

Obesity prevalence in women aged 20-45 years in Farrukhabad district

J. KUSHWAHA, R. PRASAD AND A. GUPTA

ABSTRACT

For the Cross Sectional study, Farrukhabad district was selected purposively. About 744 women aged 20 – 45 years were selected for the present study. Stratified multistage random sampling procedure was adopted for this study to select the ultimate unit of the samples. Six villages and six Mohallas were selected randomly from one block and five wards. 62 women (5% of total women) from each village and Mohalla were selected randomly in rural and urban areas. For the data collection, a structured interview schedule was developed and data were collected by face to face interview. The anthropometric measurement of each of the respondents height and weight were recorded. The nutrient intake of the subjects was calculated on the basis of 24 hour dietary recall method. The results of this study showed that overall prevalence of obesity were found more prevalent, 21.50 per cent in urban area and 5.64 per cent prevalence found in rural area.

Kushwaha, J., Prasad, R. and Gupta, A. (2011). Obesity prevalence in women aged 20-45 years in Farrukhabad district, *Food Sci. Res. J.*, 2(2): 111-115.

Key Words : Obesity, Obesity prevalence, Obesity related factors, Obesity in urban and rural areas

INTRODUCTION

Obesity may be defined as an abnormal growth of the adipose tissue due to an enlargement of fat cell size (hypertrophy obesity) or an increase in fat cell number (hyper plastic obesity) or a combination of both. Obesity is often expressed in terms of body mass index (BMI). Overweight is usually due to obesity but can arise from other causes such as abnormal muscle development or fluid retention.

Over recent years, rates of overweight and obesity have escalated rapidly in many parts of the world to epidemic proportions, reflection increased consumption of energy dense diets high in fats and sugars, compounded by declining levels of physical activity. More than 1.1 billion people are estimated to be overweight, of which around 320 million are now calculated to be obese. The International obesity task force (IOTF) estimates that up to 1.7 billion people may be exposed to weight related health risk, taking into account varied Asian population with a body mass index (BMI) of 23 or more. More than 2.5 million deaths each year are attributed to higher BMI, a figure that is expected to double by 2030.

To measure the obesity, anthropometric measurement is most commonly used method. In anthropometry, body mass index (BMI) is the most commonly used measure of overall obesity BMI can be considered to provide

the most useful, albeit crude, population-level measure of obesity (WHO, 1995; WHO, 2000). In cross-sectional comparisons, BMI values may be used to estimate the prevalence of obesity within a population and the risk associated with it. It allows meaningful comparisons of weight status within and between populations and the identification of individuals and groups at risk of morbidity and mortality.

METHODOLOGY

This was a cross sectional study, the investigation was carried out during the year January 2009 to December 2009, assuming the prevalence of obesity. The data were collected from adult urban and rural about 744 women aged 20-45 years in different wards and blocks of Farrukhabad district. Stratified multistage random sampling procedure was adopted for this study to select the ultimate unit of the samples. Farrukhabad district of Uttar Pradesh state was purposively selected. The sampling stages were as follows.

In rural area Farrukhabad district consisted of seven blocks, out of seven blocks one block namely Kamalganj block was purposively selected for the present study which was easily approachable by the good transport facilities. The researcher had also established good relation with the respondents of the block. On the other hand in urban

area Farrukhabad district consisted of six Nagar palicas, out of these one Nagar Palica namely Farrukhabad Nagar Palica was purposively selected for the present study, Farrukhabad Nagar Palica consisted of 90 wards, out of them only five wards (5% of total wards) were selected randomly.

To select villages and mohallas, in rural area Kamalganj Block consisted of 120 villages, out of 120 villages six villages (5% of total villages) were selected randomly. In urban area, five wards consisted of 105 Mohalla out of these Mohalla six Mohallas (5% of total Mohallas) were selected randomly.

