



ASSESSMENT OF OVERWEIGHT AND OBESITY AMONG MIDDLE AGED WOMEN-A PILOT STUDY

Nursing

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ABSTRACT

Obesity is one of the most common, but one of the most neglected, public health problems in the entire world. The improvement in the socio-economic status resulted in the problem of overweight and obesity among the people all over the world including India. Therefore an attempt has been made to assess overweight and obesity among middle aged women residing in a rural community in Kerala. A descriptive survey design was used and the data was collected from 120 subjects. The results showed that 75.8% of women had overweight and out of this 62.5% had obesity. Abdominal obesity was prevalent among 92.5% of women. There is a strong association for overweight and obesity with level of education ($\chi^2 = 9.5238$) and type of occupation ($\chi^2 = 7.037$) at $P < 0.05$ level. The study is significant because it shows increased prevalence of obesity even in rural areas of Kerala. The problem can be prevented by simple lifestyle changes and the public should be informed and motivated to practice these changes.

KEYWORDS:

Overweight, Obesity, middle aged women, BMI, WC

Introduction

Obesity is one of the most common, yet among the most neglected, public health problems in all countries. According to WHO in 2014, more than 1.9 billion adults aged 18 years and above were overweight and of these, over 600 million were obese. (WHO fact sheet, 2016). Obesity is one among the leading causes of deaths resulting in around 2.8 million deaths of adults globally every year. (WHO- Global status report on non communicable diseases -2010). Jyoti (2017) reported the findings of a study conducted by National Center for Biotechnology Information that overweight and obesity is highly prevalent among urban women. The risk of morbidity and mortality is high among obese people and it is now being recognized as a disease. Also obesity is strongly associated with other metabolic disorders including diabetes, hypertension, dyslipidemia, cardiovascular disease and even some cancers and individuals with obesity have higher rates of mortality and morbidity compared to non obese individuals. Studies from different parts of India have provided evidence of the rising prevalence of obesity (Deepa, Farooq, Deepa, Manjula, Mohan, 2009). Industrialization and urbanization also contribute to increased prevalence of obesity in countries like India. Obesity is generally classified as generalized obesity and abdominal obesity. People who have excess body fat especially if a lot of it is at the waist are more likely to develop heart disease and stroke even if they have no other risk factors. Abdominal obesity has got a stronger association with coronary heart diseases as compared to BMI. According to BMI, 27% of population in Kerala was in the category of overweight ($BMI \geq 25 \text{ kg/m}^2$). However, 43% of population with 60% among females and 24% among males in Kerala were in the category of central obesity (≥ 90 cm in males and 80 cm in females) (IDSP-NCD survey, Kerala, 2009).

The inter heart trial (Yusuf et al, 2004) to study the risk factors of myocardial infarction in 52 countries and over 27,000 subjects including India found that the risk factors for Coronary Artery Disease remain the same across the world and the main risk factors were smoking, high cholesterol, diabetes mellitus, hypertension, stress, abdominal obesity, sedentary lifestyle and poor intake of fruits and vegetables.

In a study (Rajendra et al, 2015) conducted in India to identify prevalence of obesity in urban and rural India shows that there is significant association exists between female gender and all types of obesity. The people live in rural areas move to cities where they are more machine dependent even for simple household jobs and eat processed foods. India is experiencing rapid changes in the socio-economic conditions and living standards and obesity will be a health threat in the near future. A recent study in India reported that no urban-rural difference in life style practices (Jaya et al, 2016). Simple lifestyle modification can make some difference in this modifiable risk factor of many diseases. The assessment of prevalence of obesity may help

health care administration of the country to plan, organize and implement various programmes to raise public awareness regarding this modifiable risk factor of many diseases so that each individual could perceive their own risk to get various diseases.

Statement of Problem

A cross sectional study to assess overweight and obesity among middle aged women residing in a rural community in Kerala.

Objectives

1. To identify the prevalence of obesity among middle aged women residing in a community.
2. To find out the association between obesity among middle aged women and selected variables.

Methodology

Survey design was used to collect data from 120 middle aged women between 35 to 55 yrs residing in a rural community. Formal written permission from respective authority and ethical clearance from institutional review board were obtained. Data collected after getting informed consent from subjects. The subjects were selected consecutively by door to door survey. The height, weight and waist circumference were measured by the investigator using a digital calibrated weighing scale and a non-stretchable measuring tape. The subjects who were not willing to participate in the study, who were pregnant and also within six months after confinement, who were absent at the time of visit to the house and who were having any chronic debilitating illness were excluded from study. Data was analysed using descriptive and inferential statistics.

