

International Journal Of Medical Science And Clinical Inventions

Volume 2 issue 04 2015 page no. 846-852 ISSN: 2348-991X

Available Online At: <http://valleyinternational.net/index.php/our-jou/ijmsci>

To Study Modifiable Lifestyle Variables And Health Care Seeking Behaviour Amongst Overweight And Obese Children Of Age Group 6 To 18 Years - A Hospital Based Study''

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ABSTRACT

INTRODUCTION:-

In India, little attention has been paid to childhood obesity, so present study is done to emphasize factors to curb it like modification of dietary pattern and importance of physical activity so as to prevent the childhood onset of adult diseases.

AIMS & OBJECTIVES:-

1. To Study the prevalence of obesity and overweight in children in a facility based setup.
2. To find relationship of obesity and overweight to physical activity, dietary pattern, psychological factors, health care seeking behavior, serum cholesterol levels.

DESIGN:-

Prospective and Descriptive study.

SETTING:-

Subharti Hospital, Meerut From Oct 2012 to Oct 2013.

METHOD & SUBJECTS:-

6-18 years children from opd and ward with complaints of overweight or BMI more than 25kg/m² were recruited. A Pretested questionnaire recorded weight, height, BMI, Serum cholesterol psychological factors.

RESULTS AND CONCLUSION:

- The prevalence of over-weight and obesity was 0.05% and 0.28% respectively. 58% obese children did less physical activity, 68% obese and overweight children consumed higher calorie as compared to overweight and normal weight children. 56% of overweight and obese children showed health care seeking activity. Relationship with Serum Cholesterol levels showed only 14% of them were above the mean percentile (75%) and 68% suffered from low self esteem because of being overweight.

INTRODUCTION:-

The word obesity is derived from the Latin term 'obesus' which means 'one who has become

plump through eating⁷. Overweight and Obesity in children and adolescent is defined by CDC and American medical association as BMI between 85-95centile and BMI > 95thcentile respectively for children aged 2-15years¹. It is also a kind of the nutritional disorder of which malnutrition is on one end and obesity on other. Obesity can be seen as the first wave of a defined cluster of non communicable diseases called “New World Syndrome” creating an enormous socioeconomic and public health burden in poorer countries².

In India, little attention has been paid to childhood obesity until recently, Therefore, the aim and objectives of the present study is to study modifiable lifestyle variables and health care seeking behavior amongst overweight and obese children of age group 6 to 18 years to determine the prevalence of childhood obesity. As childhood obesity can lead to various diseases later on in life. Necessary steps regarding modification of dietary pattern and importance of physical activity can be taken early to prevent the childhood onset of adult diseases.

AIMS & OBJECTIVES

1. To Study the prevalence of obesity and overweight in children in a facility based setup.
2. To find out the relationship of obesity and overweight to physical activity, dietary pattern, psychological factors in relation to overweight in school age children and adolescents.
3. To study the health care seeking behavior of obese and overweight children.
4. To compare the serum cholesterol levels of obese and overweight children with normal children.

MATERIALS & METHODS

INCLUSION CRITERIA:

Children and Adolescent between 6-18 years of age group who attended OPD and those admitted to pediatric wards with complaints of overweight or BMI more than 25kg/m².

EXCLUSION CRITERIA

Children with known:

- Dysmorphic features
- Endocrinal problems
- Long term use of drugs like Steroids, Anti Depressants, Atypical Anti Psychotics, Anti Convulsion (phenytoin, valproic acid), Thiazides
- Hormonal Contraceptives
- Inborn Errors of Metabolisms
- Precocious Puberty
- Nephrotic Syndrome
- Hepatitis
- A Pretested questionnaire was filled by a single observer in presence of parents for the selected children after taking written consent. It recorded age, sex, weight, height, B.P., BMI, Serum cholesterol levels and it included questions pertaining to:
 - Socioeconomic status
 - Dietary profile
 - Physical activity
 - Reason for attending hospital/ Associated illness
 - Questions regarding self esteem
 - Life style modification/ or measures to reduce obesity.
- **STUDY AREA:** Chhatrapati Shivaji Subharti Hospital, Meerut.