For the selection of the respondents, list of the respondents of the 20 – 45 yrs age group was prepared from each village due to suspected age group for obesity, and the names of respondents of the selected villages were arranged alphabetically, ultimate respondents were selected by systematic random sampling. First respondent was selected randomly and after that every alternate women was selected. Thus 62 women (5% of total women) from each village and Mohalla were selected, respectively. Thus 372 women from rural area and 372 from urban area were selected for the present study.

Requisite information on socio-demographic variables was collected by interview and questionnaire method. Socio demographic and behavioral data for each subject included age, religion, type of family, caste, education, nature of work, respondents who gained weight after child birth, family history, watching TV during meal, preference for oily food, obesity according to women who like fast food batter than simple food, effect of fast food consumption, marital status, family income, educational status, occupation, food habits and physical exercise. The anthropometric measurement of each of the respondent's height and weight were recorded. Height was taken in centimeters with the help of measuring tape, and weight was taken with the help of accurate bathroom scale, in kilogram.

The present study entitled "obesity prevalence and associated factors in women aged (20–45 years) in Farrukhabad district," was conducted using the research procedure described in this chapter. The collected data were coded, tabulated and analyzed using various statistical techniques. The statistical tests were used to know the relationship between dependent and independent variables among the various group of study. Chi-square test was used in the present study. For the analysis of the data SPSS and CS Pro 4.0 programmes were used.

OBSERVATIONS AND ASSESSMENT

The results obtained from the present investigation

as well as relevant discussion have been presented under following heads:

Characteristics of study population:

After analyzing the data, study reveals that, most of the women were found in age group of 40-45 years in urban area and 20-25 years in rural area, majority of women were Hindu in both urban and rural areas. Most of the women belonged to general cast in urban area and OBC caste in rural area. Majority were in nuclear family in urban area and joint in rural area. Most of the women were graduate in urban area and illiterate in rural area. Almost 75 per cent respondents were moderate worker and more than 90 per cent women were house wives in both urban and rural area, although 60 per cent respondents belonged to middle income group in urban area and 67 per cent belonged to lower income group in rural area. Regarding weight of respondents 29 per cent women were found with 60-70 kg. weight in urban area and 40 per cent with 50-60 kg. with in rural area. Result of the study also reveals that 39 per cent respondents were having 25-29.9 BMI in urban area and 58 per cent were having 18.5-24.9 BMI. 63 per cent respondents reported that they were having family history of obesity in urban area and in rural area 68 per cent respondents reported that they were not having family history of obesity.

The distribution of BMI in women by residential areas is presented in Fig. 1. The frequency of obesity was not similar in urban and rural areas. Grade of obesity were more in urban area.

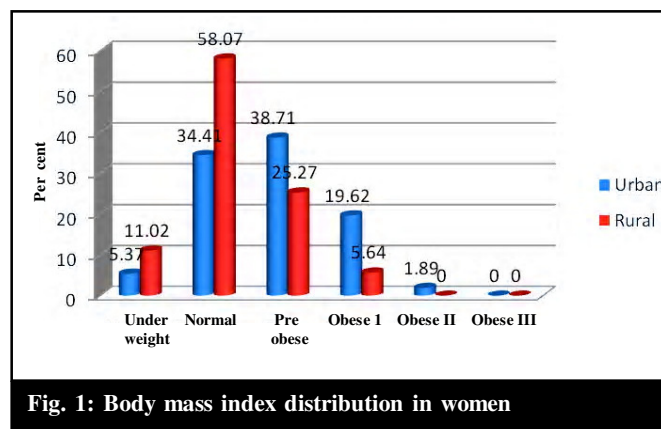
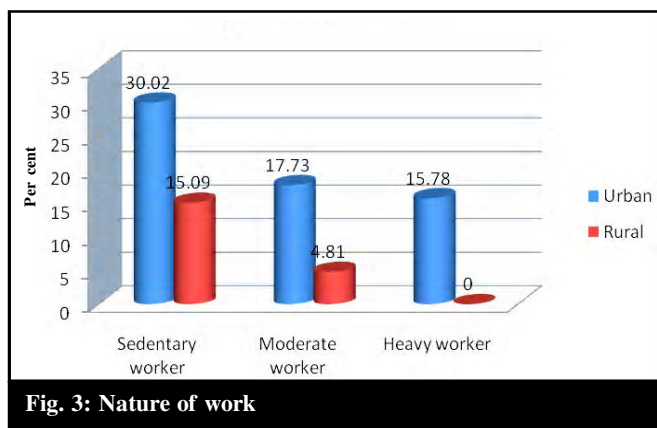
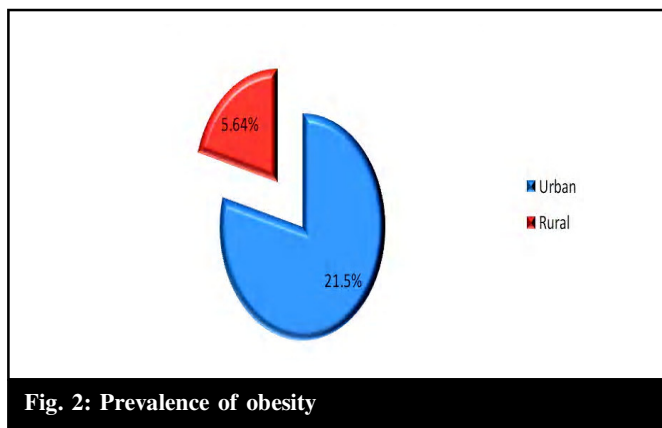


