Life Style Disorders

Their Causes and Preventive Measures in The Indian Scenario

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in The Indian Scenario

Sangeeta Puri

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Preface

Modern science through improved sanitation, vaccination, antibiotics and medical attention has eliminated the threat of death from most infectious diseases. This means that death from lifestyle disorders which are also known as Non Communicable Diseases (NCD'S) like heart disease, diabetes, hypertension and cancer are now the primary causes of death. Everybody naturally has to die of something, but lifestyle diseases take people before their time. In India the situation is quite alarming. The disease profile is changing rapidly. The World Health Organization (WHO)has identified India as one of the nations that is going to have most of the lifestyle diseases in the near future. According to ICMR India , the estimated proportion of all deaths due to lifestyle Diseases has increased from 37.09% in 1990 to 61.8% in 2016. As per the National Family Health Survey (NFHS) 2015-2016, 11% of woman (1 in 10) and 15% men (1 in 7) of age 15-49 are hypertensive. As per ICMR's cancer registry data, the estimated incidences of cancer patients in India are 13,88,397 and 14,51,417 during the years 2015 and 2016 respectively. While estimated deaths due to cancer during these years are 7,01,007 and 7,32,921 respectively. Hence the population at risk shifts from 40+ to maybe 30+ or even younger. Already considered the diabetes capital of the world, India now appears headed towards gaining another dubious distinction of becoming the lifestyle related disease capital as well. According to doctors' say, a sedentary life style and environment pollution combined with an increased consumption of unhealthy food and alcohol , is the main cause of obesity, diabetes, cancer and hypertension etc. There is a need to focus our attention on preventive health care. Among the preventive measures recommended by WHO, are, moderate physical activity for upto 30 minutes everyday, tobacco cessation and healthy nutrition. In addition to individual lifestyle changes, governments and policy makers are also recommended to "move for health" by creating a

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supportive environment for people. Lifestyle disorders are preventable for children if parents set them on the correct path, as early life decisions and influences can impact people later on in life. All causes of lifestyle disorders can be prevented through giving up smoking and other drugs, reducing ones intake of alchol, processed & fatty food, and by including more healthy and fibre rich food like freshfruits, vegetables, nuts and oilseeds and above all by engaging in daily exercise.

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Acknowledgement

I feel a certain degree of genuine pride in acknowledging my grateful thanks to UGC for sponsoring the two days National Seminar on *"Life Style Disorders: Their causes and preventive measures in The Indian Scenario"*. UGC has really been a great support in organizing such seminars which bring forth the current pertinent issues and provide platform to discuss them and explore practical solutions for those problems.

I owe a deep sense of gratitude to my respected Principal, Mrs. Ratna Sharma, Shanti Devi Arya Mahila College, Dinanagar for her solemn assistance and spontaneous cooperation to complete this task. With all the sincerity at my command, I earnestly thank members of managing committee of this institution for their unconditional philanthropic support and cooperation.

I would be failing in my duty if I donot express my immense debt of gratitude to all my colleagues and friends for extending their cooperation and valuable suggestions.

I would like to express the gratitude to visionaries of the seminar who devoted their valuable time in putting their views on paper and made great contribution for this publication.

With all the humility and sincerity at my command, I am highly indebted to the almighty father whose blessings helped me to accomplish this endeavour.

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1

Incidence of Obesity Among Adolescents in Amritsar

Minna Bagga

Abstract

One of the major problem is "rising obesity rates" in urban, well to do school children. Its prevalence continues to increase worldwide. As the prevalence of obesity increases so does the burden of its associated co-morbidities. Non-communicable diseases and their risk factors including obesity are now becoming a significant problem not only in affluent societies but also in developing countries. This is of special significance because obesity in adulthood can be traced back to obesity in childhood and adolescence. The present work envisages to evaluate the nutritional status of school going adolescents in Amritsar. Study samples of 200 adolescents aged between 13-15 years were assessed by using a self designed questionnaire for demographic information and nutritional status. For assessment of nutritional status 24 hour dietary recall method was used and anthropometric data were taken. Mean, and standard deviation were used for analysis of the data.The finding indicated that among 200 school going adolescents, about 2.5% respondents were drastically underweight, 17% were underweight, 27.5% were healthy weight, 52% were overweight and only 1% were found to be obese. While among 100 school going male adolescents, about 6.5% respondents were underweight, 16% were healthy weight, 23.5% were overweight and only 0.5% were obese. Among 100 school going female adolescents, about 10.5% respondents were underweight,11.5% were healthy weight, 28.5% were overweight and only 0.5% were obese. The mean height and weight of both male and female adolescents is less than the NCHS

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standards in all the age groups, while, mean height and weight of both school going male and female adolescents is near to ICMR standard. The energy and protein level of both male and female adolescents are near or less to RDA standards.

