TENDENCY OF OBESITY IN MALE POPULATION OF DISTRICT CHARSADDA

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ABSTRACT

BACKGROUND: Obesity has become a global issue. As more and more countries embrace indoor lifestyles and western eating habits, the number of people to fall in line of 'obese' is increasing day by day in the developing countries.

OBJECTIVES: The objective was to assess trends of obesity and its relationship with diet and physical activity among adult men of District Charsadda.

MATERIAL & METHOD: A total of 400 adult males of age group 25-65 years, were selected from four union councils by multistage sampling. Data was collected using structured questionnaires and anthropometric indices were calculated using standard tools for height, weight and then BMI was calculated. Analysis was done using SPSS program and results were evaluated in the light of the proposed hypothesis. The study was conducted from 10th March 2013 to 10th September 2013.

RESULTS: showed that there is 20% obesity in the four union councils of study population, having 37% frequency below 40 years and 63% above 40 years age among men. Analysis of the results showed that high caloric diet and sedentary life style i.e. decreased physical activity showed positive correlation with obesity.

CONCLUSION: It was concluded that the prevalence of obesity in men belonging to different classes were high and needs appropriate and timely response from the concerned departments to reduce the burden of obesity and its associated complications.

Key words: Obesity, Physical Activity, Diet, Sedentary Life Style.

INTRODUCTION

Obesity is one of the major public health issues all over the world and its prevalence is increasing day by day and approximately 320 million of the world's population is estimated to be obese¹. Obesity has become an emerging public health problem around the globe in under developed and developed countries and more common in affluent societies².

The obesity is now considered as the second highest leading cause of death after cancer. The major reason is attributed towards the eating, living and social habits of the people, which is responsible for high levels of adiposity. Obesity is one of the most common contributing factors to the development of non communicable

diseases³. Obesity increased with age and the highest prevalence rates of obesity was estimated in the middle age group. Research studies had revealed low obesity prevalence 7% and high prevalence up to 40%². Obesity rates are related more to a reduction in energy expenditure than to an increase in caloric intake⁴. Physical activity is important for achieving proper energy balance and has also been strongly associated with obesity^{5, 6}. Physical activity showed strong association with obesity prevalence and sedentary life style⁷. Studies showed that physical activity that burns 1500 to 2000 kcal/week appears to be adequate⁸. During last two decades, prevalence of obesity in developed countries has doubled and revealed strong

relation between exercise, dietary intake, and sedentary behavior⁹.

Obesity is the excessive deposition of body fat or adipose tissue. Obesity is body weights more than 200% above the normal weight of the body. WHO uses BMI (Kg/m^2) as the measure for obesity i.e. BMI of 27 or greater than 27. Different researches showed a positive relationship between obesity, diet and physical activity. Modern man's quest for an easier and time saving life has led him to seek methods in which the use of body energy would be to the minimum.

Obesity is one of the major nutritional problems all over the world and recently its prevalence is increasing in developing countries like Pakistan and thus reliable data regarding the prevalence of obesity is vital for proper planning. Thus this cross sectional study was designed to find the frequency of obesity among men of four union councils of District Charsadda and to suggest measures so to avoid and reduce burden of obesity in the adult population and the whole community in near future.

METHODOLOGY

A cross sectional study was carried out among males in main city of Charsadda from 10th March 2013 to 10th September 2013. The sample size was 400 according to the WHO formula with 95% confidence interval. 400 males having age ranges from 25-65 years, residing in the study areas, were included by multistage sampling methods after selection of four union councils, while those having any pathological condition or migrants were excluded. Men of different occupations were interviewed in the study. A detailed structured questionnaire was used to collect relevant information i.e. age, sex, height and weight for calculating BMI. For height and weight measurement the standard protocol was followed. Data was collection, processed, analyzed and then presented in the form of tables and graphs. The results of obesity assessment were plotted into 5 categories of BMI (kg/m^2) i.e. less than 18 (Underweight), between 18 and

24 (Normal), between 25 and 27 (Overweight), between 28 and 30 (Obese - I), between 31 and 36 (Obese - II); and more than 36 (obese III or Morbid Obese).