Fig. 1: Body mass index distribution in women

The overall prevalence of obesity was high in urban area 21.50 per cent, and about 5 per cent in rural area. The prevalence of obesity of the studied population based on BMI given by WHO, 2004.

Regarding age, prevalence of obesity was found more in 35-45 year age in both urban and rural areas. Obesity prevalence was found in more in those women who



belonged to Muslim family, nuclear family and belonged to general caste. Regarding educational status obesity prevalence was found more in those respondents who were inter mediate.

Fig. 3 reflects nature of work obesity was found more prevalent in those women who were sedentary worker in both urban and rural areas. Study is also supported by Ching *et al.* (1996) low levels of exercise and sedentary behavior have predicted future weight gain among adults.

Fig. 4 highlights prevalence of obesity according to occupation of the respondents, obesity was found more in house wife in both urban and rural areas. This study also supported by Martin *et al.* (2007). Higher prevalence of obesity are found in the lowest occupational categories,

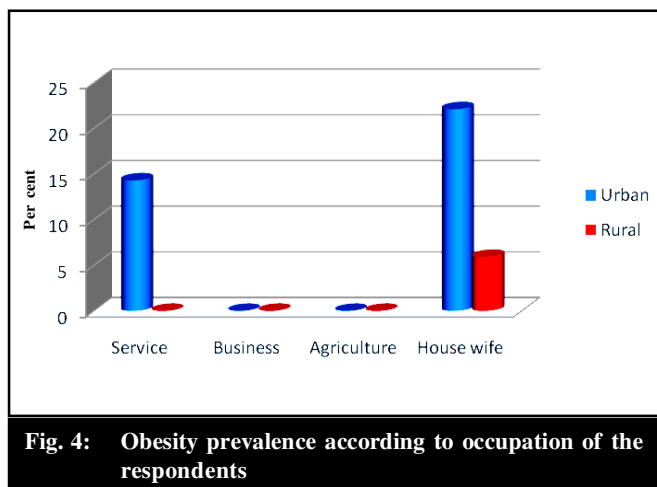


Table 2: Prevalence of obesity according to different variable

	Urban			Rural		
	Total No.	Obese	Prevalence	Total No.	Obese	Prevalence
Age in yrs.						
20 – 35	175	14	8.00	244	9	3.68
35 - 45	197	66	33.50	128	12	9.37
Religion						
Hindu	341	61	17.88	320	17	5.31
Muslim	23	15	65.21	52	4	7.69
Christian	8	4	50.00	-	-	-
Type of family						
Nuclear	269	62	23.04	118	15	12.71
Joint	103	18	17.47	254	6	2.36
Caste						
General	175	45	25.71	53	4	7.55
OBC	166	30	18.07	285	17	5.96
SC	31	5	16.13	34	-	-
ST	-	-	-	-	-	-
Education						
Illiterate	54	12	22.22	209	9	4.30
Up to inter mediate	227	53	23.34	155	12	7.74
Graduate	91	15	16.48	8	0	0

and there is an inverse relationship between BMI and employment situation. Obesity was more prevalent in retired people and people that work from home, compared with professions that require activity at work.

