

Prevalence of Obesity among Women of Aurangabad City

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Abstract:

Obesity is an increasingly important health problem worldwide including the developing countries. Obesity may not be considered as a specific disease but is one of the prime risk factor of non-communicable diseases. As the prevalence of obesity was more among female than male, the present study is conducted in Aurangabad city. For the study the females between ages of 21-40 are randomly selected from different areas of Aurangabad .The weight and height of the selected women are measured and BMI is calculated. According to WHO classification, the studied women were categorized under different nutritional status according to age groups. The prevalence of overweight and obesity from 21-40 years age is 20.55% and 10.49 % among women from Aurangabad city. It is also resulted that the BMI among the studied females increases with increase in age. Similarly the overweight and obesity also has the rising trend with age among the studied women. To prevent further health problems due to obesity, it is recommended to bring awareness among the women to bring lifestyle modification.

Keywords: Prevalence, Obesity, Women, Aurangabad.

Introduction:

Today obesity is an increasing world health problem. Before fifty years, statistics for obesity did not exist and was limited up to the rich communities of developed countries. But now, the prevalence rate of obesity was increased even in developing countries. According to

WHO (World Health Organization), worldwide the number of obese individual has more than tripled since 1975. In 2016, 39% of adults aged 18 years and above (39% of men and 40% of women) were overweight and about 13% of the world's adult population (11% of men and 15% of women) were obese.

Obesity is an increasingly important health problem worldwide including the developing countries. In India, obesity is emerging as an important health problem particularly in urban areas, along with under nutrition. Almost 30-65% of adult urban Indians are either overweight or obese or have abdominal obesity (Misra and Khurana, 2008). About 5% of the Indian populations were affected with morbid obesity. Thus the developing countries like India are facing the dual burden of nutritional diseases. According to The National Nutrition Monitoring Bureau (NNMB) and the National Institute of Nutrition, prevalence of abdominal obesity in India is significantly higher in women.

Obesity may not be considered as a specific disease but is one of the prime risk factor of non-communicable diseases like hypertension, diabetes, gallbladder diseases, coronary disease, certain type of cancers, musculoskeletal disorders like osteoarthritis & many more. This may also increase the morbidity and mortality. The facts of WHO shows that overweight and obesity are the fifth leading risk factor for global deaths. About 2.8 million adult populations die every year due to overweight or obesity.

The study by Swarnalatha and Amirthaveni (2012) stated that prevalence of hypertension was in 26% of rural women and 41 percent of urban women. All the hypertensive had sedentary life style and higher BMI.

Many Indians have accepted the western culture along with urbanization, industrialization and modernization. This may bring the change in living style specifically food consumption and activity pattern which may lead to increase in overweight or obesity. As the percentage of overweight among women is high, they have a higher risk of health problems and disability, and those risks grow sharply when overweight becomes obese.

The data given by National family health survey NFHS-2 in 1998–1999 and NFHS-3 in 2005–2006 shows that prevalence of obesity among Indian women has increased from 10.6% to

12.6% (increased by 24.52%). The prevalence is more profound in the women of age between 40–49 years (23.7%), residing in cities (23.5%), having high qualification (23.8%), belonging to Sikh community (31.6%) and households in the highest wealth quintile (30.5%). Highest percentage of obese women is found in Punjab (29.9%).

Many studies revealed a higher prevalence of obesity in the urban population and among women (Sinha and Kapoor, 2010; Midha et.al, 2011; Uthakalla et al 2012). Age, gender and daily intake of saturated fatty acids were found to be the main predictors of the obesity. The results also stated that an increase in the level of physical activity resulted in a decrease in the prevalence of obesity.

Prevalence study of overweight/obesity among adults (20- 60yrs) of urban field practice area of Osmania Medical College, Hyderabad was studied by Vijayakumar Uthakalla et al in (2012). The result showed that the prevalence of overweight/obesity was 37 per cent of which among males it was 27.27 per cent and among females it was 44.64 per cent. Among age group 51-60 yrs, 45.45 per cent were overweight/obese and the association between <40yrs and >40yrs was significant at $p < 0.001$.

Urban areas have higher rates of obesity because in cities range of food choices is greater with low prices. In urban areas, most of the women are working away from the home. Therefore may not be getting time to buy, prepare and cook healthy meals at home. Instead of this, use of ready to eat foods gets increased.

