Original Research Paper

Community Medicine

PREVALENCE OF OBESITY AMONG RESIDENTS OF CLASS IV EMPLOYEES' QUARTERS OF A TERTIARY CARE HOSPITAL.

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ABSTRACT
BACKGROUND: Trends are changing. People belonging to low socioeconomic status are also at equal risk of obesity and its consequences.
OBJECTIVE: To determine prevalence of obesity among residents of Class IV employees' quarters of a tertiary care hospital.
MATERIALS & METHOD: This cross sectional study carried out in tertiary care hospital among IV th class workers. A semi-structured questionnaire was used to collect the information regarding the socio demographic profile of the participants. Body mass index & waist hip ratio also calculated in study participants.
RESULTS: Maximum 74 (49.33%) of the study participants belonged to upper lower socioeconomic class, (91.33%) of the study participants were Hindu by religion, 83.33% of the study participants were married & 40% study subjects were having high body mass index.
CONCLUSION : Most of the workers belong to upper lower socioeconomic class & around 40% workers having high body mass index.

KEYWORDS : Obesity, prevalence, sociographic profile.

INTRODUCTION
Unfortunately, overweight and obesity are now becoming significantly prevalent in developing countries as a result of an environment characterised by easily available, cheap, energy-dense foods, combined with increasingly sedentary lifestyles such as prolonged time spent watching television, playing video games or using computers (1).

Rising prevalence of obesity in India may be attributed to various factors like sedentary life style, unhealthy food habits, cultural practices and increasing effluence of middle class population. It has been observed in some studies that obesity is not only affecting the effluence societies. Trends are changing. People belonging to low socioeconomic status are also at equal risk of obesity and its consequences.

Keeping all this scenario in mind, the present study was conducted to determine prevalence of obesity & sociodemographic profile among residents of Class IV employees' quarters of a tertiary care hospital.

OBJECTIVES
1. To determine prevalence of obesity sociodemographic profile among residents of Class IV employees' quarters of a tertiary care hospital.
2. To study sociodemographic profile among residents of Class IV employees' quarters of a tertiary care hospital.

MATERIALS & METHOD
Study Design: Cross sectional study.
Study Area: Class IV employees' quarters of a tertiary health care hospital in a metropolitan city.
Study Population: Adults (male and female) between ages of 30 years to 59 years.
Duration of study: 6 months.(July 2013 to Jan 204)
Sample Size: 144.
$[n= 4pq \div L2, p= 10 \& L= 5\%]^4$
Research tool: A semi-structured questionnaire.
Pilot study: The questionnaire was tested on few study participants and that data were not included in final analysis. The necessary changes in the questionnaire were made based on the pilot study.

Consent and ethics approval
This study was beginning after approval from the institutional ethics committee. Informed written& valid consent from all the participants were taken before enrolling them in the study. Confidentiality of the study participants was maintained.

METHODOLOGY
The present study was undertaken in Class IV employees' quarters of a tertiary health care hospital and the households in Class IV employees' quarters were sampled by a systematic random sampling method. A semi-structured questionnaire was used to collect the information regarding the socio demographic profile of the participants like age, education, occupation, socio-economic status, religion, marital status and the type of family were collected by using a questionnaire. The socio-economic status was determined by using the Modified Kuppusamy Classification Scale. The waist circumference was measured at the midpoint between the lower border of the rib cage and the iliac crest by using a flexible inch tape and hip circumference was measured around the widest portion of the buttocks, with the tape parallel to the floor. As per the WHO the following cut off values of the waist-hip ratio were used to assess the abdominal obesity: - waist–hip ratio above 0.90 for males and above 0.85 for females. Body mass index was calculated as weight (kg) divided by squared height (m).Measuring cup was used for measuring volume of tea for calorie purpose. The data entry was made in the Excel software and the analysis was done by using the Statistical Package for Social Science (SPSS), version 20.

Statistical Analysis
The data entry was made in the Excel software and the analysis was done by using the Statistical Package for Social Science (SPSS), version 20.

RESULTS & OBSERVATIONS
Table 1: Age and Sex Wise Distribution of Study Participants

Age groups	Male		Female		Total	
	No.	%	No.	%	No.	%
30 – 34	4	10.53	19	16.96	23	15.33
35 - 39	10	26.31	17	15.18	27	18.00
40 - 44	7	18.42	27	24.11	34	22.67
45 - 49	6	15.79	18	16.07	24	16.00
50 - 54	7	18.42	17	15.18	24	16.00
55 - 59	4	10.53	14	12.50	18	12.00
Total	38	100	112	100.00	150	100.00

Table 1 shows age and sex wise distribution of study participants. Of the total 150 study participants, there were 112(74.67 %) females and 38(25.33%) males. Maximum number i.e. 34 (22.67%) of study participants was in the age group of 40 to 44 years. Mean age of the study participants was 43.40 ± 8.1 years. Number of females in this study is more because at the time of visit to the quarters, they were present at home.