Fig. 5 highlights prevalence of obesity according to family income. The prevalence was found more in those women who belonged to high income group in urban area on the other hand in rural area it was more in middle income groups women.

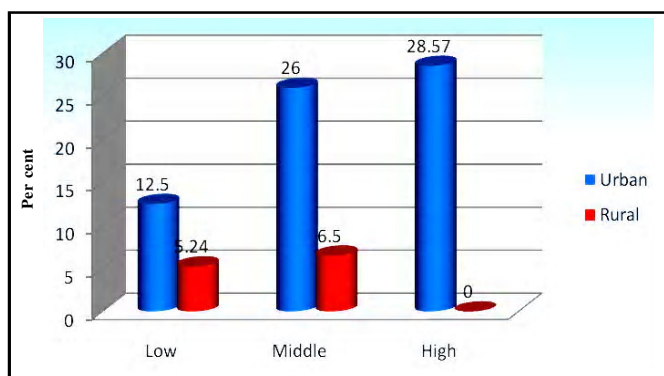


Fig. 5: Obesity prevalence according to family income

Prevalence of obesity was found in those women who were married (Fig. 6). This study is also supported by Al – Malki (2003) who found that the prevalence of overweight and obesity was higher amongst a group of married women than among a group of single women. Sotoudeh (2005) also found that the mean BMI was significantly higher in married women. Prevalence of obesity in married women was found more in urban area than rural area.

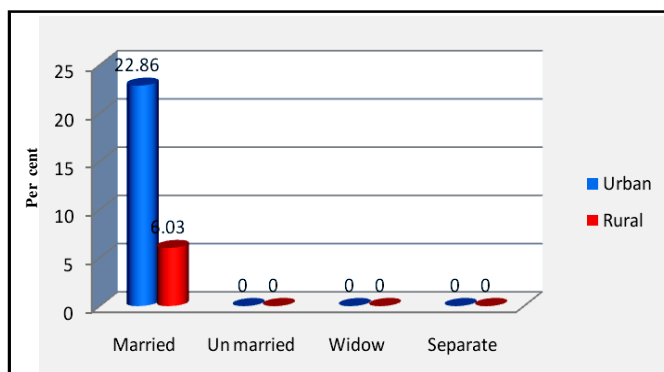


Fig. 6: Prevalence of obesity according to family income

Prevalence was found in those women who were having family history in both urban and rural areas. This study also supported by Sibai (2002) was found that obesity

in older adults was more prevalent among those women who reporting a family history of obesity.

Finding on watching TV during meal obesity was found in those women who watched TV during meal and preferred oily food. Obesity prevalence was found in those women who liked fast food better than simple food.

Regarding food habit obesity prevalence was found in non vegetarian women and those women who consume fast food more.

The results indicate that obesity is a major public health problem in adult women. The prevalence of obesity in urban area’s women was higher than rural area’s women. The highest prevalence of obesity has been reported in women aged 35-45 in urban and rural area, age was significantly associated with obesity. In the present study, married women had a higher mean BMI. The higher mean BMI in married women may be due to their higher dietary habits. Higher educational level has been associated with healthier dietary patterns and decreased prevalence of obesity. In this study the prevalence of obesity was found in those women who were up to intermediate. Women who were non vegetarian, prefer oily food, and also watched TV during meal had a higher BMI in both urban and rural area. Dietary intake and low physical activity is significantly associated with obesity. The prevention of overweight and obesity through a healthy diet and increased physical activity should now be an important priority area.

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