- **STUDY PERIOD:** October 2012 to October 2013.
- **STUDY POPULATION:** Children from 6-18 years of age who attended pediatric OPD and children admitted to pediatric wards.
- **STUDY DESIGN:** Prospective and Descriptive study.
- **DATA ANALYSIS:** SSPC (Fisher Exact Test) and (Z score- Double Sample Proportion Test).
- Body Mass Index (BMI) was calculated based on the formula- $BMI = \text{Weight in kg} / \text{Height in m}^2$. Children were categorized into three groups based on BMI as per NELSON guidelines with respect to their age and sex.³

BODY MASS INDEX (BMI) CLASSIFICATION OF CHILDREN AND ADOLESCENTS³

Group1: Normal Weight: 5th–84th percentile

Group2: Overweight/At risk of Overweight: 85th – 94th percentile

Group3: Obese/Overweight: \geq 95th percentile

OBSERVATIONS AND RESULTS

- We recruited 50 children out of 13,746 children.
- The overall prevalence of overweight and obesity ($BMI \geq 85^{\text{th}}$ percentile) was

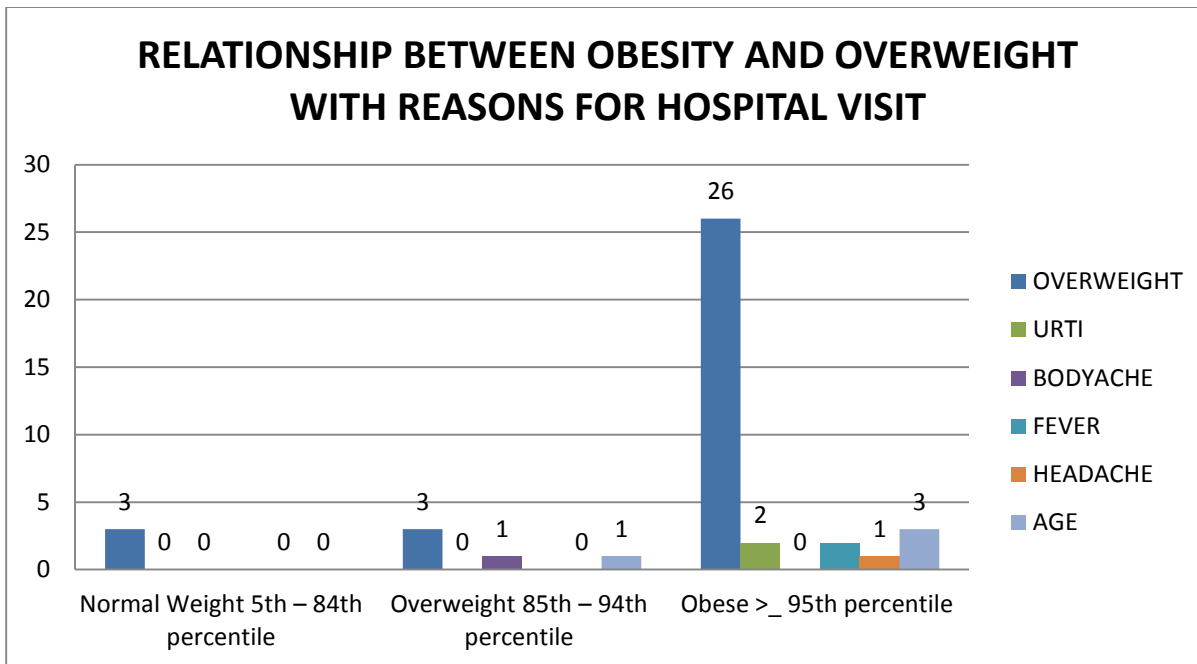
33/10,000 in the study period. Out of these 50 children 8% (4) were normal for weight/BMI, 14% (7) were overweight and 78% (39) were obese in the study group. 42(84%) were from OPD and 8(16%) were from IPD.

- Out of 50 children **38(76%) were males** and **12(24%) were females, Male: Female ratio 3.2:1** and 58% of school age (6-12years) and 42% children were adolescent (13-18years)
- **PREVALENCE OF OVERWEIGHT AND OBESITY ACCORDING TO AGE OF CHILDREN**