RESULTS & DISCUSSIONS

According to our study results, the percentage of obesity in adult men belonging to different classes/sectors was 20% while in other research studies the prevalence calculated was 8% and 26.6%^{10, 11}. As shown in Table.No.1. & Graph.No.1; 63 (15.75%) are between 20-30 years of age while 81 (20.25%) are between 30-40 years of age; 117 (29.25%) are between 40-50, and 139 (34.75%) are of ages 50 and above. The trend of obesity was found more among office workers 29 (36.71%), shopkeepers 21 (26.58%), retired 19 (24.05%) and less among school teachers 10 (12.66%) as shown in Table.No.2.

Table No. 1: Age Distribution of the Study Population (n = 400)

S. No.	Age	Frequency	%age
1	20-30 Years	63	15.75%
2	30-40 Years	81	20.25%
3	40-50 Years	117	29.25%
4	50 & above Years	139	34.75%
Total		400	

Graph No. 1: Frequency & Percentage of Obese & Non Obese (n = 400)

Table No. 2: Frequency & Percentage of Obese Persons Regarding Different Occupation

S. No	Occupation	Obese Frequency	Obese %age
1	School Teachers	10	12.66
2	Office Workers	29	36.71
3	Shopkeepers	21	26.58
4	Retired	19	24.05
Total		79	100

Result analysis revealed that obesity is more prevalent among men above 40 years of age and is calculated to be 63% while the percentage of obesity in men below 40 years of age is 37% as were estimated previously ⁴. Our study results showed that majority of males are below 45 years of age making 56% of our study population while the remaining 44% are above 45 years of age. Our results also show that obesity is least prevalent in the younger age groups as compared to above 40 years of age groups as were revealed internationally ¹¹.

In our study we also observed a positive association between obesity and diet as studied in previous researches ⁵. The average caloric intake calculated per week & per day was 22016 & 3145.15 calories respectively, which surpasses the value assigned for adult men by the Daily Food Guide, i.e. 2570 calories per day. Our study shows that there is an increased dietary intake among males and this is found to have a direct impact upon the increase in the prevalence of obesity as reported and found in various studies ¹² as shown in Table.No.3.

Table No. 3: Frequency & Percentage of Dietary Intake (n=400)

S. No	Dietary Intake	Frequency	%age
1	Normal Diet	116	29%
2	High Caloric Diet	284	71%
Total		400	100%

The average physical activity/ calories burn per week & per day was about 10100 & 1442.85

calories respectively. Among obese, 95% had decreased physical activity as compared to normal men in the study population. The estimated amount required to be burned is given by the CDC, USA to be 2200-2400 calories per day and our results showed a marked decrease amount ¹². According to the Center for Disease Control, obesity results from an energy imbalance by either consuming too many calories or not getting enough physical activity, these findings were supports and confirmed by this study and showed strong association between obesity and physical activity. The analysis of results of obesity and its relation physical activity revealed that sedentary life style i.e. decreased physical activity showed positive association with obesity ^{5, 6, 12} as shown in Table.No.4.

Table No. 4: Frequency & Percentage of Physical Activity (n=400)

S. No.	Physical Activity	Frequency	%age
1	Normal Physical Activity	52	13%
2	Decrease Physical Activity	348	87%
Total		400	100%

CONCLUSIONS

From the study it was concluded that the frequency of obesity (20%) was high as compared to the national and international data/findings and this seems to be an alarming situation and needs immediate and urgent remedial interventions so to avoid and reduce such prevalence in future.

RECOMMENDATIONS

On the basis of results, the following recommendations are suggested to prevent the obesity problem and epidemic in near future and to avoid its detrimental complications. The whole population/community should be sensitized and motivated regarding prevention.

Overeating, excessive sugar intake, lack of exercise, carbonated soft drinks and sedentary life style should be avoided. The Govt and private sector should launched health awareness campaigns and to educate community regarding healthy eating habits to avoid obesity and its complications.

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