ORIGINAL RESEARCH

Analysis of Prevalence of Obesity Among School Going Children of 5-12 Years Age Group

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ABSTRACT

Background: Obesity in children and adolescents is a global health issue with increasing prevalence in low-income and middle-income countries as well as a high prevalence in many high-income countries. Hence, the present study was conducted to analyse prevalence of obesity among school children of age group 5-12 years.

Materials &Methods:A total of 500 school going children were evaluated. Information regarding the sociodemographic variables influencing the weight status of children was collected using a pretested structured interview schedule. Standardised instruments and techniques were used for anthropometric measurements such as height and weight of the children. WHO Standard Growth Reference for BMI for specific age and gender was used as reference standards. BMI was computed using the formula: BMI = bodyweight in kilograms divided by height in meters squared.

Results:A total of 500 school-going children were evaluated. The mean age of the subjects was 10.8 years. There were 250 boys and 250 girls. Overall incidence of obesity was present in 38.4 percent of the patients. Out of 250 boys, obesity was present in 100 subjects while among 250 girls, obesity was seen in 92 subjects.

Conclusion: In an attempt to prevent overweight in later childhood, the government should follow up with high birth weight babies clinically. To better understand the other potential risk factors associated with the rise in childhood obesity or overweight in India, more research is required.

Key words: Obesity, Children.

INTRODUCTION

Obesity in children and adolescents is a global health issue with increasing prevalence in low-income and middle-income countries (LMICs) as well as a high prevalence in many high-income countries. Obesity during childhood is likely to continue into adulthood and is associated with cardiometabolic and psychosocial comorbidity as well as premature mortality.[1- 3]

The ideal preventive strategy for obesity is to prevent children with a normal, desirable BMI from becoming overweight or obese. Preventive strategies should start as early as newborn period. The strategies may be attempted at the individual, community or physician's level. Those at the individual level backed by consistent evidence include limiting sugar sweetened beverages, reducing daily screen time to less than two hours, removing television and computers from primary sleeping areas, eating breakfast regularly, limiting eating out especially at fast food outlets, encouraging family meals and limiting portion sizes.[4-6]Hence; the present study was conducted to assess prevalence of obesity among school children of age group 5-12 years.

MATERIALS & METHODS

The present study was conducted to assess prevalence of obesity among school children of age group 5-12 years. A total of 500 school going children were evaluated. Information regarding the sociodemographic variables influencing the weight status of children was collected using a pretested structured interview schedule. Standardised instruments and techniques were used for anthropometric measurements such as height and weight of the children. WHO Standard Growth

Reference for BMI for specific age and gender was used as reference standards. BMI was computed using the formula: BMI = bodyweight in kilograms divided by height in meters squared.All the results were recorded in Microsoft excel sheet and were subjected to statistical analysis using SPSS software.

RESULTS

A total of 500 school going children were evaluated. The mean age of the subjects was 10.8 years. There were 250 boys and 250 girls. Overall incidence of obesity was present in 38.4 percent of the patients. Out of 250 boys, obesity was present in 100 subjects while among 250 girls, obesity was seen in 92 subjects.

Table 1: Demographic data

Variable		Number	Percentage
Age group (years)	**5 to 7**	210	42
	8 to 10	190	38
	11 to 12	100	20
Gender	**Boys**	250	50
	Girls	250	50

Table 2: Prevalence of obesity

Obesity	Number	Percentage
Present	192	38.4
Absent	308	61.6
Total	500	100

DISCUSSION

The world is undergoing a rapid epidemiological and nutritional transition characterized by persistent nutritional deficiencies, as evidenced by the prevalence of stunting, anemia, and iron and zinc deficiencies. Concomitantly, there is a progressive rise in the prevalence of obesity, diabetes and other nutrition related chronic diseases (NRCDs) like obesity, diabetes, cardiovascular disease, and some forms of cancer. Obesity has reached epidemic levels in developed countries. The highest prevalence rates of childhood obesity have been observed in developed countries; however, its prevalence is increasing in developing countries as well. Females are more likely to be obese as compared to males, owing to inherent hormonal differences.[7- 9]

A total of 500 school going children were evaluated. The mean age of the subjects was 10.8 years. There were 250 boys and 250 girls. Overall incidence of obesity was present in 38.4 percent of the patients. Out of 250 boys, obesity was present in 100 subjects while among 250 girls, obesity was seen in 92 subjects. Saha Jet al investigated the prevalence and associated risk factors of overweight/obesity among children aged 0–59 months in India. Using data from the 2015–2016 National Family Health Survey-4 (NFHS-4), the research sample included 176,255 children aged 0 to 59 months. Bivariate and multivariate techniques were used to analyze children's risk factors for overweight/obesity. They identified that the prevalence of overweight/obesity among children aged 0–59 was 2.6% in India. The study findings reveal that factors such as child sex, age, birth weight, birth rank, maternal education, number of children, age at marriage, mother's BMI, media exposure, social group, and dietary diversity score were most significantly correlated with childhood overweight and obesity in India. Furthermore, we found that male children (ARR: 1.08) aged between 0 and 11 months (ARR: 3.77) with low birth rank (ARR: 1.24), obese (ARR: 1.81) children whose mothers married after the age of 18 (ARR: 1.15), children who belong to a scheduled tribe family (ARR: 1.46), and children who consumed 7–9 food items (ARR: 1.22) were at highest risk of being overweight and obese. However, breastfeeding (ARR: 0.85) and Muslim families (ARR: 0.87) appeared to be protective factors with respect to childhood overweight and obesity in India.[10]

The National Institute of Child Health and Human Development Study of Early Child Care and Youth Development conducted a study on 744 adolescents and parents and analyzed data to determine if parental (maternal and paternal, individually) reactions to children's behavior was related to childhood obesity. The study concluded that informing parents that their attitude toward their children's behaviors will play a prominent role in preventing childhood obesity. Parental education on nutrition, health, and the involvement of politicians, physicians, and school personnel are key for the prevention of childhood obesity. However, community and educational institutions have begun legislating and incorporating programs such as providing healthy foods at schools and also health information sessions directed toward young individuals, aimed at preventing childhood obesity in the United States and Canada.[11, 12]

Thomas UM, et al assessed the prevalence of obesity and to determine the demographic variables influencing obesity among school children.The study included 440 students (Boys: 240, Girls: 200) from two randomly selected schools of Mysuru city, Karnataka. WHO Standard Age and Sex specific Growth Reference charts were used for defining overweight and obesity. Modified Kuppuswamy's socioeconomic scale (2019) was adopted to assess the

socioeconomic status of the family.Obesity prevalence among the study subjects was 3.86% and overweight was 12.27%. The mean body mass index (BMI) among boys was 18.13 and girls was 18.80. The difference in the distribution of BMI between male and female groups was statistically significant (P = 0.023). Age and obesity status of the children was found to have a significant association (P = 0.022). Prevalence of overweight and obesity was more among children from higher socioeconomic class. Prevalence of obesity and overweight among school children is comparatively higher.[13]

CONCLUSION

In an attempt to prevent overweight in later childhood, the government should follow up with high birth weight babies clinically. To better understand the other potential risk factors associated with the rise in childhood obesity or overweight in India, more research is required.

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