



A Study to Evaluate Various Factors Leading to Overweight of Children 10-12 Years of Guwahati, Assam

Authors

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Abstract

This is a cross sectional study done on based of predesigned questionnaire at OPD of medical college Guwahati on 20 children aged 10-12 years, who are overweight (BMI 85% to 95 %) to access the factors such as physical activity, screentime, parent's BMI. It is found in our study that 15(75%) subjects were overweight with <30 min of physical activity, 5 were (25%) overweight with 30 min to 1 hrs of activity while none were overweight with average activity of more than 1 hr daily. 1 out of 20 subject i.e 5% were overweight who spend less than 30 min of screening time. 2 out 20 subject(10%) with screen time of 30min-60 min were overweight, 6(30%) and 11(55%) out 20 subjects were found over weight with screen time of 60-120 min & >120 minutes respectively., 17(85%) out of 20 parents were fall in BMI of >24.9. while rest 3(15%) were between 18.6 to 24.9. none of their children were overweight whose BMI were <18.5. finding are comparable with other studies done to access various factors leading to obesity.

Keywords: Overweight, obesity, noncommunicable disease, children, screentime, BMI.

Introduction

Overweight and obesity once thought of problem of developed and industrialized world, is now a reason for increased concern for many developing countries especially India. Prevalence of overweight and obesity has significantly increased in current decades. Our country is now facing dual challenges with under nutrition on a side as well overweight and obesity on other side. While our policy is mainly focusing to decrease the prevalence of under nutrition, India is still lacking vision for preventing problem of overweight, in policies of government and its people as well. In general, overweight and obesity are assumed to be the results of an increase in caloric and fat intake. On the other hand, there are supporting evidence that excessive sugar intake by soft drink, increased portion size, and steady decline in

physical activity have been playing major roles in the rising rates of obesity all around the world. Childhood obesity can profoundly affect children's physical health, social, and emotional well-being, and self-esteem. It is also associated with poor academic performance and a lower quality of life experienced by the child. Many comorbid conditions like metabolic, cardiovascular, orthopedic, neurological, hepatic, pulmonary, and renal disorders are also seen in association with childhood obesity. Many studies in past has done to evaluate the factors which are leading overweight and obesity in developed countries. But still studies are lacking in our country regarding this. aim of our study to access the various factors leading to overweight of children and to compare with other studies.

Material and Methods

Cross sectional hospital based survey done at GMCH Guwahati Assam from June 2013 to November 2013 (total period of 6 months) using predesigned questionnaire based interview of 20 children of age group 10-12 years. Inclusion criteria were child belonging to Guwahati, BMI 85% to 95%, not on any medications that can lead to weight gain as steroids, age group of 10-12 years. Data were collected from parents & their children and analyzed using computer based software.

Results

1) Physical Activity- interview done regarding average physical activity divided in 4 parts; <30 min, 30 min – 1 hr, 1 hr-2 hr and >2 hrs. Out of which 15(75%) subjects were overweight with <30 min of physical activity, 5 were (25%) overweight with 30 min to 1 hrs of activity while none were overweight with average activity of more than 1 hr.

2) Screening time-here average screening time was included all the time spent over viewing television, mobile operating and videogame playing. These were divided in 4 time slots i.e. less than 30 min, 30 min-60 min, 60 min -120 min and >120 min. Out of 20 subject i.e. 5% were overweight who spend less than 30 min of screening time. 2 out of 20 subject (10%) with screen time of 30 min-60 min were overweight, 6 (30%) and 11 (55%) out of 20 subjects were found overweight with screen time of 60-120 min & >120 minutes respectively. p value <0.05.

3 Parents BMI- We have divided parent's BMI in three group <18.5, 18.6 to 24.9 and >24.9. We have taken BMI of both father and mother and added them & divided by 2 to get mean BMI. Results were- 17 (85%) out of 20 parents fall in BMI of >24.9, while rest 3 (15%) were between 18.6 to 24.9. None of their children were overweight whose BMI were <18.5. p value <0.05

Discussion

In this study we have found that as level of physical activity increase, percentage of overweight children decreased. 75% children were overweight whose physical activity is less than 30 min per day. While it gets significantly low as level of physical activity increases. This is comparable to recommendations of American academy of pediatrics, which is 30-60 min of daily physical activity¹. The Canadian Pediatrics Society 2002 position statement on healthy living for children and youth, which is currently being revised, recommends that physicians advise children and adolescents to increase the time they spend on physical activities by at least 30 minutes a day, with at least 10 minutes involving vigorous activities, and that goals should be reset to reach at least 90 minutes a day of total physical activity². Many reasons for the general lack of physical activity among children and youth. These reasons include inactive role models (eg, parents and other caregivers), competing demands/time pressures, unsafe environments, lack of recreation facilities or insufficient funds to begin recreation programs, and inadequate access to quality daily physical education. These factors were not evaluated in this study and limitation of the study. Screen time is an important factor to determine the overweight and obesity. In our study, we find that screen time is inversely proportional to BMI. 30% and 55% subjects who are overweight having screen time of 60-120 min and >120 min respectively. Television viewing among young children and adolescents has increased dramatically in recent years. The increased amount of time spent in sedentary behaviors has decreased the amount of time spent in physical activity. Research indicates the number of hours children spend watching TV correlates with their consumption of the most advertised goods, including sweetened cereals, sweets, sweetened beverages, and salty snacks. American academy of pediatrics recommends for children ages 2 to 5 years, limit screen use to 1 hour per day of high-quality programs. Parents should co-view media

with children to help them understand what they are seeing and apply it to the world around them. For children ages 6 and older, place consistent limits on the time spent using media usually less than 2 hr³

Significant impact was found out regarding trends of overweight in families. In a study comparing BMI of parents and their children founded that the greatest mean difference was observed among children who have two obese parents relative to children with neither parent obese (mean weight gain 9.9 kg vs 9.2 kg and BMI z score 0.7 vs. 0.3).⁴ it is also found that families in which children are obese having habit of unhealthy feeding habits, more food containing sugary beverages and sedentary life style with lack of daily physical activity. We have found in our study that 17(85%) out of 20 parents were fall in BMI of >24.9.while rest 3(15%) were between 18.6 to 24.9. none of their children were overweight whose BMI were <18.5.this is comparable with the above study.

Conclusions

Our findings indicate that certain factors, like parental obesity, lack of physical activity and excessive screen time lead to significant impact in childhood overweight. The standard approach for childhood obesity treatments and interventions has been to address limited screen time and physical activity with attention to modifying the parent's lifestyle behavior. Our study showed the same trends as the studies done in past. Sample size is small, so similar studies are required with larger sample size in future.

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Conflict of interest: None declared

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