. Aurangabad is one of the fast developing cities in Maharashtra. The present study was conducted in Aurangabad city with the following

Objective:

- To assess the prevalence of obesity among women from Aurangabad city.

Limitations of the study:

- Area of the study is limited to Aurangabad city.
- Sample size is limited.

Methodology:

The present study was conducted in Aurangabad city. The samples were selected from Aurangabad Corporation. For studying the prevalence of overweight and obesity among women, total 567 female between twenty one to forty years of age were randomly chosen from different areas of Aurangabad city to cover all socio-economic groups. For screening prevalence of overweight and obesity, anthropometric measurements i.e. height and weight of the selected females were recorded with their consent.

A digital weighing balance was used to measure the weight of the selected subjects. All subjects were measured wearing minimum clothing. Height was measured by using non-stretchable measuring tape. The subject stood with bare feet, heels together, legs straight, arms at the sides and shoulder relaxed. The height was recorded to the nearest of 0.1 cm by pressing hair with head piece.

From the measured weight and height, BMI (Body Mass Index) was calculated as $\text{weight (kg)} / \text{height (m)}^2$. Those with a BMI of 25.0-29.9 Kg/m² were classified as overweight and BMI ≥ 30.0 Kg/m² were classified as obese (WHO, 1998). The data was tabulated by calculating mean, SD, percentage etc.

Results and Discussion:

The studied 467 female samples were divided into four groups according to age. Number and percentage of selected samples according to age group is given in table 1. The samples were divided into 21-25, 26-30, 31-35 and 36-40 years of age groups. The percentage of selected women in different age groups ranged from 23.34 to 28.47 percent.

Table 1. Number and percentage of selected women according to age group

Age Years	Numbers	Percentage
21 - 25	109	23.34
26 - 30	116	24.83
31 - 35	109	23.34
36 - 40	133	28.47

Mean Body Measurements of the selected women according to age group are given in table 2. It includes mean weight, height and calculated BMI among the selected women according to age groups. The data revealed that as the age increases the mean weight and BMI of the selected women has increased. The mean weight of women from 21-25 years age group is lowest (54.13 ± 11.53 Kg) and is highest in the age group of 36-40 years (61.92 ± 11.02 kg). The mean Height of the selected women according to age group show slight difference ranging from 154 to 157 cm. The mean calculated BMI of the selected women is 22.2 ± 4.4 from 21-25 yrs age group and increased upto 25.3 ± 4.87 from 36-40 years age group.

Table 2. Mean Body Measurements of the selected women according to age group

Age Years	Sample Size	Weight(Kg)		Height(cm)		BMI (Kg/m ²)	
		Mean	SD	Mean	SD	Mean	SD
21 - 25	109	54.13	11.53	157	6.81	22.2	4.4
26 - 30	116	57.21	12.59	156	6.81	23.5	4.96
31 - 35	109	59.45	10.6	154	6.53	24.34	4.13
36 - 40	133	61.92	11.02	156	7.09	25.3	4.87

The average BMI of selected subjects according to age group was given in Figure 1. From the results it was noticed that the average BMI female show increasing trend from 21-25 to 36-40 years age group. Female subjects show lowest average BMI (22.2 Kg/m^2) in the age group of 21-30 years and highest in the age group of 36-40 years (25.3 Kg/m^2)