Introduction

Adolescence is a period of second growth spurt after infancy. Growth spurt refers to the sudden increase in the rate of the growth. The rate of growth is not constant in both sexes. Adolescence is marked with rapid growth and increasing the nutritional requirement. Neither growth nor development occurs at a uniform rate. The rapid increase in overall size that occurred in fetal life and during infancy is followed by long period of gradual growth that accelerates again in adolescent years.

It is characterized by rapid increase in height and weight, by hormonal changes, by sexual maturation and by wide swings in emotions. For a year or two before and during adolescence, the growth rate accelerates and is second only to that of infancy. It is a period of transition between childhood and adulthood that demands extra nutrients and energy-rich foods for rapid growth and maturation.

In India, adolescents (10-19 years) constitute 21.4 percent of the population, comprising one fifth of the total population. Therefore comprehensive health care of this section will fulfill the health need of 1/5 population. Achievement of optimum growth during this period is of utmost importance in maintaining good health thereafter.

Boys as compared to girls, have higher lean body mass(LBM) skeletal mass and lower fat ratio of total body mass. This difference in body composition leads to difference in their nutrient needs as LBM has more metabolic activity than adipose.

Nutritional status is the condition of health of an individual as influenced by nutrient intake and utilization in the body. Due the economic growth in developing countries, malnutrition (over-nutrition) is becoming prevalent and a serious public health problem.Over-nutrition needs to be viewed as an indication of excessive intake of food.

Nutritional assessment is an opportunity to update and provide accurate information to guide decision-making and program design to improve micronutrient status. Because the anabolic activities

are considerable during entire period of childhood, the nutritional requirements in proportion to body size are much higher than they will be in adult years. Childhood and adolescence are times of considerable activity and hence energy requirements are greater. The recommended dietary allowances are designed to support optimum growth and development.

Food continues to be major factor in the development of whole person throughout the growing years. The environment in which a child grows determines the food behavior and quality of nutrition.

Obesity in Adolescence

One of the major problems is "rising obesity rates" in urban, well to do school children. Its prevalence continues to increase worldwide. As the prevalence of obesity increases so does the burden of its associated co-morbidities. Non-communicable diseases and their risk factors including obesity are now becoming a significant problem not only in affluent societies but also in developing countries. This is of special significance because obesity in adulthood tracks back to obesity in childhood and adolescence. Excessive eating out and snacking, especially long television watching and snacking, parental neglecting contributes to childhood and adolescence obesity. Stress and exam anxiety adds to this problem of over nutrition.

The incidence of overweight children and adolescents leads not only to increased chance of later obesity but also to a decrease in physical activity or fitness or later to other aspects of ill health.

The mechanism for excessive weight gain is clear ——More calories are consumed than the body burns, and the excess calories are stored as fat(adipose) tissue. Eating habits and patterns of physical activity also plays an important role in the amount of weight a person gains.

Recent studies have indicated that the amount of fat in a person's diet may have a greater impact on weight than the number of calories it contains. Carbohydrates like cereals, breads, fruits, vegetables and protein(fish, lean meat, turkey) are converted to fuel as soon as they are consumed. It has been identified that there are three main causes of childhood obesity: genetics, overeating and lack of exercise. He emphasizes that it is important to understand that the causes of obesity are often a combination of these three factors. Obesity if just not the result of a single factor.

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Genetics can contribute to obesity, but very rarely. Only one percent of obesity is due to a hormonal cause, that is, mutations that lead to an altered secretion of hormones or hormonal action. Usually with the right support and guidance, children can work hard to keep their weight within a healthy range.

Lack of Exercise, the third factor that causes childhood obesity is not getting enough exercise. This lack of activity is a result of the lack of emphasis on physical education in schools and at home. More specifically, there has been a decline in the development of grass root sports and a general decrease in the amount of time during and after school that is devoted to physical activity.

