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FACTORS AFFECTING OBESITY IN MODERNIZED RURAL HIMACHAL

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ABSTRACT

This community based study assessed the prevalence of obesity and associated factors among age group between 16 to 75 years. The obese and overweight subjects were from age group from 31 to 45 year which was 42.42% and 28.78% respectively and most of them were in sedentary jobs. Obese and overweight dipsomaniac smokers were from the age group46-60 year which was 90%. Prevalence of hypertension and diabetes among overweight elderly was observed in this study.

Key words: Obesity, Overweight, Dipsomaniac, Hypertension, Diabetes

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INTRODUCTION

Advanced technologies and built environment resulted in decreased regular physical activities in human beings. This behavior results in progressive increase in obesity.

Obesity is a serious non-communicable disease. It is not just an individual's problem now it become a population problem and should be tackled. Require long term strategies for prevention and management. It develops when energy intake exceeds energy expenditure over a long period[1]. Obesity contribute to many complications. It alters adipose tissue metabolism and endocrine functions and increase release of fatty acids, hormones, and proinflammatory molecules[2]. In this study BMI measurement was used to identify individual's health status. BMI greater than or equal to 25 is overweight whereas 30 is obese[3].

MATERIAL AND METHOD

The study was conducted in Solan district of Himachal Pradesh. Duration of study was three month. In this study 473 subjects between ages 16-75 years were interviewed and the obesity was assessed by measuring height and weight of the individual and thereafter calculating body mass index. Body mass index (BMI) was a measure of body fat based on height and weight. Formula for calculating BMI was Weight in kilograms divided by square of the height in meters Information regarding habits, diet, physical activity habits and disease status were also collected. Subjects were divided in four groups according to their age i.e., 16-30, 31-45, 46-60 and 61-75 Year.

RESULTS & DISCUSSION

This study is based on survey of different age groups and different life style. Percentage of overweight and obese in students was less as compared to other age groups, since the activity level was more in students.

Obesity According to BMI Classification

It was observed that 5.47%, 0%, 16.67% and 20% of the subjects between age group 16-30, 31-45, 46-60 and 61-75 year respectively were underweight (BMI<18.50). Percentage of subjects with normal weight (BMI 18.50-24.99) was around 50 % in age group between 16-30 years (57.53 %) and 61-75 years (46.7 %). Overweight subjects (BMI ≥ 25.00) were more in 16-30 years (26.02 %) and 31-45 years (28.78 %) group. Obese (BMI ≥ 30.00) subjects were more in age group 31-45 years (42.42%).

Table 1: Percentage of obesity according to BMI classification

Age Group	16-30 Year	31-45 Year	46-60 Year	61-75 Year
Underweight < 18.50	5.47	0	16.67	20
Normal range 18.50- 24.99	57.53	28.78	27.78	46.7
Overweight ≥ 25.00	26.02	28.78	22.22	6.67
Obese ≥ 30.00	10.95	42.42	33.33	26.7

Factors associated with obesity

Percentage of overweight and obese in students was only 10.52% and 6.25 respectively. Maximum percentage of overweight and obese in sedentary jobs holder was seen in age group of 31-45 years which was 89.47 % and 85.71 % respectively. Percentage of obese subjects in this group was just 1% less then age group 46-60 year that was 86.66%. Subjects involved in field work show almost equal % age of overweight and obese cases in all groups except age group 16-31 year which was 55.26 % and 50 % respectively. Alcohol habitual and smoker subjects contributed more in percentage of overweight and obese category. Most of the obese smokers were from the age group 46-60 years (90 %) whereas overweight and obese of age group 31-45 year were more dipsomaniacs. Hypertension and diabetic diseases were more associated with overweight and obese subjects in increasing order of their age.

Table 2: Percentage of obesity in different conditions

Age Group	16-30 Year		31-45 Year		46-60 Year		61-75 Year	
BMI(≥)	25.00	30.00	25.00	30.00	25.00	30.00	25.00	30.00
%age of Students	10.52	6.25	0	0	0	0	0	0
%age of sedentary Job	34.21	43.75	89.47	85.71	25	86.66	14.28	17.85
%age of Field Worker	55.26	50	10.52	14.28	75	13.33	14.28	10.71
%age of Smokers	73.68	68.75	68.42	76.78	65	90	42.85	64.28
%age of Alcoholic	65.78	56.25	78.94	83.92	40	73.33	71.42	75
%age of Hypertension	5.26	6.25	5.26	16.07	30	56.66	57.14	46.42
%age of Diabetic	0	0	0	5.35	5	20	28.57	32.14

Physical activity was inversely associated with obesity. Subjects with sedentary jobs were more overweight and obese then who worked in field reason being, in sedentary jobs energy expenditure was less as compare to food intake[4]. Economical and education status of subjects also changes the life style and their appearance.

Less smoking or quit in smoking caused weight gain. Smoker's appetite is more. Appetite plays a major role in signaling mechanism of brain for intake of food[5]. Smokers generally gain weight when they quit smoking. Results showed that smokers are more overweight and obese than teetotalers because most of them were dipsomaniac. High alcohol intake was associated with

abdominal obesity[6]. Alcohol consumption has been reported to promote obesity in some individuals, and obesity has been reported to increase the risk of fatty liver, hepatitis, and cirrhosis caused by chronic alcohol consumption[7].

The incidence of hypertension, diabetes intensified with age and ageing is closely linked to the metabolic syndrome. The incidence of the metabolic syndrome caused obesity[8].

CONCLUSIONS

Low level of physical activity, smoking and alcohol consumption increased the cases of obesity. Obesity should not be ignored. It may increases the chances of hypertension, diabetes and other diseases. There is an urgent need to adopt an approach to control weight.

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