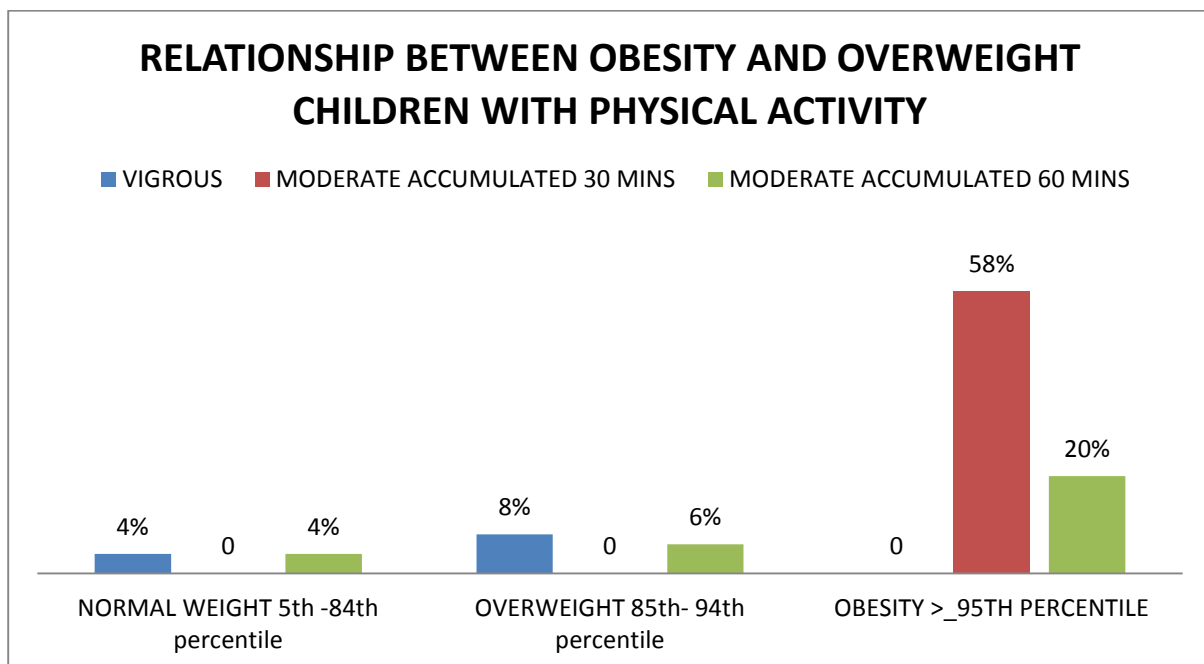
It was seen that **more prevalence of obesity in early age** and as age advances the prevalence decreases, while **overweight children** were more seen in **advancing age**.

Among boys as age advances there was increased tendency of children for risk of overweight between 13 to 15 years of age, then gradually weight became normal for age while among girls prevalence of obesity decreases with increasing age while prevalence of overweight increases with increasing age.

Below Diagram shows that **58% of overweight and obese children** came with chief complaint of **overweight in the OPD and IPD**.



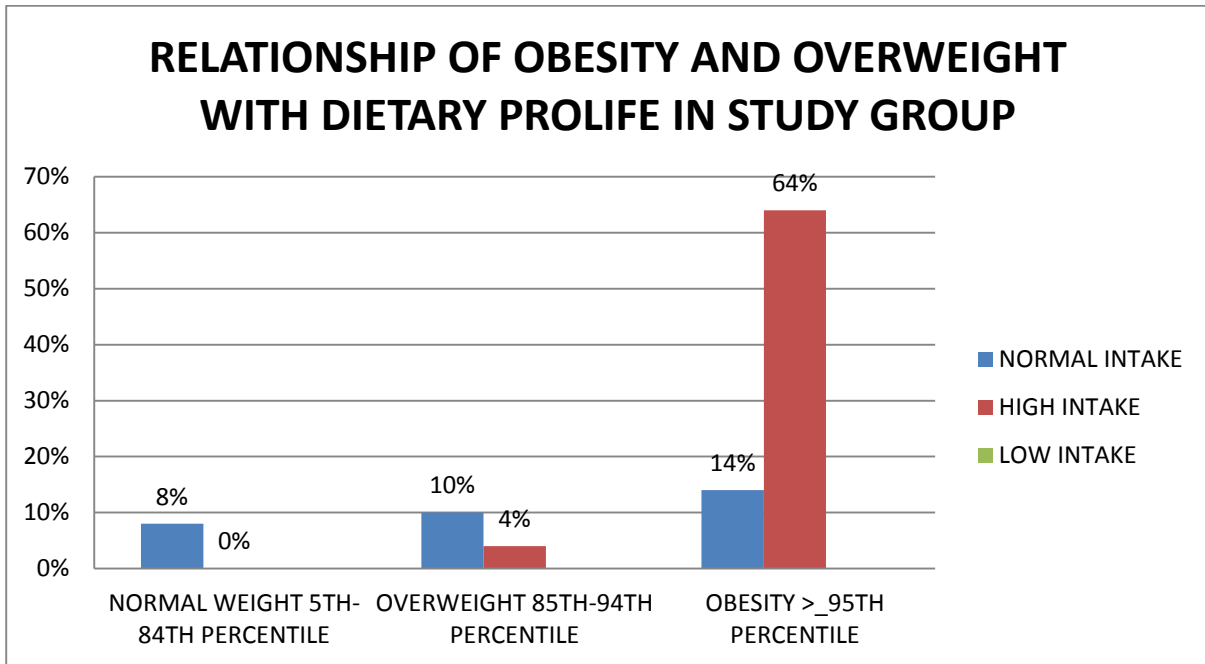
- 64% of total children had positive family history of obesity and 36% had negative history of obesity and relationship was **statistically significant** at .01 level of significance.
- Below diagram shows **58% obese children** did less physical activity moderate (accumulated 30 mins) as compared to overweight and normal weight children who did vigorous and (moderate accumulated) 60 mins for a period of 3 days.



