A Comparative Study to Assess the Prevalence Rate of Obesity among School Children in A Selected Private and Government School, Salem

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Abstract

A comparative study was done to assess the prevalence rate of obesity among school children in a selected government and private school, Salem. A comparative research design was adopted among 200 school children (100 Boys,100Girls) in the age group of 10 to 12 years who were selected by non probability convenient sampling technique. A structured interview used for collecting demographic variable and measured anthropometric measurements like Height, Weight & BMI calculation. Child categorized based on BMI scoring total score was graded as According to CDC . The findings revealed that in government school majority of children (48%) have normal BMI , 12% are obese, 30% are overweight and 10% are under weight. In private school majority of children (58%) have normal BMI , 18% are obese, 4% are overweight & 20% are under weight. Obesity was higher among children from private school (18%) than from Government school (12%).

***Key Words**: Children, Obesity, Prevalence rate, BMI-Body Mass Index, CDC -Centers for Disease Control.*

Introduction

Physical activity was the part of daily lives of people in the past, where most of them were physically active and enjoyed health. Today , the evidence of children affluent families are overweight as compared to the past possibly because of decreased physical activities ,secondary lifestyle altering eating patterns among decreased fat content of the diet.

Childhood obesity is one of the most serious public health challenge of the 21st century, the most problem in global and is steadily affecting many low and middle income countries particularly in urban setting. The prevalence has increased at an alarming rate.[1]

Obesity in children continues to increase unchallenged, it will undoubtedly lead to future generations of obese adults. Unless something is done childhood obesity could increase to 50% by the year 2020. To improve accessibility of nutrition education & to create awareness regarding obesity ,November 26th is celebrated as "**Anti Obesity Day**". [2]

Need for Study:

A growing number of urban and rural school age children (6 to 12 years) victims to secondary life style ,lack of exercise, junk foods and gradual slowing down of metabolic rate. National family health survey reported that the obesity prevalence rates ranging from 3.5-4.1 %. Today over 20% men and 30% of women in Indian have generalized obesity and really 30% of children have a abdominal obesity.[3]

According to the 2014 youth risk behavior surveillance system (YRBSS) 13.9 percent of high school students were obese and an additional 16.0 percent were overweight.

The prevalence of obesity was 8.9% among 2 to 5 years old compared with 17.5% of 6 to 11 years old and 20.5% of 12 to 19 years old. Children obesity is also more common among certain population.[4]

Early prevention of obesity through exercise, and diet is good rather than correcting it , once it has occurred. Altering the eating, playing habits and life

style of children very early in their life may be vital therefore even school programs should focus on play activities, health education at school on diet and right choice of food. This can give a supportive hand to get rid of obesity in childhood itself as childhood of youth are period of life when education is more likely to have best result.

Statement of problem:

A Comparative study to Assess the Prevalence rate of Obesity among School Children in a selected Private and Government School, Salem.

Objective:

ü To assess prevalence rate of obesity among school children.

ü To compare prevalence of obesity among children in government and private school.

ü To associate the prevalence rate of obesity among school children with selected demographic variable

Methodology

Comparative research design was used for this study. The study was conducted in Government higher secondary school and Vidya Mandir higher secondary school (CBSC), school, Kondalampatti, urban community, Salem. The populations were school children studying VI, VII, VIII at Government school & Private school.The sampling technique used for their study was non-probability convenient sampling technique.The sample of the study was the school children between the age group between 10-12 years who fulfilled the inclusion criteria.Sample size consists of 200 school children (100 boys, 100 girls) The number of sample from Government higher secondary school was 50Boys& 50 Girls.The number of sample from private higher secondary school was 50Boys & 50 Girls . . A structured interview schedule was used for collecting demographic variable and anthropometric measurements like Height, Weight were measured. Children were categorized based on BMI scoring. Total score was graded as Below 16, Normal – 16.1 to 23, Overweight – 23.1 to 27, Obesity -27.1 to 30.

