



# INTERNATIONAL JOURNAL OF ADVANCE RESEARCH AND DEVELOPMENT

(Volume 2, Issue 12)  
Available online at [www.ijarnd.com](http://www.ijarnd.com)

## Psycho Social Problems of Obesity among School Children in Madurai City

Sara Salome

Gandhigram Rural Institute, Chinnalapatti, Tamil Nadu  
[salome25sara@gmail.com](mailto:salome25sara@gmail.com)

### ABSTRACT

*Obesity is increasing at an alarming rate throughout the world. Today it is estimated that there are more than 300 million obese people world-wide. Obesity is a condition of excess body fat often associated with a large number of debilitating and life-threatening disorders. It is still a matter of debate as to how to define obesity in young people. Overweight children have an increased risk of being overweight as adults. Genetics, behaviour, and family environment play a role in childhood overweight. Childhood overweight increases the risk for certain medical and psychological conditions. Encourage overweight children to expand high energy activity, minimize low energy activity (screen watching), and develop healthful eating habits. Breast feeding is protective against obesity. Diet restriction is not recommended for very young children. Children are to be watched for gain in height rather than a reduction in weight. Weight reduction of less than 10% is a normal variation, not significant in obesity.*

**Keywords:** *Childhood Obesity, Excess Body Fat, Child's Health.*

### INTRODUCTION

Childhood obesity is a condition where excess body fat negatively affects a child's health or well-being. As methods to determine body fat directly are difficult, the diagnosis of obesity is often based on BMI. Due to the rising prevalence of obesity in children and its many adverse health effects, it is being recognized as a serious public health concern. The term overweight rather than obese is often used in children as it is less stigmatizing.

Weight alone is not a good index of fatness as it does not consider height. The most acceptable definition given by World Health Organization (WHO) and IOTF are in terms of BMI. This is a measure derived from dividing body weight in kilograms by the square of height in meters. Objective measures used to estimate the degree of obesity are average weight tables, ideal Individuals with a body mass index between 18.5 and 25 are regarded as being of normal weight. Those between 25(85th percentile) and 30(95th percentile) are regarded as

overweight, and obesity is defined as a body mass index equal to or greater than 30. BMI can be easily assessed at low cost, and beyond a value of 19 it has a strong correlation with body fatness and health risks

### **Effects Obesity on Health**

#### **Psychological**

The first problems to occur in obese children are usually emotional or psychological. Obese children often experience bullying by their peers. Some are harassed or discriminated against by their own family. Stereotypes abound and may lead to low self-esteem and depression.

#### **Physical**

Childhood obesity, however, can also lead to life-threatening conditions including diabetes, high blood pressure, heart disease, sleep problems, cancer, and other disorders. Some of the other disorders would include liver disease, early puberty or menarche, eating disorders such as anorexia and bulimia, skin infections, and asthma and other respiratory problems.

#### **Long-term effects**

Children who are obese are likely to be obese as adults. Thus, they are more at risk for adult health problems such as heart disease, type 2 diabetes, stroke, several types of cancer, and osteoarthritis.

Childhood obesity can be brought on by a range of factors which often act in combination. "Obesogenic environment" is the medical term set aside for this mixture of elements. The greatest risk factor for child obesity is the obesity of both parents. This may be reflected in the family's environment and genetics. Other reasons may also be due to psychological factors and the child's body type.

## **METHODOLOGY**

This study used a cross-sectional analytical research design. School heads were contacted in person for permission and convenience of the study process. Parents were given informed consent one week before data collection from the school where their children were enrolled. Assent letter was given to the children and asked to freely declare participating or not participating in the study. The study targeted 15000 children aged 8-13 years attending grades 4 to 6 in both government and primary schools in Madurai district.

## **DATA COLLECTION**

The researcher visited all the sampled schools from Monday to Friday in a week during school hours and each school was visited for not more than three times. In the first visit to each school, children were sampled and given consent letter for their parent or guardians this visit took place one week before the second visit in which data were collected. On arrival in the second visit consent letters from the parents/ guardians were collected from the children and those who were allowed participate in the research were gathered in class and given assent forms to read and sign upon their acceptance before the measurement of anthropometric and filling of questionnaires started.

### **Stature**

Height was measured using stadio meter. Participants were asked to remove shoes and headscarf and undo their hairstyle and hairstyle accessories before stepping on stadiometer placed on a flat floor along the wall.

The pupils were advised to keep their heels together; feet flat on the steeping board of the stadiometer and to inhale deeply, hold the breath and maintain an erect anatomical posture the head was positioned in such a way that the angle of the eye and the opening of the external auditory meatus were horizontal line height measurement was then carefully read to the nearest 0.1cm.

#### **Weight**

Weight was determined using a digital weight scale. Weight was carefully read when the point reading stabilized and was recorded to the nearest 0.1kg

#### **Data Analysis**

Data obtained analysed, coded and entered into a statistical package for social sciences (SPSS) program. Frequencies, means, percentages, standard deviations were calculated and presented in tables.

