A STUDY OF THE RATE OF OBESITY IN ADULT FEMALE POPULATION OF HAZARA

M. Hussain and Nazakat Begum

Abstract: One hundred adult, non-pregnant women were examined for various body parameters which determine the obesity. It was observed that 22% of the subjects under observation were obese on the whole. Moreover, it was noticed that the rate of obesity increased among the female subjects with the advancing age. The main reason for the obesity was found to be the intake of high calorie diet with lesser physical activities.

Introduction

During the past few decades, obesity has been gaining much attention due to its ill effects. Obesity is a complex disorder characterized by an increase in weight of over 10% above the normal, due to generalized deposition of fats in the body or the increase of body water. The association of obesity with increased morbidity and mortality rates is well known.[1] Hypertension, diabetes mellitus, gallbladder diseases, gout and possibly coronary atherosclerosis are frequently associated with obesity. Most cases of obesity are due to simple overeating resulting from emotional, familial, metabolic and genetic factors. A few endocrine and metabolic disorders lead to specific types of obesity. Various studies have been carried out to sort out the factors which are generally responsible for obesity.[2] Unfortunately, in most of the under developed countries, obesity has not been given due importance which resulted in a shortage of statistical data regarding the rate of obesity and the resultant diseases in these countries.

The present study was designed to observe the rate of obesity with respect to socioeconomic conditions, among the female adult population.

Material and Methods

A total of one hundred non-pregnant adult women having the age range between 16 years and 45 years, were selected for the study. They were divided into three groups with the age difference of 10 years in succession. The body weight of the subjects was taken with a standardized top loading weighing machine. The height was measured making the subject stand with a wall in straight position. Round arm circumference and abdominal circumference were measured with an accurate measuring tape. The skin fold thickness (triceps fat fold) was measured with the help of a calliper. Age, height

From Ayub Medical College, Abbottabad
M. HUSSAIN, M.Sc., Ph.D., Dept. of Biochemistry
NAZAKAT BEGUM, MBBS, MRCOG, Prof of Gynecology and Obst

and body weight ratios were compared with the standard tables and the

obesity was worked out on the basis of these ratios.

Results

Women subjects were examined for the determinates of obesity like age, height, body weight, skinfold thickness, round arm circumference and abdominal circumference. The data was recorded and questionnaire was drafted together information regarding socio-economic conditions of the subjects, and their routine diet. It was observed that there was a considerable difference of all parameters between the obese and non-obese of various groups (Table — 1).

In the age group of 16-25 years the number of female subjects Examined was 22. Out of these three were obese and 19 were non-obese. Obesity in this age group was found obese 14%. The age group of 26-35 consisted of 35 subjects. Seven women were found obese and 28 were non-obese. Obesity was calculated -to be 20% in this age group. The age group of 36-45 years included 45 subjects. In this group 12 women were obese and 31 were non- obese. Obesity was observed in 28% subjects (Fig. I).

The overall obesity rate in the female adult population studied by the authors was found to be 22%. It was further noticed that the rate of obesity increased with the age.

Discussion

Practically it is different to determine the normal body weight accurately due to differences in socio-economic conditions, build of the body, and musculature etc., of the individuals. It is therefore, necessary to consider dietary habits, familial tendencies, socio-economic factors physical and mental activities and psychological conditions of the population.

It has been reported that women from the lower income group had obesity six times more than those from higher income group.[3] In our study, most of the female subjects belonged to lower income group, but the rate of obesity was not so high. Among the obese group it was observed that most of them frequently used milk and milk products specially ghee and sugar as these are commonly available in the rural areas. It was further observed that the obese were physically less active as compared to non- obese. There was a little difference in the calorie intake of both groups. It was probably due to difference in the food utilization of various individuals which make it possible for one person to utilize the calories more efficiently than the others. In America, 40-50% of the adult population is considered to be overweight.[4] Statistical data of Pakistani population is not available for comparison. However, in our study area (Abbottabad) the rate of obesity was around to be 22% among the adult females which is

Table – 1 Dimensional Parameters of the Body in Adult Women of Various age group

Age Group (Years)	Height (Cm) Range Mean ±S.D	Body weight (Kg) Range Mean ±D.D		Skinfold (Triceps fat fold) Thickness (m.m) Range Mean ±D.D		Round arm circumstance (Cm) Range Mean ±D.D		Abdominal circumstance (Cm) Range Mean ±D.D	
		O*	N.O **	O	N.O	O	N.O	O	N.O
16 - 25	1 50 — 1 59 (155.8 ±3.3)	57- 63.4 (61.9 ±4.9)	36.3 - 47.8 (40.4 ±4.0)	23.5- 25.8 (24.2 ±1.8)	11.9-15.8 (13.8 ±2.6)	27.8 - 31.5 (29.8 ±2.5)	17.8 - 23.2 (20.5 ±3.6)	79 - 88.7 (84.4 ±5.6)	62.1 - 69.3 (64.5 ±4.0)
26 -35	154- 163.5 (158 ±3.4)	64.8 - 71.6 (67.9 ±2.3)	43 - 55.1 (49.6 ±4.2)	26.3 - 29.4 (27.8 ±2.1)	16 - 34.8 (17.5 ±1.9)	29.9 - 34.8 (32.3 ±3.1)	23.6 - 25.1 (24.4 ±1.0)	90.2 - 106.3 (98.25 ±8.80)	73.2 - 87.2 (79.8 ±6.1)
36 - 45	175- 163.6 (160.7 ±2.5)	62 - 76.5 (69.7 ±5.4)	48.3 - 57.4 (53.3 ±3.4)	28.7 - 32.1 (30.6 ±2.3)	18.8 - 23 (20.9 ±2.5)	32 - 38.9 (35.4 ±4.4)	23.9 - 27.8 (25.9 ±2.1)	107.8 - 117.9 (112.8 ±7.1)	84.4 - 88.2 (86.3 ±2.6)

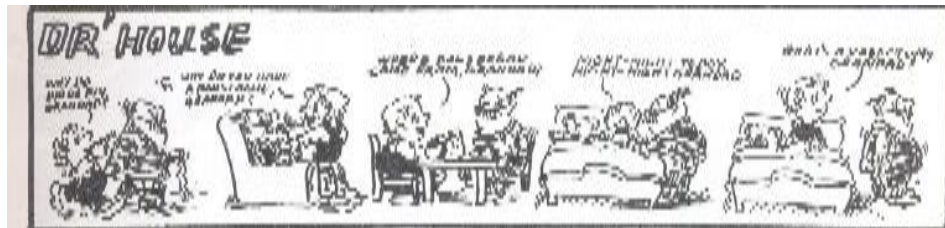* O   =   Obese
**N.O   =   Non-Obese

far less than that from the adult population of America.[4] The major reason of the low obesity rate in our society area is Physical activity of the women which they exercise as their house work while in developed countries this rate is considerably high due to the use of labour saving devices for the home.

REFERENCES

1. Drenick, E.J. Excessive Mortality and Causes of Death in Morbidly Obese Men. JAMA. 19"80 ; 2*43 : 443.
2. Krupp. M.A. and Chatton, M.J. Current Medical Diagnosis and Treatment. Lange Medical Publications Califorina. PP: 787. (1982).
3. Goldblatt, P.B., Moore, M.E. and Stunkard, A.J. Social Factors in Obesity. Acta Paedit. Scand. 1965; 54 : 199-202.
4. Bray, G. Obesity in America. U.S. Government Printing Office. N.I.H. Publication No. 80-359. (1980).

0-0-0-0-0000-0-0-0

BY. DR. M. ASLAM