

# Prevalence of Obesity Among Teachers of Different Universities of Punjab, Pakistan

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## Author's Contribution

<sup>1</sup>Data analysis, Discussion, Planning of research

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<sup>4</sup>Synthesis, Interpretation

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## ABSTRACT

**Background:** Obesity is nowadays a pandemic condition and its prevalence is increasing day by day among all age of population.

**objective:** To know the prevalence of obesity among teachers of different universities of Punjab, Pakistan.

**Methodology:** It was observational and conducted with the help of sealed envelope questionnaire. Sampling technique was stratified random sampling.

**Results:** out of 872 subjects, 586 were males and 286 females, professors were 84, associate professors 46, assistant 265 and lecturers were 477. Females were 18.8% overweight and males were 53.9 % overweight. Regarding fast food consumption 92.7% were eating fast food and out of that 63.1% are those who were eating for up to 5 times a month. Regarding exercise, overall, 62.8% subjects were used to do 30-minute exercise daily or 3-5 times per week at least. According to gender 65.9% males and 56.8% females were used to do exercise.

**Conclusion:** It was concluded that overweight prevalence among teaching faculty of different universities of Punjab was 39.2%. More precisely 31.2% were pre obese, 6.0% obese class 1, 1.7% obese class 2 and 0.3% were belong to obese class 3. High fast food intake with a value of 35.4% was the leading cause of obesity and sedentary life style of teachers with a score of 16.1% was the second highest cause of obesity.

## Introduction

Obesity is defined as simply a condition of abnormal or excessive fat accumulation in adipose tissue to the extent that health may be impaired.<sup>1</sup>

Obesity is a worldwide problem rooting his back up to Greek and roman times but there was no clinical evidence of cause of obesity up to 20th century. Earlier it was thought that metabolism is just similar to combustion and slow combustion is the cause of obesity as stated by the work of Lavoisier in his oxygen theory.<sup>2</sup>

Obesity in other words we can say an energy imbalance, those individuals who are obese which means that they intake more energy than what they consume as stated by **Paul Comfort and Earle Abrahamson**.<sup>3</sup>

There are two main types of obesity according to fat distribution in body because individuals vary according to

their amount of fat and distribution of fat in body. Type of obesity in which fat cells are located centrally around abdomen is called Android obesity and this type of obesity is more dangerous. The other type of obesity in which fat cells are located more peripherally is called Gynoid obesity.<sup>4</sup>

Body mass index is most commonly used to classify and diagnose obesity but this method is crude type does not explain the amount of fat and distribution of fat in the body. It is calculated as weight in kilograms divided by height in meter squares. (Kg/m<sup>2</sup>)

Below is normal values of BMI and values that indicate obesity by WHO.<sup>5</sup>

Obesity prevalence worldwide:

Obesity a growing problem for adults and children is becoming more common especially across western countries. A report conducted by WHO shows that obesity has more than doubled since 1980 and 2014, more than 1.9 billion adults, 18 years and older, were overweight. Of these over 600 million were obese, furthermore 39% of adults aged 18 years and over were overweight in 2014, and 13% were obese. 41 million children under the age of 5 were reported overweight or obese in 2014. <sup>6</sup>

Obesity prevalence in Pakistan:

Like different nations, corpulence in Pakistan is likewise ascending at a disturbing rate. According to an examination, WHO expresses that roughly 26 % of ladies in Pakistan experience the ill effects of the issue of stoutness while just 19 % of the men are hefty. In 2013, the rates were 28 for each penny for men and 38 for each penny for ladies, which is a huge crevice between the two sexes. Corpulence is higher in urban regions (56% in men and 67% in ladies when contrasted with provincial territories. Indeed, even adolescence heftiness is likewise developing at a quick pace. According to 2013 insights it was 10 % which is a tremendous figure. As per express Tribune, Pakistan has been positioned ninth out of 188 nations with respect to corpulence.<sup>7</sup>

The main objective of our study is to know the prevalence and frequency of obesity among teaching faculty in Punjab because teachers are becoming more obese. Because lack of research on teaching profession in Pakistan is our objective to know their physical activity levels and their health status.

## Methodology

It is an observational study through questionnaire approved by the University of Sargodha, Department of Physical therapy, Sargodha Medical College, Sargodha with sample size 872. Stratified Random sampling technique was used.

**Inclusive Criteria:** Only teaching faculty with age group above 20 years of age. Teachers of only public sector universities and colleges with no comorbidity.

**Exclusive criteria:** Teachers with any comorbidity. Teachers of private sector universities and colleges. Teachers outside the Punjab

We carried out this research procedure with honesty and truthfulness. We took a great care of ethical limits by maintaining the confidentiality of the collected data. We

got consent form signed from each and every person who was included in our sample. There was a random sampling without any biasness and we made personal information completely confidential.

The rational of the study was how the lifestyle of teachers is affecting their health by knowing the prevalence of obesity.

