



Original Research Article

A Study to Assess the Prevalence of Overweight and Obesity among the Employees of Public Sector Offices of Gwalior City

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Abstract

Introduction: According to the World Health Organization (WHO), obesity is one of the most common, yet among the most neglected, public health problems in both developed and developing countries. Employees working in certain organizations spent long hours in sitting due to the nature of their job therefore they are susceptible to develop overweight and obesity.

Objective: To determine the prevalence of obesity among the employees of Public Sector Offices of Gwalior city.

Material and Methods: The present study was a cross sectional study which has been undertaken among employees of three Public Sector Offices of Gwalior city. A total of 180 participants were included in the study by using stratified random sampling methods. Interviews were conducted by using predesigned, pre-tested and structured questionnaire. Anthropometric data regarding weight and height were taken. The data was collected and analyzed using statistical software and chi square and other statistical tests were applied.

Results: 75% of the total participants were male. Age wise 48.89% belongs to the age group of 51-60 years. Overall prevalence of overweight/ obesity was 56.11%.

Conclusion: Since excess weight has been associated with increased medical expenditures, and absenteeism interventions including those in the workplace, can help support employees in making healthier choices.

Keywords: BMI, Obesity, Overweight.

Introduction

Overweight and obesity are defined as abnormal or excessive fat accumulation that presents a risk to health. According to the World Health

Organization (WHO), obesity is one of the most common, yet among the most neglected, public health problems in both developed and developing countries¹. According to the WHO World Health

Statistics Report 2012, globally one in six adults is obese and nearly 2.8 million individuals die each year due to overweight or obesity².

Although obesity has been generally attributed to genetic predispositions, the development of such epidemics around the world suggests that environmental risk factors are also equally responsible for its prevalence³. Individuals from the developed and the developing countries began to consume more quantities of high energy foods and exhibiting less physical activity. These led to the overweight and obesity epidemics around the world⁴. It has also been reported by the World Health Organization (WHO) that the susceptible individuals were often exposed to a lifestyle characterized by less physical activity, an abundant availability of energy dense, high fat and palatable foods and inappropriate meal patterns⁵.

Employees working in certain organizations like banks, post offices and telecom offices spent long hours in sitting due to the nature of their job therefore they are susceptible to develop overweight and obesity. Very few studies had been done to assess the prevalence of obesity among employees of public sector/ customer service organizations. In this context, the present study has been conducted to estimate the prevalence of obesity in public sector employees of Gwalior city.

Objective

To determine the prevalence of obesity among the employees of Public Sector Offices of Banks, Post Offices and Telecom Offices of Gwalior city.

Material and Methods

The present study was a cross-sectional study carried out for the duration of 3 months from Oct – Dec 2015 among the employees of three types of Public Sector Offices i.e. Banks, Post Offices and Telecom Offices of Gwalior city. First of all, total existing Banks, Post Offices and Telecom Offices were identified. Then by using stratified random sampling method, three offices of each sector was selected so that, total nine offices were

selected for study purpose. From each unit 20 participants were selected randomly therefore total sample population was 180. In any office if number of participants were less than 20 then another nearby office of the same type was taken to do the study.

Verbal consent from the Head/ In-charge of the respective organization was taken after explaining the type and purpose of the study. The informed consent from each of the participant was taken regarding the participation in the study before asking the questions of the questionnaire and for performing necessary measurements for assessing the obesity. Based on the assessment, the study participants were also explained regarding the future implications of the obesity and necessary advice accordingly. They were assured that in the confidentiality of the study participants and the concerned organizations would be strictly maintained.

A predesigned and pretested structured questionnaire was used to collect required information and necessary anthropometric measurements (height & weight) were taken. Body Mass Index (BMI) of each individual was taken by using formula $\text{weight (Kg.)} / \text{height (metre}^2\text{)}$. For the analysis, WHO BMI classification was used to classify the participants as BMI less than 18.50 kg/m^2 (underweight), between $18.50 - 24.99 \text{ kg/m}^2$ (normal weight) and 25 and above was taken as overweight/ obese.

The data was collected compiled and analysed by using appropriate statistical software and interpretations were made accordingly.

Results

Table 1 shows that 75% of the total participants were male. Age wise 48.89% belongs to the age group of 51-60 years followed by 31-40 years (22.22%). The maximum participants were Hindus by religion, married and belong to class III which were 94.44%, 97.78% and 71.11% respectively.

