# A STUDY ON FOOD HABITS AND DIETARY INTAKE, OF OBESE ADOLESCENT IN SRINAGAR CITY

[1]Surjeet Singh [2]Gurmeet Singh

[1&2]Department of Physical Education, Panjab University, Chandigarh, Punjab, India

ABSTRACT

*The prevalence of overweight and obesity is escalating rapidly worldwide. This study was conducted on adolescent boys. The sample was selected from different colleges and schools of Srinagar. Total 50 subject were selected for the study ( N= 50), the age group of boys was 15-18 that is adolescent age group. The aim of study was to know the food habits and dietary intake of obese adolescents. To measure overweight and obesity in subjects BMI (WHO 2002) indices was used, to measure food habits and dietary intake questionnaires method was applied. Result: the result shows that obese consume more energy then recommended value given by the (ICMR 1999). The diet of subjects was not nutritionally adequate which is rich in fat and proteins. Most of subject skips meals, poor lunch. Snaking habit prevails in most of the subjects.*

*Key Words: Food Habits, Dietary Intake and Adolescent.*

## INTRODUCTION:

Adipose tissue is an important body component for the survival. It serves as a reservoir for energy during the nutrition deprivation, and insulates the body from the environment to maintain thermal homeostatic Babette zemel 2002. Excess adipose tissue or obesity is associated with physiological abnormalities can threaten health and well beings. Obesity refers to an excess of body fat. With this condition body's functions gets affected, heart finds it more difficult to pump blood through increased body mass. The joints are under greater mechanical stress the mind become dull. It may be inherited. Huge amount of money are being spend for researching better diet, better training. If individual is careful with his/ her diet, healthy exercise and life style. Then chance of to become overweight and obese decrease

There is a rapidly escalating epidemic of obesity all over the world (Prentice, 2001). Over weight and obesity is very common condition in developed society and are becoming more common in developing societies and those in transition (Ian D Caterson 2002. Obesity is

increasing at an alarming rate throughout the world. Today it is estimated that there are more than 250 million obese people worldwide, equivalent to seven percent of the adult population (WHO 1998). The WHO refers obesity as a global epidemic because of rapid increase in the number of overweight and obese individuals in last 20 years.

Obesity is relatively to endocrine change. Epidemiological and metabolic studies conducted over the last 15 years have confirmed that a high proportion of abdominal fat (central obesity) is a major risk factor for coronary heart disease, type 2 diabetes mellitus, and related mortality. Obesity is association with several risk factors for coronary heart disease, predictive of coronary disease hypertension, atherosclerosis and diabetes in adulthood. Apart from this these persons are associated with dyslipo protenemias and other metabolic derangements. Non metabolic Hazards associated with obesity are Osteo-arthrosis and gout, Reflux oesophagitis, Sleepapnea syndrome. Mohanty 2008

Adolescence: Is a period of significant and rapid growth and, as a result, nutrition needs during this period of life are greater than at any other point in the life cycle .Adolescence is a decisive period in human life in which important body composition changes occur. Increase of total body mass and its relative distribution are mainly related to gender and pubertal development. Puberty is the main neuro-hormonal determinant of both physiological and psychological changes, although other social and behavior factors must be considered in this process.. Annual height velocity, weight gain, fat-free mass and bone mineral content increase during this period in all adolescents, but the onset of puberty generally begins earlier in females than in males. The amount of fat mass in adolescent girls is usually higher than in boys.

Obesity in the traditional sense represents an energy imbalance resulting from an excess of energy input over energy output (William, 1999). This energy is in the form of food which human being intakes. Life cannot be sustained without adequate nourishment, which depends upon the availability of food locally and local practices, it also depends upon demographic factors like food choice, age, gender, education level, income (Nicole Darmon 2002) and cultural background. (Karen 2010). Culture and religion effect on food choice. Food habits have been described as 'the way in which individuals in response to social and cultural pressures select, consume, and utilise portions of the available food supply' (Khan, 1981). Food habits evolve

from learned experience, which leads to the development of attitudes towards food. Thus food habits become a form of self-expression. It has been said that 'modelling'is an indispensable aspect of the learning process J. Pollard 2002.

