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Research Paper :

Role of nutrients in the development of overweight and obesity of urban females in Western U.P.

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ABSTRACT

Female obesity is the result of several factors culminated together. Most of the time weight is gained intake of more calories than what the body actually needs. In this perspective, the present study was fabricated to find out the quantity of macro-nutrients like protein, fat, carbohydrate and energy consumed by the overweight and obese females of Hathras city (Uttar Pradesh). The study revealed that the mean consumptions of protein, fat, carbohydrate and energy by overall females were assessed 83.67 ± 24.54 g; 79.60 ± 21.35 g; 441.33 ± 88.79 g and 2761.67 ± Kcal, respectively. On comparison with recommended daily allowances, protein ranged from 146.00% to 196.80%; fat from 302.00% to 490.00% and energy from 119.21% to 127.87% in low to high income group. In addition, protein and fat consumptions were witnessed significantly increasing with the advancement of income. Nearly three quarter energy fulfilled by carbohydrate sources and three to five times of fat consumption were found responsible to cause overweight and obesity.

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Overweight is a weight in excess of the average for a given sex, height and age. It is usually due to obesity but it can rise from other causes such as abnormal muscle development or fluid retention. An enlargement in fat cell size or an increase in fat cell number or combination of both is known as obesity. Obesity develops when energy intake though in small quantity continuously exceeds more than the energy expenditure causing energy imblalance (Park, 2005) and Duvigneaud *et al.,* 2007). Consumption of increased amount of rich foods accounts for fat accumulation in the body. Dietary fat with high energy density and palatability with poor appetite control signals leads to increase energy and body fat (Blundell and King, 2001). Prevalence of obesity is more in the societies reliant on energy densed with large fast food meals providing less satiation. Total energy protein, sugar, iron and fat (saturated, poly and unsaturated) consumptions were found significantly higher in obese males and females than their normal counterparts. The contribution of energy from carbohydrate and fibres were negatively attributed with BMI in males. Whereas high quantity of carbohydrate and fibre were positively associated with BMI in females (Duvigneaud *et al.,* 2007, Agras and Mascola, 2005 and Rosenheck, 2008).

In view of the aforesaid statements, the present study was carried out to find out the quantity of macro-nutrients like protein, fat, carbohydrate and total energy consumed by the overweight and obese females residing in Hathras city situated in Western Uttar Pradesh.

METHODOLOGY

The study was conducted on 300 overweight and obese females aged 30 to 50 years from four randomly selected areas of Hathras city (U.P.). The data were collected with the help of questionnaire-cum interview technique. One hundred subjects each related to socio-economic status low, middle and high were screened from the four areas of the city on the basis of door to door survey. The socio-economic status was assessed according to basic classification of socio-economic status (1960) and current price index as suggested by Kumar (1993). The overweight and obesity were assessed by body mass index (BMI). This index is expressed as a quotient of body weight (in kg) divided by square of the height presented in meter. The females measuring BMI 25 or more were considered overweight and obese (WHO, 1998).

In addition, 24 hours food recall method was employed to assess the nutrients intake of the desired subjects. Further, the nutrient intake was compared with recommended daily allowance (RDA) (ICMR, 2004) and inference regarding its adequacy was documented accordingly. Finaly the results were inferred with the help of suitable statistical tools wherever felt necessary.

FINDINGS AND DISCUSSION

Female obesity is result of several factors culminated together. Most of the time weight is gained by intake of more calories than what the body actually needs. Obesity