WHO Asia Specific Guidelines (WHO/IASO/IOTF): The Asia-Pacific perspective: redefining obesity and its treatment) was used to classify obesity. According to WHO Asia-specific guidelines, Overweight is BMI between 23-24.9 kg/m^2 , and obese when BMI is $\geq 25 \text{ kg/m}^2$. Abdominal obesity is defined as the WC ≥ 80 cms for females and ≥ 90 cms for males.

Results and discussion

Section I: Socio-demographic variables

Most of the women (33.3%) were within the age group of 46 to 50 years, followed by 35-40 (28.3%), 41-45 (25.8%) and the remaining 51-55 (12.5%). Fifty percent (50%) of women were educated up to high school followed by higher secondary (20.8%), upper primary (14.1%) and only 2.5% educated up to lower primary level. Few women (9.1%) were degree holders and 3.3% of women were post graduates. Among the subjects, 64.1% were doing household works, 22.5% were unskilled manual workers and remaining 13.3% were either clerical workers or professionals.

Section 2 : Assessment of overweight and obesity among middle

aged women

The height & weight measured and BMI was calculated. Waist circumference was measured and the findings are reported.

Table 1
Frequency distribution and percentage of women based on Body Mass Index values
n=120

"Body Mass Index BMI" (Kg/m ³)	f	%
<18.5	3	2.5
18.5-22.9	26	21.6
23-24.9	16	13.3
25-29.9	56	46.6
30-34.9	15	12.5
35-40	1	0.008
>40	3	2.5

The table 1 shows that 75.8% of women had overweight (BMI \geq 23Kg/m²) and out of this 62.5% were obese (BMI \geq 25Kg/m²).

Table 2
Frequency distribution and percentage of women based on waist circumference
n=120

Waist circumference(WC) cms	f	%
<80	9	7.5
80-85	15	12.5
85.1-90	20	16.6
90.1-100	46	38.3
100.1-110	28	23.3
>110	2	1.6

From table 2, the data shows that 92.5% of women had abdominal obesity (WC \geq 80cms).

Section 3: Association of BMI with demographic variables

There is a strong association for overweight and obesity among middle aged women with level of education (χ^2 -9.5238) and type of occupation (χ^2 -7.037) at $p < 0.05$ level.

Discussion

The present study showed that 75.8% of women had overweight and among this 62.5% were obese in rural areas of Kerala. The prevalence of abdominal obesity was also high (92.5%). In a recent study, abdominal obesity was 67% in females (rural) and 72% (urban) and higher prevalence of obesity was seen among urban females (34.3%) as compared to their rural counterparts (23.2%) (Jaya et al, 2016). Different studies have used different methodologies, definitions and cut-off points for defining obesity, so making comparisons is found difficult. A study (Bhardwaj et al, 2011) in North India showed generalized obesity was prevalent among 50.1 per cent of people, while abdominal obesity was found among 68.9 per cent. The study by ICMR (Rajendra et al, 2015) in India also showed a higher prevalence of abdominal obesity in all the four regions of India studied. Another study conducted in Kerala by Sugathan, Soman, Sankaranarayanan (2008), obesity was found more among females (33%) than males (17%). Many studies conducted in different parts of India both in urban and rural areas shows that obesity is more prevalent among females and also in urban areas (Rajendra et al, 2015, Pandey, 2013 & Jyoti, 2017). This is in contrast to that seen in the developed countries, where the prevalence of obesity is higher in the rural areas compared to the urban areas (Befort, 2012). But one recent study conducted in India in many urban and rural areas (Rajendra et al, 2015) showed an increase in BMI in rural areas of India too. This may be due to rapid changes in lifestyle due to the fast socio-economic development in rural areas of India.

There is a strong association for overweight and obesity with level of education (χ^2 -9.5238) and type of occupation (χ^2 -7.037) at $p < 0.05$ level among women. Similar findings were reported in many studies (Pandey et al, 2013, Sugathan et al, 2008).

The limitation of the study is that it was a pilot study with only 120 subjects and is not true representative of the general population of Kerala.

Conclusion

More urbanization and improvement in socio-economic conditions may change the lifestyle and that may cause further increase in the incidence of obesity. As the consequence of the problem is high, this

should be properly addressed. Greater emphasis should be given on prevention of obesity, detecting and treating risk factors, and also helping individuals to understand their risk. Higher prevalence of obesity in middle aged women is also worrisome because it may increase the prevalence of type 2 diabetes, hypertension, cardiovascular disease and cancer.

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