There is growing concern in India with already facing the epidemic of obesity and its associated disease. There is growing evidences that present condition, perhaps due to decreased physical activities, sedentary life style, altered eating pattern and increased fat contents of the diet.

METHODS:

Study design and Selection of sample: For this study different school, institutes and college were selected from Srinagar city. Srinagar is summer capital of J & k State (India). The total population was ….. Researcher along with him team try to find the prevalence of obesity among adolescent age group. Height and weight were determined by using standard anthropometric method, BMI was calculated for every subjects Which was used in determine underweight, normal, overweight and obese Phillips (2003), during this process 50 subjects were traced, who fall in the categories of obesity. The age group of required samples was 15 to 18years.

Dietary intake:

For dietary intake the subject were interviewed to find out the dietary intake of the subject for three consecutive days (two normal days plus one holy day) mostly at weekend. 24 hour recall method was used. In this method subject recall what they had takes for the purpose of diet. The investigator filled the columns regarding the food eaten by the subjects during 24 hours, based on the responses obtained from the subject. The total food intake, for three days was recorded. The nutritive value of the Raw ingredients was calculated with the help of nutritive value of Indian food composition tables by (Goplan et al., 1981). The daily energy intake of the individuals is calculated by multiplying the daily average grams of protein, carbohydrate and fat intake with 4, 4 and 9 respectively. For each subject the nutrients intake was calculated for three days and mean intake was taken, as the average actual daily intake of nutrients

Food habits:

For food pattern and food habits a questionnaire was prepared to get information regarding breakfast, packed lunch, lunch and skipping meal was taken. They were also asked questions

regarding type of snaks consumed in school or at home. Various types of food preference of the subjects and also the frequency of eating out with friends or family were asked. The timing for the consuming various meals as has been used for operational purpose of the study are mentioned below.

| S. No | Meal | Meal Timing |
|---|---|---|
| 1 | Early Break-Fast | 6- 7.00 Am |
| 2 | Break Fast | 7.00- 10 Am |
| 3 | Mid Morning | School Lunch |
| 4 | Lunch | After School |
| 5 | Early Evening | 4:00- 5:00 Pm |
| 6 | Late Evening | 6:00- 7:00Pm |
| 7 | Dinner | 8:00 – 9:00 Pm |
| 8 | Bed Time | Before Sleep |

RESULT:

Table 1 Mean, Standard Deviation and t value of intake of nutrients as compaired with RDA*

| | RDA | Mean actual Intake | Difference | S.D | T value |
|---|---|---|---|---|---|
| Energy (Kcal) | 2604 | 2976 | 371.9 | 465.6 | 2.58 |
| Proteins (gms) | 70 | 65 | 5.69 | 4.71 | 12.05 |
| Carbohydrates (gms) | 42.43 | 33.81 | 86.2 | 52.8 | 16.3 |
| Fats (gms) | 53.8 | 10.9 | 55 | 565.1 | 0.98 |
| Calcium (mg) | 400 | 1154 | 754 | 243.6 | 30 |

| | | | | | |
|---|---|---|---|---|---|
| Iron (mg) | 28 | 49.32 | 21.3 | 268.5 | 79 |
| Carotene ug | 2400 | 1760.9 | 639 | 1139 | .56 |
| Thiamine(mg) | 1.2 | 2.23 | 1.03 | .63 | 16.4 |
| Vitamin C(mg) | 40 | 85.07 | 45.07 | 45.07 | 8.92 |

*Recommended Dietary Allowance for Indians (1999)

It has been observed from the table-1 that mean of energy was much higher than the required amount. The daily energy was required 2604 but in case of subject it was found 2976. This positive energy leads to weight gain and obesity.

Figure 1: Comparison of R.D.A Energy with Actual Energy Intake Value of obese adolescent.