Television viewing has been proven to be a significant factor in childhood obesity, since viewing during childhood years could have lasting effects on lifestyle later in life. Some other causes of obesity that were identified by researchers include sex, socio-economic status and race.

Overeating is another factor that causes obesity. Over the past fifteen years the super-sized portions are increasing, along with super-sized kids with super-sized problems. Many areas of a child's life are influenced by this increase in overeating. For example, there have been dramatic changes at school that have helped kids make more unhealthy food choices. Cafeterias now serve food with larger fat content and low nutrition. Soda and candy machines have also been conveniently placed in many schools.

A child's eating behavior is important in terms of child-health. Evidence also indicates that dietary habits acquired in childhood persist through adulthood. Eating junk food has become a trend. Children hate homemade healthy food. Drinking soft drinks adds dangerous toxins in human body. It affects the bone, skin and kidney. Good nutritious diet or balanced diet is the basic need of every child for their growth and development. Most of the children of this age during their meal time eat junk food and get addicted to the taste of that food. Though, junk foods are tasty they have very low nutritive value and high calories. Junk food can be appealing for a variety of reasons, including convenience, price and taste. For children, who do not always understand the health consequences of their eating habits, junk food may appear especially appetizing. However this addiction can lead to complications like obesity, chronic illness, low self-esteem and even

depression, as well as affecting how they perform in school and extracurricular activities

The aim of the present study was to study food habits of school going children, to evaluate dietary food intakes, to evaluate adequacy of diets with regarding to energy, protein, vitamins and minerals, to access the physical growth and development with the help of anthropometric measurements and to find out awareness of health hazards of fast foods and its association with overweight.

Methodology

Sample Selection

The present study was conducted on 200 children between the age group of 13-15years selected from various schools in Amritsar.

Method of Survey

A questionnaire cum interview method was adopted for obtaining the information. In order to access the nutritional status following methods were used.

1. Dietary intake study
2. Anthropometry
3. Biochemical tests

Dietary survey evaluates current food intake, biochemical data reflects nutritional status, anthropometric examination evaluates long nutritional history. The combination of above three methods were adopted for the present study.

Formation of Questionnaire

An open end and structured questionnaire was drafted keeping in mind the information to be collected for the survey. An interview cum questionnaire method was adopted to collect the data.

The data pertaining to general profile of the subjects i.e. name, age sex, family occupation and family income of the subjects were collected. The anthropometric measurement like height, weight and indices based on these measurements evolved by different workers have been extensively used to define the extent of malnutrition in children.

The child's height and weight were measured. These measurements were compared to standard value of ICMR and NCHS.

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Statistical Analysis

The raw scores consisted of scores on all the above mentioned variables. All the comparison of scores of these different variables of males and females was done using appropriate statistical analysis.

Results

A total of 200 students were selected from age group 13 to 15, in which proportion of male female were taken equal.

Statistics of weight in adolescents (n=200) with reference to NCHS Comparison of adolescent's weight and height with NCHS & ICMR standard charts:

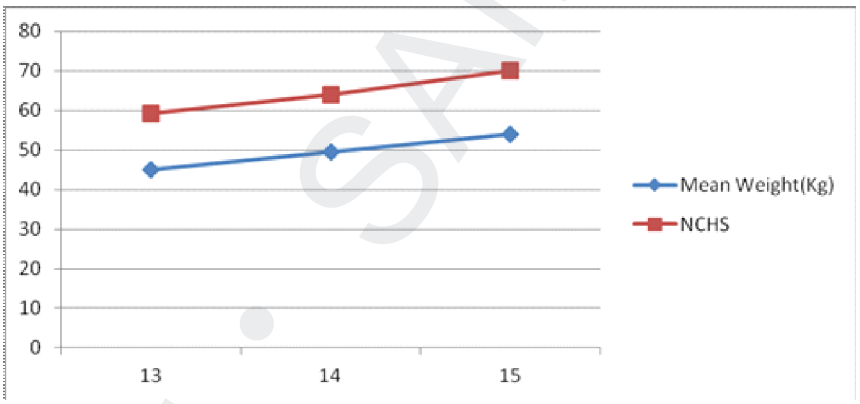


Figure 1A: Mean weight vs. NCHS standards (male)