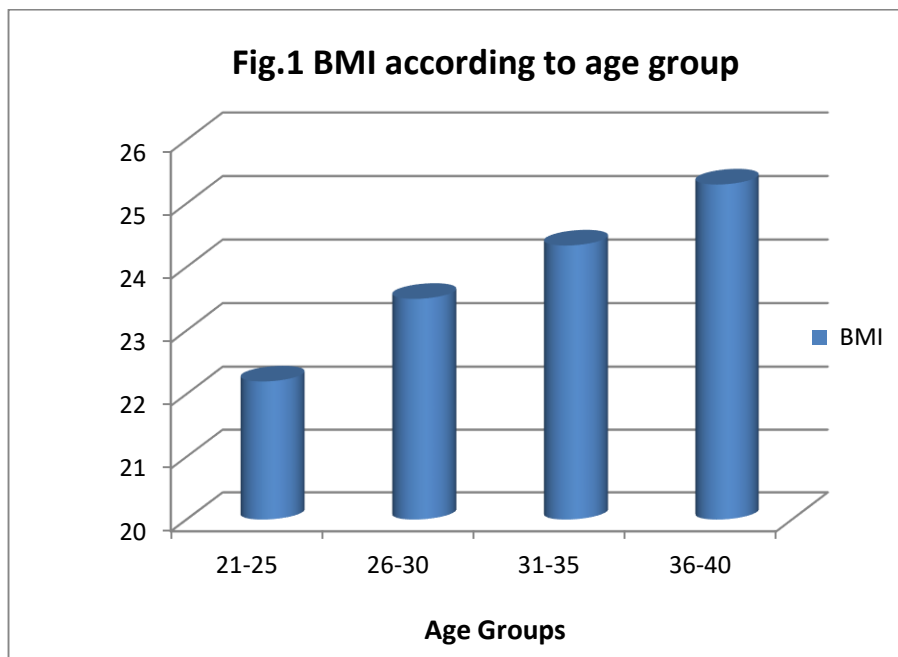


Table 3 shows the cross tabulation of Nutritional Status and age of selected subjects according to BMI. Age wise distribution of the studied adults under different nutritional categories on the basis of calculated BMI was given here. To observe the nutritional differences according to age, the percentage was calculated as per age group. From this data it was revealed that according to age, the percentage of overweight was maximum in the age group of 31 to 35 years (25.69%) among the selected female. The minimum percentage of overweight was observed in the age group of 21 to 25 years among the selected female (13.88%). The data regarding percent obesity indicated that it was highest in the age group of 36 to 40 years among studied female (17.29%) whereas lowest in the age group of 21 to 25 years among female (5.26 %). The percentage of obesity showed increasing trend in the studied female (from 5.29 % to 17.29 %) with increasing age group from 21-25 to 36-40 years. On the contrary, the percentage of underweight and normal BMI was decreasing according to the increasing age group among the studied female.

Table 3. Cross tabulation of Nutritional Status and Age of selected women**According to BMI**

Age range (Years)	Number of subjects	Underweight (BMI=< 18.5)	Normal (BMI=18.5- 22.9)	Overweight (BMI= 23-24.9)	Obese (BMI≥25)
21-25	109	23(21.05)	65(59.81)	15(13.88)	06(5.26)
26-30	116	16(13.79)	69(59.48)	21(18.10)	10(8.62)
31-35	109	6(5.50)	65(59.63)	28(25.69)	10(9.17)
36-40	133	4(3.01)	74(55.64)	32(24.06)	23(17.29)
Total	467	49(10.49)	273(58.46)	96(20.55)	49(10.49)

Values in parenthesis indicate percentage

From the present study, it can be predicted that according to BMI the overweight (20.55%) and obesity (10.49%) from 21-40 years age is high among women from Aurangabad city. It is also resulted that the BMI among the studied females increases with increase in age. Similarly the overweight and obesity also has the rising trade with age among the women. The study by Vijayakumar Uthakalla et al in (2012) also gave the same results of increased obesity with age among both male and female.

The study by Sinha and Kapoor (2010) conducted a study at the national territory of Delhi and between the ages ranged from 21-50 years. The findings stated that majority of adult urban women were in overweight category (48.4%) followed by normal category (29.8%) and obese category (19.4%) and very few remained in the underweight category (2.4%). Further the study reviewed that with the increase in number of children; there was a shift in BMI category from normal to obese with substantial prevalence of women noticed in overweight category. This was confirming to the cultural practice of giving rich diet s to mothers during and after delivery.

This may be the reason showing increasing obesity as age increases among the studied women in child bearing age from 21 to 40 years along with the sedentary lifestyle, eating fast food, less physical activity, more use of energy saving devices at home, easy availability of transport facilities and many more.

Conclusions:

Obesity is a major cause for many non-communicable diseases. The rapid rise in obesity may badly affect on the health of women and ultimately on the upcoming generation. It is essential to find out the causes of obesity and take preventive action. Awareness among women regarding lifestyle modification through healthy diet along with increase in physical activity is recommended.

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