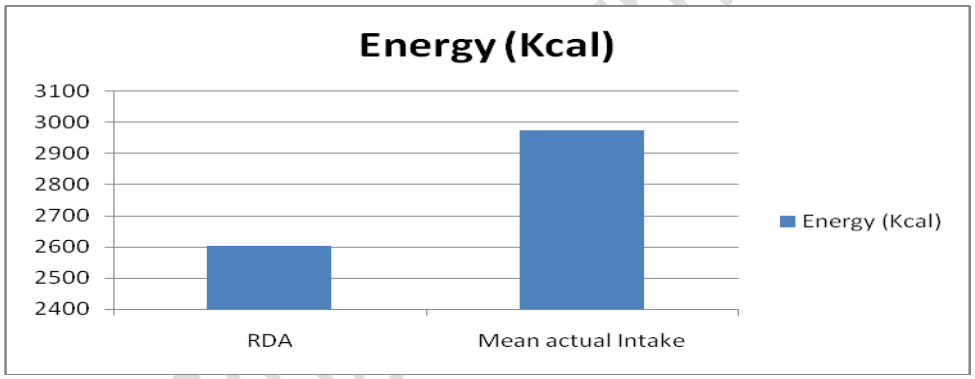


Fig: 2 Comparison of R.D.A Nutrients with Actual nutrients Intake of obese adolescent.

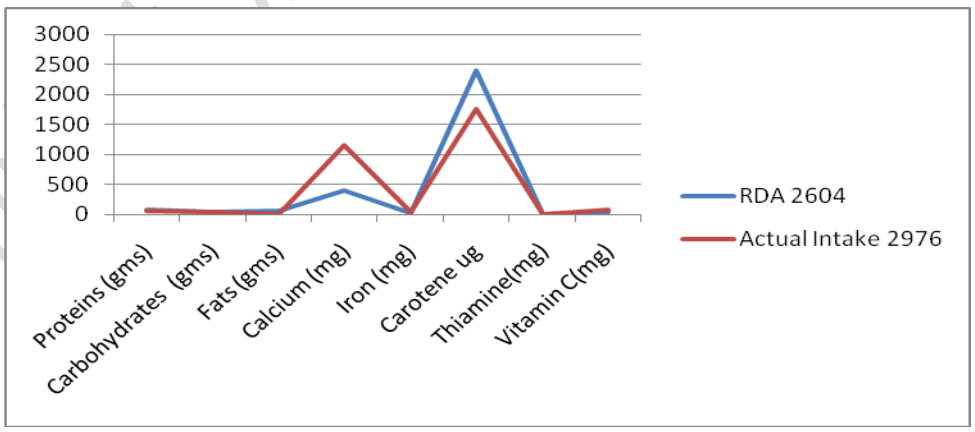

Table 2 Food Preferences

| S.No | Preference | 1 | 2 | 3 |
|---|---|---|---|---|
| 1 | Food | Vegetarian 5% | Non Vegetarian 95% | Ova Vegetarian 95 % |
| 2 | Non Veg. Food | Once a day 3% | Once a week 80% | Alternative day 10% |
| 3 | Meal timing | Regular 30% | Irregular 50% | |
| 4 | Skipping meal | Yes 40% | No 50% | |
| 5 | Meal skipped most | 10 break fast | 40 lunch | 5% Dinner |
| 6 | Snaking habit | 80 % had snaking habit | 15 % don't had snaking habit | |
| 7 | Snaking | Vegetarian 10% | Non- Vegetarian 90% | |
| 8 | Type of food | Cooked 25% | Fried 65% | Steamed 10% |
| 9 | Food liked | Spicy 20% | Normal 80% | With low salt 0% |
| 10 | Attitude towards new food | Would try 75% | Unsure 10% | Would not Try 15% |
| 11 | For break fast | Stuffed prantha 20% | Toondrie roti 40% | Homemade Roti 40% |
| 12 | Prefer | Butter 20% | Ghee 15% | Oil 65% |
| 13 | Most enjoyable meal of day | Breakfast 30% | Lunch 40% | Dinner 30% |
| 14 | What do you prefer | Frequently Small Meal 60% | Few Large Meal 40% | |

DIETARY HABITS:

As already shown in the table some of other food habits of subjects were fallows. Generally all the children had tea with bread and backed roti ( gerda) and tandoori roti in the morning .The staple diet of respondents was consisted of rice, pulses, seasonal vegetables and Meat. 95% respondents were non vegetarian. The meals varied from two to three meals a day depending upon the schools timing. 30% of them skip their meal thus mount high hunger for next meal. Most of subjects were fussy eaters Avula Laxmaiah (2007). Majority of students were used to take evening tea and also prefer non vegetable snacks in late evening the reason for late evening snacks was to satisfy their hunger and due to habit of taking snacks. 73% like spicy and fried food. 90% don't go for fast, except the month of Ramadan. At night they had 1-2 plates of Rice with vegetables. When asked about specific vegetable which is consumed regularly it was observed that chicken and mutton was consumed most frequently besides this green leafy vegetables (knol knol) and seasonal vegetable like brinjal, tomato were also consumed. Generally 95% subjects had dinner. 89% of children at dinner time they had rice with dal and some vegetable, and few used to take milk before they sleep.

Discussion and conclusion: Recently study conducted show that prevalence of obesity is increasing in children of Kashmir valley zargar (2009). The children may actually the reflection of the magnitude of obesity in Kashmir adults this is due to high intake of diet and sedentary life style. it was concluded that diet of obese respondent was not nutritionally adequate and very high intake of fat. Sikkpinp of meals had a strong association with obesity prinka gupta 2001. The average daily intake of energy, fat and proteins( micronutrients) was higher in respondent. A significant change responsible for obesity is the lack of exercise that children nowadays get. Earlier, children had more time to play, run about or work out compared to the children of this generation. Long school hours, the ordeal of getting ready for school and tuitions increases inactivity. Without activity, even the recommended calories lead to a positive energy balance, which accumulates as body fat contributing to obesity. Physically inactive and sedentary lifestyles are thought to be associated with increases in overweight and obesity. Children's physical activity (PA) levels seem to be decreasing, while the time spent on television viewing (E de Jong 2013), computers and video games has increased. The problems of childhood obesity

and sedentary lifestyle are interrelated leading to a various cycle. Many studies have shown a significant association between physical activity (PA) and obesity.

References

*Avula Laxmaiah, Balakrishna Nagalla, Kamasamudram Vijayaraghavan, and Mohanan Nair (2007 ): Factors Affecting Prevalence of Overweight Among 12- to 17-year-old Urban Adolescents in Hyderabad, India. OBESITY Vol. 15 No. 6 pp 1384- 1389*

*Babette Zemel(2012): Are urban chinese infants gaining too much weightAmerican Journal of Human Biology Vol 24 Issue 5*

*E. De Jong, TLS Visscher, RA HiraSing, MW Heymans JC Seidell and CM Renders (2013) : Association between TV viewing, computer use and overweight, determinants and competing activities of screen time in 4- to 13-year-old children International Journal of Obesity 37, 47 -- 53*

*Gopalan .C.,B.V.Rama Sastri & S.C.Balasubramanian (1991): nutritive value of Indian food . National institute of Nutrition, Indian council of medical Research Hyderabad India.*

*Gupta Prinka 2011: incidence & risk factors of obesity among adolescent girls of Chandigarh. Thesis submitted to Punjab University Chandigarh.*

*Ian D Caterson 2002: Obesity: epidemiology and possible prevention. Journal best practice & research clinical endocrinology and Metabolism vol 16 pp 595-610.*

*J. Pollard, S. F. L. Kirk and J. E. Cade (2002): Factors affecting food choice in relation to fruit and vegetable intake: a review Nutrition Research Reviews 15, 373–387*

*Khan MA (1981) : Evaluation of food selection patterns and preferences. CRC Critical Reviews in Food Science and Nutrition 15, 129–153.*

*Mohanty, B.(2008).The prevalence of overweight and obesity in school going children of Pondicherry.Department of Biochemistry AarupadaiVeedu Medical College & Hospital, Pondicherry.*

*Shariq Rashid Mosoodie & A bdual Hamid Zargar (2009): tackling childhood obesity it is worth understanding the context IJEM 13 (3&4)1-3*

*Stunkard, A. J & Sobal, J. (1995).Psychological consequences of obesity.In eating disorder and obesity, a comprehensive handbook Ed. The Guildford press new York.*

*Supreet Kaur and Umesh Kapil 2008 "Prevalence of Overweight and Obesity in School Children in Delhi" Indian Pediatrics Vol. 45 , pp 300*