Table 2: Distribution of Study Participants According to Their Socio-Economic Class*

Socioeconomic class	No.	%
Upper (I)	3	2
Upper middle (II)	7	4.67
Lower middle (III)	66	44

Upper lower (IV)	74	49.33
Lower (V)	0	0
Total	150	100

Table 4 shows distribution of Study Participants According to Their Socio-Economic Class. Maximum 74 (49.33%) of the study participants belonged to upper lower socioeconomic class followed by lower middle 66 (44%). None of the study participants belonged to lower socioeconomic class.

Table 3: Religion Wise Distribution of the Study Participants

Religion	No.	%
Hindu	137	91.33
Buddha	12	8.00
Others	1	0.67
Total	150	100

Table 5 shows religion wise distribution of the study participants. Maximum (91.33%) of the study participants were Hindu by religion. 12% belonged to Buddha religion. Only 1 (0.67%) was from Christian religion.

Table4: Distribution of Study Participants According to Their Marital Status

Marital status	No.	%
Unmarried	10	6.67
Married	125	83.33
Widowed	15	10.00
Total	150	100

Table 6 shows distribution of study participants according to their marital status. Maximum i.e. 83.33% of the study participants were married. None of the study participants were separated or divorced.

Table 5: Distribution of Study Participants According to Their Nutritional Status

BMI (KG/ M2)	No.	%
Underweight (< 18.5)	17	11.33
Normal (18.5 – 24.9)	73	48.67
Pre obese (25 – 29.9)	49	32.67
Obese (≥ 30)	11	7.33
Total	150	100.00

Table 7 shows distribution of study participants according to their nutritional status. nutritional status was assessed by measuring Body Mass Index (BMI).Criteria given by WHO were used to measure the nutritional status of study participants.

Table 6: Distribution of study participants on the basis of waist circumference

Waist circumference	No. (%)
Male (N = 38)	
>94 cm	9 (23.68)
>102 cm	2 (5.26)
Female (N = 112)	
>80 cm	86 (76.78)
>88 cm	58 (51.78)

Table 8 shows distribution of study participants according to the Waist circumference. 86 (76.78%) of the females had Waist circumference more than 88 cm. Only 2 (5.26%) males had waist circumference more than 102 cm. Of the total 150 study participants, 60 (40%) had central obesity.

Table 7: Distribution of study participants on the basis of waist – hip ratio

Waist – hip ratio	No. (%)
Male (N = 38)	
≥ 0.90	34 (89.47)
Female (N = 112)	
≥ 0.85	81 (72.32)

According to waist hip ratio 89.47% males & 72.32 % females were having central obesity.

DISCUSSION
Divya Sharma et al (2012) (2) conducted a cross sectional survey and found that mean age of the study group was 43.3±9.5 years. Minimum

age as well as the mean age of the study participants is same as per the present study. **Keding GB et al (2013)** (3) conducted a cross sectional survey and found that mean age of respondents was 33.7 years. Minimum age as well as the mean age of the study participants is almost same as per present study.

Anchala R et al (2012) (4) conducted cross-sectional survey among a total of 520 women who were aged 20 year and above. Maximum i.e. 372 (71.53%) of the study participants belonged to upper lower socioeconomic class followed by lower middle 132 (25.38%) and 9 (1.73%) belonged to lower socioeconomic class. In present study also maximum participants belong to upper lower socioeconomic class.

Divya Sharma et al (2012) (2) conducted a cross sectional survey and found that maximum i.e. 406 (89.6%) of the study participants were married. 47 (10.4 %) of the study participants were Separated/ divorcee/ widow/widower/unmarried. In our study we have got similar findings.

Følling et al (2014) (5) conducted cross-sectional study and found that the mean BMI for the total sample at screening was 25.4 kg/m2. The general characteristics (age, height, weight and BMI) of the male and female patients studied according to somatic and psychiatric departments. **Gupta R at el (2012)** (6) conducted cross-sectional studies among adult (male and female) between age of 20-59 years in urban populations in Jaipur and Delhi. They found that there is a significant linear association of multiple cardiovascular risk factors with BMI. This is confirmed by linear regression, quadratic regression, and non-linear analyses. Body mass index was correlated significantly with weight (0.80, 0.64). **Dua S et al (2014)** (7) conducted cross-sectional study. BMI and fat percentage were calculated. BMI was classified according to the proposed criteria of World Health Organisation (WHO).BMI is most widely used to estimate the prevalence of obesity or underweight within a population.

Anchala R et al (2012) (4) conducted cross-sectional study and they found in the study population, 155 (29.8%) of the study participants had waist circumference more than 80 cm.

CONCLUSION
Most of the workers belong to upper lower socioeconomic class & around 40% workers having high body mass index.

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