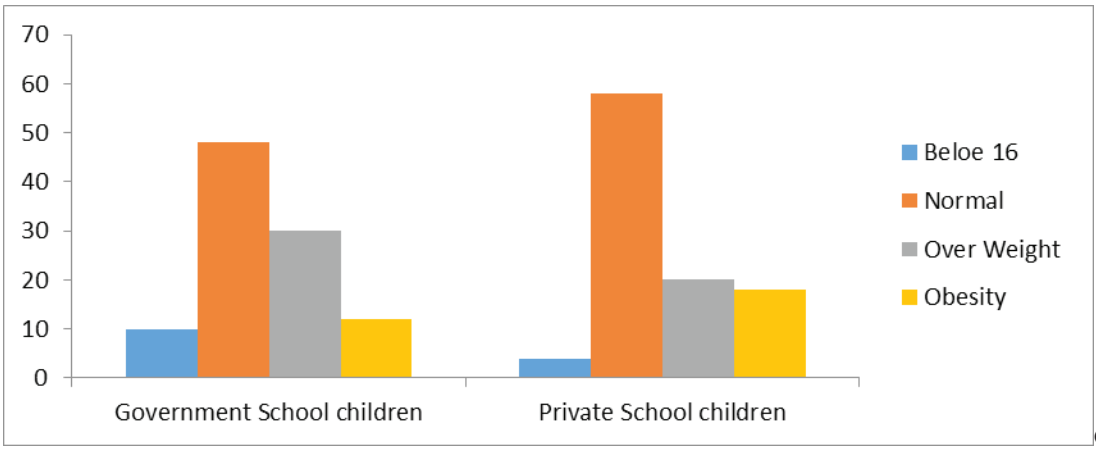
Data Analysis And Interpretation:

Distribution of children according to the demographic variables of children..

Table1 n=200

Demographic variables of parents	Government school n=100		Private school n=100	
	Frequency	Percentage	Frequency	Percentage
1) Age of Children				
a) 10years	26	26	21	21
b) 11years	15	15	53	53
c) 12years	59	59	26	26
2) Sex of Children	50	50	50	50
a) Male	50	50	50	50
b) Female	47	47	64	64
3) Class studying	53	53	36	36
a) VI Standard	0	0	0	0
b) VII Standard	100	100	100	100
4) Dietary Pattern				
a) Vegetarian				
b) Non Vegetarian				

Figure 1 n=200



Comparison of Percentage wise distribution of children in Government and private school according to the level of BMI.

The above figure shows that higher percentage of overweight and obese children were in private school children compared to Government school.

Distribution of Obese children:

Table 2

n=30

Demographic variables of parents		Government School	Private School
	1) Educational status of father		
d)	No formal education		
e)	School education		
f)	Graduate		
	2) Educational status of mother	1	4
c)	No formal education	11	9
d)	School education	0	5
e)	Graduate	4	3
	3) Occupation of father	7	8
		01	7
c)	Unemployed	0	0
d)	Employed	1	4
e)	Farmer	1	3
f)	Self- employed	9	11
g)	Daily wages	1	0
	4) Occupation of mother	8	15
c)	Unemployed	0	1
d)	Employed	3	0
e)	Farmer	0	2
f)	Self- employed	1	0
g)	Daily wages	0	0
	5) Income per month	1	3
a)	Below Rs 5000	8	10
b)	Rs 5000-8000	3	5
c)	Rs 8001-10000	0	0
d)	Above Rs 10000	12	18
	6) Dietary pattern		
	a)Vegetarian		
	b)Non vegetarian		

Association between the level of obesity based in BMI of children with their selected demographic variables.

Table 3 n=200

S.No	Demographic variable	df	X2 value	Table value
	Family education			
	a) Father	2	5.91	5.99
1	b) Mother	2	8.4*	5.99
2	Family occupation	4	2.139	9.49
3	a) Father	4	4.99	9.49
4	b) Mother	3	3.76	7.82
	Family income	1	9.33*	3.84
	Dietary pattern			

The table shows that there is a significant association between the prevalence rate of obesity with mother education and dietary pattern.

· There is no significant association between the prevalence rate of obesity and other variables such as father education & occupation and family income.

Conclusion

The findings revealed that in government school majority of children have normal BMI (48%), and (12%) are obese and (30%) are overweight and (10%) are below 16. In private school majority of children have normal BMI (58%) and (18%) are obese and (4%) are overweight and (20%) are below 16. The comparison of percentage wise distribution of children in private school children was higher percentage of overweight and obese children compared to government school.

Ethical Clearance: Taken from Institutional Ethical Committee.

Source Funding: Self

Conflict Of Interest: Nil.

References

1. Robinson,T. N. Reducing children television viewing to prevent obesity: randomized controlled trial. JAMA; 2011.282:1561-1567.
2. Amin T T,AI-Sultan,AI,Ali A. Overweight and obesity and their association with dietary habits,and socio demographic characteristics among male primary school children in Al-hassa, kingdom of Saudi Arabia. Ind J comm med; 2009.33:172-81.
3. Mahajan, PreetamB. Study of childhood obesity among school children aged 6-12 years in union territory of Puducherry. Ind J comm med; 2016. 36(1):45.
4. Robert.S. The role of physical activity in the prevention and treatment of childhood obesity, J pediatric nursing; 2011. 26(1): 33-41.