**Table 1**

#### **Prevalence of Underweight, Overweight and Obese among Primary School Children aged 8-13 years in Madurai (N=1781)**

Prevalence	N	Underweight	Normal Weight	Overweight	Obese
<b>By age group</b>					
Age of 8-10 years	939	2.5%	64%	24%	9.5%
Age of 11- 13 years	842	9.9%	78.6%	7.8%	3.9%
<b>Prevalence of sex</b>					
Male	753	7.0%	76.0%	12.1%	4.9%
Female	1103	5.5%	67.8%	18.7%	8.0%
<b>By type of school</b>					
Private	678	3.2%	63.3%	22.1%	11.4%
Public	1103	8.0%	76.2%	12.1%	3.8%
<b>Total</b>	<b>1781</b>	<b>6.2%</b>	<b>.3%</b>	<b>15.9%</b>	<b>6.7%</b>

The results in Table 2 indicate that children aged between 8 and 10 years were more overweight and obese ( $M = 18.02$ ,  $SD = 3.11$ ) than those aged 11–13 years ( $M = 18.4$ ,  $SD = 4.35$ ). Children from private schools were more overweight and obese ( $M = 18.41$ ,  $SD = 4.57$ ) than their counterparts in public schools ( $M = 17.94$ ,  $SD = 3.4$ ) at. Similarly, females were more overweight or obese ( $M = 18.50$ ,  $SD = 4.89$ ) than males ( $M = 17.61$ ,  $SD = 2.84$ ) at. Therefore, children in private schools, females, and younger age groups of 8–10 years showed a higher prevalence to overweight and obesity than their counterparts in public schools, males, and age groups of 11–13 years.

**Table 3: Indicates Presence of very High Statistically Significant Association between not Consuming Fresh Fruits and Vegetable Daily and Overweight**

Normal weight (N = 490)		Overweight (N = 117)		Obese (N = 104)		P value
No	%	No	%	No	%	

Frequency of Fast Food Consumption							
Occasional	250	(71.4%)	52	(14.9%)	48	(13.7%)	0.7
Once weekly	118	(70.2%)	26	(15.5%)	24	(14.3%)	
Twice weekly	49	(63.6%)	16	(20.8%)	12	(15.6%)	
More than twice	73	(62.9%)	23	(19.8%)	20	(17.2%)	

Sugary Juice Consumption							
Occasional	395	(71.1%)	83	(15%)	77	(13.9%)	0.5
Once daily	53	(57%)	22	(23.7%)	18	(19.3%)	
Twice daily	20	(69%)	5	(17.2%)	4	(13.8%)	
More than twice	22	(64.7%)	7	(20.6%)	5	(14.7%)	

Fresh Fruits & Vegetables Consumption							
Occasional	13	(56.6%)	5	(21.7%)	5	(21.7%)	0.000
Once daily	85	(72.6%)	15	(12.8%)	17	(16.3%)	
Twice daily	124	(67.4%)	32	(17.3%)	28	(15.2%)	
More than twice	268	(69.2%)	65	(16.8%)	54	(14%)	

Practice of Sports							
Yes	143	(73%)	33	(16.8%)	20	(10.2%)	
No	347	(67.4%)	84	(16.3%)	84	(16.3%)	

## **Findings**

The study found that most (71.3%) of the participants were in the normal weight category while 15.9% were overweight category while 6.7% were obese while 6.2% were underweight. The result was showed that overweigh ad obesity were more prevalent among children in the lower age group of 8-10 years than in age group of 11-13 years.

Table 1 shows that 5.5 %, 18.7%, and 8.0% of females and 7%, 12.1% and 4.9% of males were underweight, overweight, and obese, respectively.

This shows that more males were found to be underweight (7%) than females (5.5%) while more females were found to be overweight or obese (26.7%) than males (17%).

## **CONCLUSION**

- Breast feeding is protective against obesity
- Diet restriction is not recommended for very young children.
- Children are to be watched for gain in height rather than a reduction in weight.
- Weight reduction of less than 10% is a normal variation, not significant in obesity
- Overweight children have an increased risk of being overweight as adults.
- Genetics, behaviour, and family environment play a role in childhood overweight.
- Childhood overweight increases the risk for certain medical and psychological conditions.
- Encourage overweight children to expand high energy activity, minimize low energy activity (screen watching), and develop healthful eating habits

## **REFERENCES**

1. Deurenberg P, Weststrate JA, Seidell JC (March 1991). "*Body mass index as a measure of body fatness: age- and sex-specific prediction formulas*". Br.J.Nutr. 65 (2):10514. PMID 2043597. doi:10.1079/BJN19910073.
2. Berger, Kathleen Stassen (2014). *Invitation to the Life Span*, Second Edition. New York: Worth Publishers. p. 247.
3. "*Healthy Weight: Assessing Your Weight: BMI: About BMI for Children and Teens*". CDC.
4. "*Experts Available to Discuss Childhood Obesity, Role of BMI*". Business Wire Expert Source Group. 2005. Retrieved 15 December 2013.
5. Javed, A.; Jumean, M.; Murad, M. H.; Okorodudu, D.; Kumar, S.; Somers, V. K.; Sochor, O.; Lopez-Jimenez, F. (2015). "*Diagnostic performance of body mass index to identify obesity as defined by body adiposity in children and adolescents: a systematic review and meta-analysis*".
6. Great Britain Parliament House of Commons Health Committee (May 2004). *Obesity - Volume 1 - HCP 23-I*, Third Report of session 2003-04. The report, together with formal minutes. London, UK: TSO (The Stationery Office). ISBN 978-0-215-01737-6. Retrieved 2007-12-17.
7. Goodman E, Whitaker RC (2002). "A prospective study of the role of depression in the development and persistence of adolescent obesity".

8. Dixon JB, Dixon ME, O'Brien PE (2003). "Depression in association with severe obesity: changes in weight loss". *Arch. Intern. Med.* **163** (17): 265. PMID 14504119. doi:10.1001/archinte.163.17.2058.
9. Agranat-Meged, Anat N.; Deitcher, Chane; Goldzweig, Gil; Leibenson, Lilach; Stein, Magda; Galili-Weisstub, Esti (May 2005). "Childhood obesity and attention deficit/hyperactivity disorder: A newly described comorbidity in obese hospitalized children".