

Impact of childhood obesity on scholastic achievements

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ABSTRACT

Children overweight linked to behaviour problem in obese children such as anxiety loneliness, low self-esteem. The complexity of the relationship of health to academic achievement overweight in boys may be a risk factor for lower academic performance. Overweight children have significantly lower math scores, however, these differences could be explained by other factors such as parental education. Although overweight and non-overweight children gained similarly on math and reading test scores.

Key words : Obesity, Scholastic

During school years, breakfast is very important as it facilitate and enhance scholastic performance and contributes to the development of voluntary attention and the concentration required as part of learning process. It also helps to achieve the number of required nutritional events during the day and helps individuals to avoid consuming foods, high in simple sugars during mid morning.

METHODOLOGY

The study was conducted in Kanpur district. Two Hindi and two English medium schools were selected in this study. 300 sample size were used 1:1 ratio girls and boys selected. Dependent and independent variables used such as cast, obesity and scholastic achievement. The

statistical tools paired 'P' test and Fisher 't' test.

RESULTS AND DISCUSSION

Table 1 gives the family profile of the children respondents. Regarding the education of parents, it was revealed that most of the parents of both sexes *i.e.* 26.7 per cent and 20.0 per cent were graduates followed by post graduates 9.3 per cent and 21.3 per cent and metric passed 6.7 per cent and 14.7 per cent. Only 18.7 per cent and 18.7 per cent were intermediate in both sexes of upper class family, while in the both sexes of middle class family, most of the parents *i.e.* 12.0 per cent and 6.7 per cent were graduates. 16.0 per cent and 10.0 per cent were post graduate. Rest of parents 8.0 per cent

Table 1 : Distribution of respondents according to their family variables

Family variables	Boys		Girls	
	High	Middle	High	Middle
Education of parents				
High School	10 (6.7)	4 (2.7)	22 (14.7)	5 (3.3)
Intermediate	28 (18.7)	12 (8.0)	28 (18.7)	8 (5.3)
Graduate	40 (26.7)	18 (12.0)	30 (20.0)	10 (6.7)
PG and above	14 (9.3)	24 (16.0)	32 (21.3)	15 (10.0)
Occupation				
Business	42 (28.0)	15 (10.0)	54 (36.0)	5 (3.3)
Service	30 (20.0)	28 (18.7)	34 (22.7)	22 (14.7)
Agriculture	15 (10.0)	10 (6.7)	11 (7.3)	4 (2.7)
Any other	5 (3.3)	5 (3.3)	13 (8.7)	7 (4.7)
Family type				
Up to 5 members	74 (49.3)	46 (30.7)	70 (46.7)	28 (18.7)
More than 5 members	18 (12.0)	12 (8.0)	42 (28.0)	10 (6.7)
Family income				
Up to Rs. 10,000	-	16 (10.7)	-	12 (8.0)
Rs. 10,000 to Rs. 20,000	-	34 (22.7)	-	21 (14.0)
Rs. 20,000 to Rs. 30,000	22 (14.7)	8 (5.3)	26 (17.3)	5 (3.3)
Rs. 30,000 and above	70 (46.7)	-	86 (57.3)	-

and 5.3 per cent and 2.7 per cent and 3.3 per cent were intermediates and metric passed, respectively.

Regarding the occupation of the father, it was revealed that about half of the father respondents of both sexes 28.0 per cent boys and 36.0 per cent girls were engaged in business in upper class family followed by 20.0 per cent boys respondents and 22.7 per cent girl father respondents in service and 10.0 per cent boy respondents and 7.3 per cent girl father respondents were engaged in agriculture while 8.7 per cent of the girl's father were engaged in other occupation.

The father of the respondents of both sexes in middle class family *i.e.* 18.7 per cent and 14.7 per cent were engaged in service followed by 10.0 per cent and 3.3 per cent father in business, and 3.3 per cent and 4.7 per cent in any other profession. Rest of respondents 6.7 per cent and 2.7 per cent were engaged in agriculture.

Regarding family type 49.3 per cent boy respondents and 46.7 per cent girl respondents of upper class family belonged to nuclear family and 12.0 per cent boy respondents and 28.0 per cent girl respondents belonged to joint family while in the middle class family, 30.7 per cent boy respondents and 28.7 per cent girl respondents belonged to nuclear family and 8.0 per cent boy respondents and 6.7 per cent girl respondents belonged to joint family. In the upper class family 14.7 per cent boy respondents and 17.3 per cent girl respondents had family income ranging between Rs. 20,000 – 30,000 followed by 46.7 per cent boy respondents and 57.3 per cent girl respondents above Rs. 30,000 and 22.7 per cent boy respondents and 14.0 per cent girl respondents in Rs. 10,000 – 20,000. Rest of the respondents had family income below Rs. 10,000, monthly boys 10.7 per cent and girls 8.0 per cent respectively.

Table 2 reveals the scholastic comparison of selected obese and non-obese respondents. Low self-esteem was more in obese children (84.0 %) compared with non-obese children (20.0 %), 67.3 per cent obese children were

fatigue during working and study time and only 24.0 per cent non-obese children were fatigue. 74.7 per cent obese children have sleep apnea compared with non-obese children (16.0 %) whereas 92.7 per cent obese children were suffering from depression due to obesity, 12.0 per cent non-obese children were not suffering from depression. 76.0 per cent obese children had a feeling of loneliness in various activities while 14.0 per cent non-obese children had not felt loneliness. 70.7 per cent obese children had felt anxiety whereas 20.0 per cent non-obese children had not felt anxiety. 81.3 per cent obese children at maturation stage felt loneliness while only 8.0 per cent non-obese children did not suffered loneliness at maturation stage. Overweight children had lower knowledge in reading compared to non-weight children. Overweight children had a risk factor for lower academic performance. The results are in confirmity with the results of Yarnell *et al.* (2001). The calculated 't' value was found to be significant at 5 per cent level of significance at 14 d.f., thus there was significant difference between scholastic causes of obese and non-obese children. Obese children had significantly lower levels of physical activity.

Conclusion:

Overweight children had lower knowledge in reading compared to non weight children. Overweight children had a risk factor for lower academic performance. Obese children had significantly lower levels of physical activity.

Recommendation:

- Overall energy intake should be restricted to levels commensurate to the sedentary occupations of the affluent, so that obesity is avoided.
- The intake of sugar and sweets should be restricted.

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Table 2 : Scholastic comparison of selected obese and non-obese respondents

Scholastic causes	Respondents	
	Obese	Non-obese
Low self-esteem	126 (84.0)	30 (20.0)
Fatigue	101 (67.3)	36 (24.0)
Playing	98 (65.3)	-
Sleep apnea	112 (74.7)	24 (16.0)
Depression	139 (92.7)	18 (12.0)
Loneliness	114 (76.0)	21 (14.0)
Anxiety	106 (70.7)	30 (20.0)
Maturation stage	122 (81.3)	12 (8.0)
't'	4.165*	P < 0.05

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