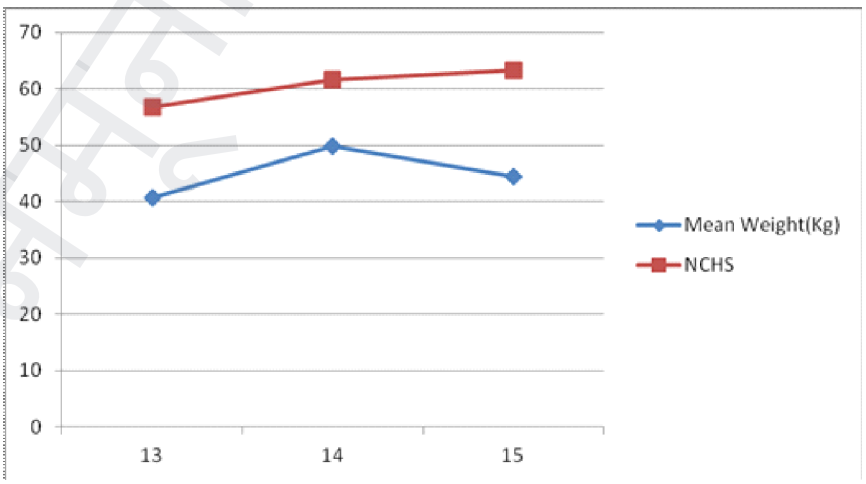


Figure 1B: Mean weight vs. NCHS standards (female)

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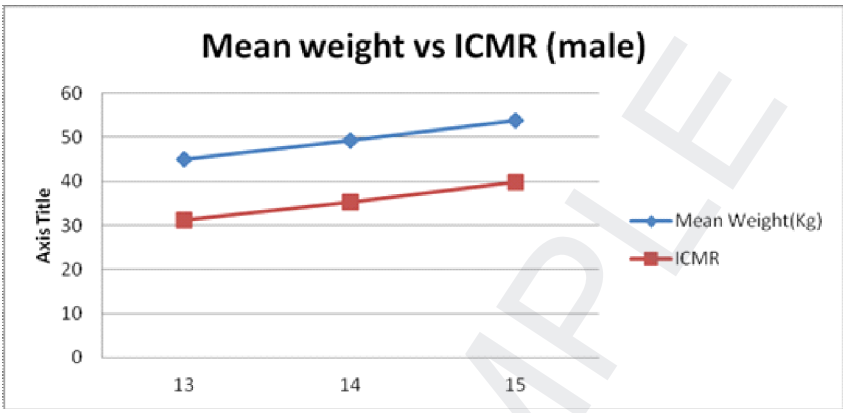


Figure 2A: Mean Weight vs. ICMR standards(male)

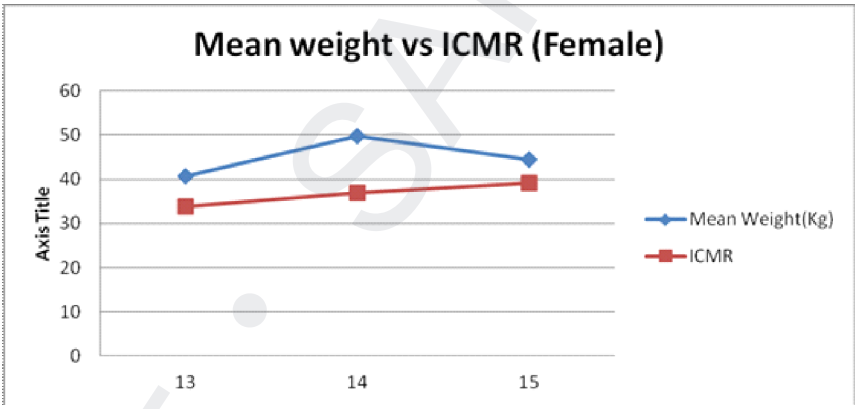


Figure 2B: Mean Weight vs. ICMR standards (female)

The above graph clearly presents the differences between the observed weights of the subjects and ICMR standards and it is observed that the mean weight of school going adolescents is above than ICMR standard in both male and females:

Nutritional status

The table below shows the nutritional status of the students whose BMI was calculated for determining nutritional status.

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