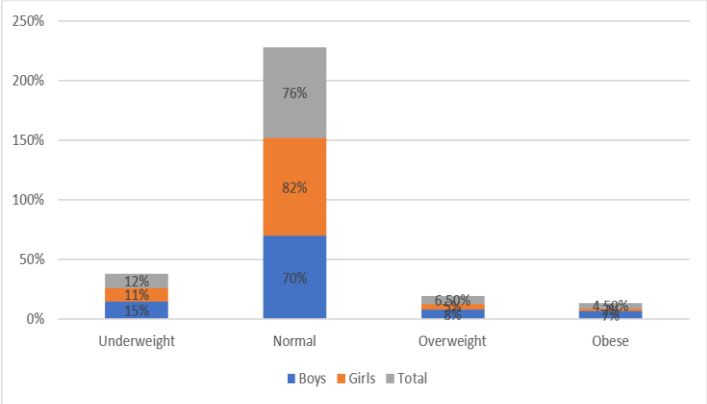

Table III Distribution Of Obesity And Overweight According To Age Group

Age group	Overweight	Obese	P value
5-6	13%	11%	0.05
6-7	20%	12%	
7-8	12%	19%	
8-9	15%	20%	
9-10	17%	22%	
10-11	13%	10%	
11-12	10%	6%	

Table III shows that maximum overweight was seen in age group 9-10 years and obese in age group 9-10 years. The difference was significant (P< 0.05).

DISCUSSION

The nutrition transition is associated with a change in dietary habits, decreasing physical activity and rising prevalence of obesity.[6,7] 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.[8] 'One-half of obese school children become obese adults. However, whether or not obesity persists into adulthood, obesity in childhood appears to increase the risk of subsequent morbidity'. Significance of estimating prevalence of childhood obesity thus cannot be overemphasized.[9,10] The present study was conducted to assess prevalence of obesity among school children of age group 5-12 years of Bangalore.

We found that out of 130 children, boys were 70 and females were 60. There were 15% underweight, 70% normal, 8% overweight and 7% obese boys. Girls were 11% underweight, 76% normal, 6.5% overweight and 4.5% obese. Mahajan et al[11] in their study children between 6 and 12 years were sampled. The prevalence of overweight (≥85th percentile) among children was 4.41% and prevalence of obesity (>95th percentile) was 2.12%. Mahe region had the highest prevalence of overweight (8.66%) and obesity (4.69%). Female children from private schools and urban areas were at greater risk of being overweight and obese we observed that maximum overweight was seen in age group 9-10 years and obese in age group 9-10 years. Gothi et al[12] assessed the prevalence of obesity among school children of age group 5-12 years. In the present study total children selected for the study were 1000 in which 544 were boys and 456 were girls. The

overweight boys were 5.88% and girls were 5.04% and obese boys were 2.20% and girls were 1.09%. Overweight children were maximum in the age 9-10 years and minimum in 11-12 years. Obese children were maximum in age group 8-9yrs and minimum in 11-12 years. Chu et al[13] found the prevalence of overweight to be 32.65 percent in males and 34.15 percent in females. It was seen that 33.67 percent males and 32.93 percent females belonged to the obese category. It was seen that majority of overweight (65 percent) and obese adolescents lead a physically inactive lifestyle. None of the overweight and obese adolescents were involved in physical activity for more than an hour. The observation was significant. Most of the overweight and obese adolescents had appropriate diet. However, 11 of the overweight and 27 among adolescents consumed calories more than the requirement. This observation was found to be significant. Out of 149 adolescents consuming fast food, 59 were overweight and 51 were obese. This observation was found to be significant (P=0.015).

Kotian et al[14] found that the prevalence is higher in the urban than in the rural areas. Prevalence varies within the country because of differences in the lifestyle, mainly in the dietary patterns, and physical activity. In addition to this urbanization and industrialization are the main culprits for the increase in the prevalence of childhood obesity. No published literature can be found in this part of the country to assess the prevalence and determinants of obesity among adolescents.
The limitation the study is small sample size.

CONCLUSION

Authors found that maximum overweight and obese children were seen in age group 9-10 years.

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