



EFFECT OF MEDIA ON CHILDHOOD OBESITY

Paediatrics

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ABSTRACT

The aim was to study the effect of media i.e hours of TV viewing, time spend on videogames, mobile, computers or any other gadgets as one of the risk factor of obesity in children of age 12-16 years of age.

Children's age 12-16 years attending Dr D.Y patil hospital's paediatric OPD or get admitted in ward of department of paediatric with acute complaints only. Children enrolled in this study were not suffering from any disease which lead to overweight or malnutrition.

Screen time- is a term meant to represent an individual's use of electronic mass media, including television viewing, video and computer game playing, DVD viewing, internet use, or other online activity.

Our study shows a strong relationship of screen time in overweight children with mean hour of screen time 2.7 hrs/day with S.D 0.16 and with normal weight children 2.3hrs/day with S.D 0.09 and having a $P < 0.05$.

KEYWORDS

Introduction

Childhood obesity is one of the most serious public health^{1,2} challenges of the 21st century. The problem is global and is steadily affecting many low- and middle-income^{3, 4} countries, particularly in urban settings.

Overweight and obesity in children and adolescent is defined by American medical association as BMI between 85-95 centile and BMI $>95^{\text{th}}$ centile respectively for children aged 2-15 years

In India, the magnitude of overweight ranges from 9% to 27.5% and obesity ranges from 1% to 12.9% among children and the prevalence is higher in urban than in rural areas^{5,6,7,8}. Recent studies from north India has shown that childhood obesity and overweight is on the rise with prevalence ranging from 0.9% to 9.3% and from 2.5% to 15.5% respectively in school children⁹.

Numerous elements contribute to childhood obesity. Regular consumption of caloric dense, nutrient poor diet and inadequate moderate to vigorous physical activity are key risk factors.

Use of media has come as a strong correlate of childhood obesity. It was first identified in 1980¹⁰ and after that dozens of studies contributed in it in western world. The sedentary nature of television viewing, and increasing hours of time spending with media, explain the relationship with obesity in children. It is the presumption that heavy media users are transformed into couch potatoes who give less time to exercise because there eyes are glued to the screen.

The aim was to study the effect of media i.e hours of TV viewing, time spend on videogames, mobile, computers or any other gadgets as a risk factor of obesity in children of age 12-16 years of age.

Methodology

A comparative study was conducted in Dr.D.Y.Patil Medical College Children's age 12-16 years attending Dr D.Y patil hospital's paediatric OPD or get admitted in ward of department of paediatric with acute complaints only. Children enrolled in this study were not suffering from any disease which lead to overweight or malnutrition.

Inclusion Criteria

1. Children between the age group of 12-16 years.
2. 100 Students having BMI $> 23 \text{ Kg/m}^2$, 100 students having BMI $< 23 \text{ Kg/m}^2$.

Exclusion Criteria

1. Children below 12 years and above 16 years
2. Children diagnosed to be obese due to any medical disorder.

Children were given questionnaires that was filled by their parents and return back to us next day

In India, the magnitude of overweight ranges from 9% to 27.5% and obesity ranges from 1% to 12.9% among children and the prevalence is higher in urban than in rural areas⁵⁻⁸. Therefore, assuming 20% as the prevalence of childhood obesity and overweight within the desired confidence interval of 10% - 30%, the minimum required sample size at 5% level of significance is 200 patients.

Formula used:

$$n = \frac{Z_{\alpha/2}^2 pq}{d^2}$$

Where: p is the observed prevalence of childhood obesity and overweight

$$q = 1 - p$$

d is the margin of error

$Z_{\alpha/2}$ is the ordinate of standard normal distribution at $\alpha\%$ level of significance.

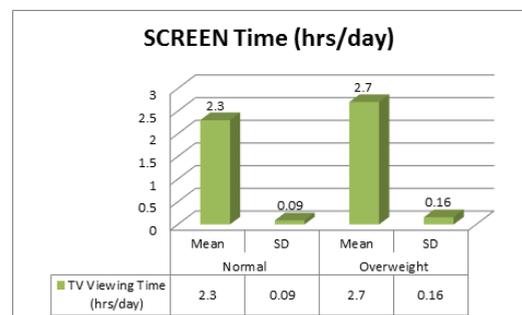
Result

Distribution of Children based on SCREEN TIME

The mean screen time of children in the Normal and Overweight groups was 2.3 ± 0.09 and 2.7 ± 0.16 hours per day. There was statistical difference between the groups as per Student t-test ($p < 0.05$).

Table 9: Distribution of Children based on screen Time

	Normal		p Value		p Value
	Mean	SD	Mean	SD	
Screen Time (hrs/day)	2.3	0.09	2.7	0.16	$p < 0.05$



Graph 9: Distribution of Children based on screen Time

DISCUSSION

The evidence suggest that greater amount of time spent with screen media lead to weight gain and the risk of obesity, but the underline mechanism is less clear a possible explanation can be that the children using much time in screen media must be stayed on home and live a sedentary life style and compromise there physical activity. In television advertisement food marketers invest around 2 billion dollar annually in child targeting advertisement¹¹. 98% food advertisement seen by children are of product which are calorie dense and high in fat and sugar¹². In contrast ,healthy food which should be in a diet of a child are almost never advertised¹³. These commercials in media influence the children's preferences on diet and ultimately their diet related health¹⁴.

Conclusion

Overweight in children is multifactorial and there are many risk factors but electronic media use is significantly positively correlated with overweight in children. Children's exposure to media marketing messages for unhealthy food products is well established as a significant contributor to childhood obesity.

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