Overall, 56.11% participants were overweight/ obese ($\text{BMI} \geq 25 \text{ kg/m}^2$). In context to the

different offices, 55% and 65% employees of Banks and Telecom Offices respectively were overweight/ obese. However the difference was statistically not significant. (Table 2)

Out of 135 males, majority (62.22%) were overweight/ obese followed by normal weight

(34.07%) while among female participants, majority (57.78%) were normal weight followed by overweight/ obese (37.78%). Gender wise difference of BMI was found statistically significant. (Table 3)

Table 1: Showing socio-demographic variables of study participants

S. No.	Variables	Public Sector Offices			Total (N=180) No. (%)
		Banks (N=60) No. (%)	Post Offices (N=60) No. (%)	Telecom Offices (N=60) No. (%)	
1.	Gender				
	Male	37 (61.67)	47 (78.33)	51 (85.00)	135 (75.00)
	Female	23 (38.33)	13 (21.67)	09 (15.00)	45 (25.00)
2.	Age (in years)				
	21-30	09 (15.00)	10 (16.67)	03 (5.00)	22 (12.22)
	31-40	23 (38.33)	05 (8.33)	12 (20.00)	40 (22.22)
	41-50	10 (16.67)	15 (25.00)	05 (8.33)	30 (16.67)
	51-60	18 (30.00)	30 (50.00)	40 (66.67)	88 (48.89)
3.	Educational Status				
	Primary	01 (1.67)	00 (0.00)	07 (11.67)	08 (4.44)
	Middle	01 (1.67)	04 (6.67)	04 (6.67)	09 (5.00)
	High School	03 (5.00)	04 (6.67)	06 (10.00)	13 (7.22)
	Higher Secondary	10 (16.67)	22 (36.67)	14 (23.33)	46 (25.56)
	Graduate	17 (28.33)	23 (38.33)	21 (35.00)	61 (33.89)
	Postgraduate	28 (46.67)	07 (11.67)	08 (13.33)	43 (23.89)
4.	Religion				
	Hindu	56 (93.33)	56 (93.33)	58 (96.67)	170 (94.44)
	Muslim	02 (3.33)	03 (5.00)	01 (1.67)	06 (3.33)
	Christian	01 (1.67)	00 (0.00)	01 (1.67)	02 (1.11)
	Others	01 (1.67)	01 (1.67)	00 (0.00)	02 (1.11)
5.	Marital Status				
	Married	57 (95.00)	59 (98.33)	60 (100.00)	176 (97.78)
	Unmarried	03 (5.00)	01 (1.67)	00 (0.00)	04 (2.22)
6.	Type of Cadre				
	Class I	10 (16.67)	00 (0.00)	00 (0.00)	10 (5.56)
	Class II	07 (11.67)	00 (0.00)	07 (11.67)	14 (7.78)
	Class III	50 (50.00)	54 (90.00)	44 (73.33)	128 (71.11)
	Class IV	13 (21.67)	06 (10.00)	09 (15.00)	28 (15.56)
7.	Type of Family				
	Nuclear	39 (65.00)	30 (50.00)	31 (51.67)	100 (55.56)
	Joint	21 (35.00)	30 (50.00)	29 (48.33)	80 (44.44)

Table 2: Showing the distribution of study participants of various public sector offices according to WHO BMI classification

Category	BMI (Kg/m ²)	Place of employment				Chi square & p value
		Banks N=60 No. (%)	Post Offices N=60 No. (%)	Telecom Offices N=60 No. (%)	Total N=180 No. (%)	
Underweight	Less than 18.50	02 (3.33)	02 (3.34)	03 (5.00)	07 (3.89)	$\chi^2 = 3.361$ p = 0.4993 df = 4
Normal weight	18.50-24.99	25 (41.67)	29 (48.33)	18 (30.00)	72 (40.00)	
Overweight/ Obese	25.00 and above	33 (55.00)	29 (48.33)	39 (65.00)	101 (56.11)	

Table 3: Showing the gender-wise distribution of participants according to WHO BMI classification

Category	BMI (Kg/m ²)	Males (N=135) No. (%)	Females (N=45) No. (%)	Total (N=180) No. (%)	Chi square & p value
Underweight	Less than 18.5	05 (3.70)	02 (4.44)	07 (3.89)	χ^2 value:7.386 p value: 0.0248 df = 2
Normal weight	18.50 – 24.99	46 (34.07)	26 (57.78)	72 (40.00)	
Overweight/ Obese	25.00 and above	84 (62.22)	17 (37.78)	101 (56.11)	

Discussion

In this study a total of 180 participants were included from three public sector offices i.e. Banks, Post Offices and Telecom Offices of Gwalior city. Majority of the participants were male. Education wise graduates and postgraduates together constitute 57.78% of total study population. Overall, observed prevalence of overweight/ obesity (BMI \geq 25 kg/m²) was 56.11%. Gender wise reported prevalence of overweight/ obesity among male employees was 62.22% while among female employees it was 37.78%.

Gombet et al. were found among bank employees in Brazzaville a BMI \geq 25 in 65.1% of cases.⁶ This finding is similar to the present study. This value is less than our study for both males and females. This could be due to in our study majority were spent long time in sitting at the workplace.

A study conducted by Singh et al in Delhi found that in men the prevalence of overweight and obesity was 34% and for women it was 40.3%.⁷

Conclusion

Obesity at work place is related with numerous factors like socio-demographic factors, working condition and pattern and hours spent on sitting. Since excess weight has been associated with increased medical expenditures, absenteeism, and productivity loss, interventions including health education and screening along with employer can help support employees in making healthier choices and thus help control and prevent obesity and its subsequent disease risks.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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