## Results

Study was conducted with 872 teachers working across different institute of Punjab in government sectors. Total 20 questions were asked and their results are presented here as follows

**Table 2. Designation**

Designation	Frequency	percentage
Professor	84	9.6
Associate	46	5.3
Assistant	265	30.4
Lecturer	477	54.7
Total	872	100.0

**Table 3. Age of teachers**

Age range	frequency	Percentage
25-34	328	37.6
35-44	301	34.5
45-54	156	17.9
55-64	70	8.0
Above 65	17	1.9
Total	872	100.0

**Table 4. Gender**

Gender	Frequency	Percentage
Male	586	67.2
Female	286	32.8
Total	872	100.0

**Table 5. Exercise**

Exercise.	Frequency.	Percentage.
Yes	548	62.8
No	324	37.2
Total	872	100.0

**Table 6:Fast food intake frequency:**

Fast food per month.	frequency	Percentage
up to 5 times	550	63.1
6-10	184	21.1
More than 10	74	8.5
Nil	64	7.3
Total	872	100.0

Table 7. BMI of female teachers

Status	Frequency	percentage
Under weight	90	31.6
Normal	142	49.8
Pre-obese	49	16.8
Obese class 1	5	1.8
Total	286	100.0

Table 8. Body mass index of males.

BMI	Frequency	Percentage
Valid		
Underweight	10	1.7
Normal	261	44.5
Pre obese	232	39.6
Obese class 1	56	9.6
Obese class 2	22	3.8
Obese class 3	5	.9
Total	586	100.0

Table 9. Obesity in relation to fast food

Fast Food Frequency * classification									
			Classification						Total
			Under weight	Normal	Pre obese	Obese class 1	Obese class 2	Obese class 3	
Fast Food Frequency	Up to 5 times	Count	25	298	164	31	8	0	526
		% of Total	2.9%	34.17%	18.8%	3.5%	0.9%	0.0%	60.28%
	6-10	Count	15	88	62	12	5	2	184
		% of Total	1.7%	10.09%	7.11%	1.37%	0.57%	0.2%	21.06%
	More than 10	Count	7	17	31	12	6	1	74
		% of Total	0.8%	1.94%	3.55%	1.37%	0.68%	0.11%	8.45%
	Nil	Count	53	0	24	6	3	2	88
		% of Total	6.07%	0.0%	2.75%	0.68%	0.34%	0.22%	10.06%
Total		Count	100	403	281	61	22	5	872
		% of Total	11.46%	46.2%	32.2%	6.99%	2.52%	0.57%	100.0%

Table 10. Exercise in association with obesity

exercises * classification								
		Classification						Total
		Under weight	Normal	Pre obese	Obese class 1	Obese class 2	Obese class 3	
Yes	Count	31	314	165	28	10	0	548
	% of Total	3.6%	36.1%	18.9%	3.2%	1.14%	0.0%	62.8%
No	Count	69	89	116	33	12	5	324
	% of Total	7.91%	10.20%	13.30%	3.78%	1.37%	0.57%	37.2%
Total	Count	100	403	281	61	22	5	872
	% of Total	11.46%	46.2%	32.2%	6.99%	2.52%	0.57%	100.0%

## Discussion

In 2013 a study was conducted by Maham Javed, Razia Chaudhary, Mishal Noor, and Khalid Javed Abid on the topic of "Prevalence of obesity among senior teaching faculty of an undergraduate medical college of Lahore", Pakistan. It was a cross-sectional analytical study. They concluded that Prevalence of obesity was quite high (36.6%) among senior faculty of medicine and Dentistry. Correlating factors as sedentary life style, excessive fast food intake and age are definite risk factors for obesity, diabetes, hypertension and heart disease.<sup>8</sup>

Obesity now a days becoming worldwide especially in western countries but growing its roots in Pakistan as well. As the obesity is now leading cause of death in some countries. As per express Tribune, Pakistan has been positioned 9th out of 188 nations with respect to obesity.<sup>9</sup> Obesity related health problems especially diabetes and coronary artery disease have come forward in past few years as a cause of death.<sup>10</sup>

In 2013 a study was conducted by the medical students Maham Javed and coworkers in Lahore, they concluded that obesity prevalence was 36.6% and risk factors were sedentary life style, fast food intake and age on population of 75 subjects, but in our study now in 2016 obesity prevalence is 39.2% and fast food intake is major risk factor that is 35.4% and sedentary life style is 16.1% on population data of 872 subjects also our population data is collected from all over the Punjab, Pakistan. The strong relationship of physical fitness with exercise revealed from our research that out of 548 teachers without any gender discrimination those who exercise only 165 are pre obese, only 28 teachers are under category of obese class 1 and 10 teachers under category of obese class 2 and above all no one is under class 3 in other words 36.1% had normal BMI and 3.69% had BMI less than normal ranges .vice versa those teachers who don't exercise out of 324, 116 are pre obese , 33 teachers are under obese class 1 category, 12 teachers are in obese class 2 category and 5 teachers are under obese class 3 category ,in other words only 19.1% are normal .we also found that exercise prevalence is 68.2% overall resulting in only 39.6% teachers overweight. The relationship of fast food is clear from stats that out of 872 teachers only 64 are those who don't

eat any junk food while all other eat junk foods with minim 5 times a month so junk eating is 92.7% and out of this 35.4% are associated with overweight. Despite of the surprisingly high fast food intake only 35.4% are associated with overweight because of exercise frequency that provide them with energy balance. Our study was conducted with 872 teachers working across public institutes of Sargodha, Lahore, Hafizabad, Gujrat, Multan, Muzaffargarh and Rawalpindi. Out of that 872 teachers 18.8% female teachers are overweight and 53.9% male teachers are overweight with overall 39.2% are overweight, more precisely 31.2% pre-obese, 6.0 obese class 1, 1.7 obese class 2 and 0.3% are obese class 3.

## Conclusion

We have concluded that fast food intake and sedentary lifestyle are the major factors for causing obesity among teachers. Fast food intake was the primary risk factor and lack of exercise is also causing obesity.

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