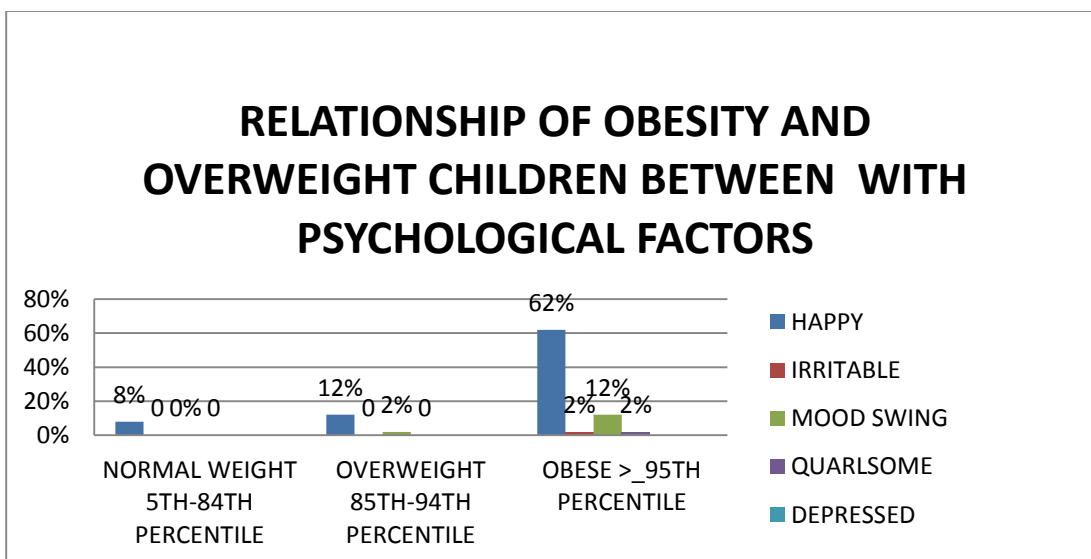
- **58% of obese boys** were less physically active, while overweight and normal weight children were more physically active.

- **Obese girls 58.40%** tends to do less physical activity (moderate accumulated 30 mins) than overweight and normal girls.

Below diagram signifies that Calorie intake in **68% obese and overweight children** was high as compared to normal weight for children and there was no child in the study group who had low calorie intake



- **65.5% of obese and overweight** male boys calorie intake were higher as compared to normal weight children.
- Calorie intake in **obese and overweight girls (75%)** was high as compared to normal weight girls. Below diagram signifies that **74% obese and overweight** children were mostly happy child except for few who were **mood swing child (14%)**.



- **68% of obese and overweight** children suffered from low self esteem because of being overweight.
- **42% of children** in the study group did not take any measures in reduction of weight while **56% of overweight and obese children** did some health care seeking activity and **36%** of overweight and obese did not take any measures for reduction of weight.
- Cholesterol level of 34% of overweight and obese children lied in the 5th percentile, 44% of them were in the mean range and only 14% of them were above the mean percentile (75%).
- 37% of overweight and obese boys cholesterol level lied in 5th percentile, 45% of them were in the mean range and **13% of them were above the mean age (75th percentile).**
- 25% of overweight and obese girls cholesterol level lied in 5th percentile, 42% of them were in the mean range and **16% of them were above the mean age (75th percentile).**

CONCLUSION

- Childhood obesity is in increasing trend from past 20 years in both developing and developed countries.
- The prevalence of childhood obesity in Chhatrapati Shivaji Subharti Hospital, Meerut city is over-weight and obesity was 0.05% and 0.28%, males out numbering the females.
- Maximum number of overweight and obese children belonged to upper middle socioeconomic class.
- There was a significant positive family history of obesity in overweight and

obese children in the study population.

- The fact that obese children have higher calorie consumption when compared to non obese children has been reinforced by the present study. Girls had higher calorie intake than boys. Proper dietary habits can help to reduce obesity.
- There was significant difference in physical activity between obese, overweight and non obese group. Girls were less physically active than boys. Regular physical activity can play a significant role in reducing obesity.
- Most of obese and overweight children were happy except for few who were mood swing.
- In our study obese and overweight children mostly suffered from low self esteem.
- Seeking behaviors among overweight and obese children revealed that maximum of them showed health seeking behaviors in the reduction of weight.

Serum cholesterol levels in the study group revealed that maximum number of overweight and obese children levels lied between the 5th and mean percentile range, only few children levels lied above the mean in which male dominates but none had levels above the 75th percentile.

These children are at a higher risk of “childhood onset of adult diseases”. Thus, timely intervention will result in decreased adulthood morbidity and mortality due to obesity in these children.

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