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Research Article

**RATE OF OCCURRENCE OF OBESITY IN MEDICAL  
STUDENTS WITH ITS CO-MORBIDITIES**<sup>1</sup>Dr. Muhammad Azeem Busharat, <sup>2</sup>Dr Hurrain Malik, <sup>3</sup>Dr Sara Akram<sup>1</sup>Allied Hospital Faisalabad, <sup>2</sup>Sheikh Khalifa Al Nahyan Bin Zayed Medical and Dental College Lahore, <sup>3</sup>THQ Hospital Samundari, Faisalabad.**Article Received:** March 2019**Accepted:** April 2019**Published:** May 2019**Abstract:**

**Objectives:** The aim to this research work is to find out the rate of occurrence of disorders of obesity and co-morbidities due to these disorders among students of medical field.

**Methodology:** This transverse research work carried out in Independent Medical College Faisalabad. All the students who were willing to take part in the research work, were the participants of this research work. We collected the related information on a well-organized Performa. Measurements of height and weight of students carried out with the help of scale and then calculation of BMI carried out. Then the interpretation of the gathered results carried out in accordance with the classification of disorders of high body weight. We evaluated the presence of gallstones, diabetes & hypertension in the students who were obese or overweight. SPSS V. 20 was in use for the statistical analysis of the collected information.

**Results:** A sum of four hundred and five students were the part of this research work. The range of age of students was from 19 to 25 years. There were 41.70% (n: 169) male students & 58.30% (n: 236) were female students. We found the history of obesity in family of 34.30% students. Out of total, one hundred and twenty-six students were available with body mass index from 25 to 45.60, in them 8.40% (n: 34) were obese students & 21.70% (n: 88) were overweight students. Total 15.30% (n: 62) among them we male students and female's students were 15.80% (n: 64). Hypertension was present in 11.10% (n: 14) students & 7.10% (n: 9) students found with complication of gallstones.

**Conclusion:** The rate of occurrence of obesity was 8.40% among students. Increasing ate of occurrence of obesity has association with unnatural style of life requires to be manage at national level to increase the healthy generations and to decrease the burden on the economy of health.

**Keywords:** Overweight, Obesity, Rate, Occurrence, Economy, Hypertension, Gallstones, Association.

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**INTRODUCTION:**

Obesity is a serious issue of health which can lead to various complications, a person is overweight if his BMI is from 25 to 29.90 and person is obese if his body mass index is more than 30 [1]. The occurrence of obesity is increasing very fast from last few years. Greater than 30.0% citizens of America are obese, as well as more than 25% males & females in the countries of Europe [2]. Metabolic alterations of obesity can encourage dangerous problems of health & can enhance the danger of different diseases as diabetes, hypertension, and cancer of breast, gallstone & mental issues [3, 4]. The amount of the tie which a person spends with obesity has association with the mortality risk [5]. In accordance with the findings of WHO, the obesity in the whole world was double in the year of 2008 from the year of 1980[6]. The obesity is increasing in our populations of Pakistan with very high rate. In accordance with a survey the occurrence of obesity was 23.60% in females & 14.0% in males. The occurrence of overweight in population was 30.70% for males in comparison with 28.40% for females [7].

A research work on the students of college showed that 21.80% students present as overweight & 15.70% present students were obese [8]. Doctors are the very knowledgeable and conscious about health and the medical students of today are the doctors of tomorrow. There is very less quantity of research works available on the students of medical field about the occurrence of obesity among them in our country Pakistan. Therefore, we planned this research work to this study was planned to find out the rate of occurrence of obesity & its impact on their routine life in the presence of co-morbidities.

**METHODOLOGY:**

This transverse research work carried out on the medical students of Independent Medical College

Faisalabad from October 2018 to march 2019. The students of both genders who were willing were the part of this research work. We recorded the associated information on a well-organized Performa. The measurement of height & weight carried out with the help of calibrated scale. The calculation of BMI carried out with the utilization of the Quettlet's formula as  $BMI = \text{weight (kilogram)} / \text{height (meters)}^2$ . The students were underweight if their body mass index was lower than 18.50, normal if body mass index was from 18.60 to 24.90, students were overweight if body mass index was from 25 to 29.90 and obese if their body mass index was more thirty or more than thirty.

We evaluated the suffering of hypertension with the monitoring of BP in students who were obese & overweight. The diagnosis of diabetes & presence of gallstone carried out with the help of ultrasonography. BP from 90 mmHg/140 mmHg on two continuous days was showing the hypertension. The definition of high sugar in blood was level of fasting blood sugar greater than one hundred and sixty 126 mg/dl on 2 continuous days. SPSS V 20 was in use for the analysis of the gathered information. The ethical committee of the Victoria Hospital gave the approval of this research work.

**RESULTS:**

A sum of four hundred and five students were the part of this research work. The average age of the students was  $21.5 \pm 1.6$  with a range of age from 19 to 25 years. The male students were 41.70% (n: 169) & female students were 58.30% (n: 236). The history of the family for obesity was available in 34.30% (n: 139). Out of four hundred and five, 8.40% (n: 34) students were present as obese. The profile of weight of the remaining students are available in Figure-1.

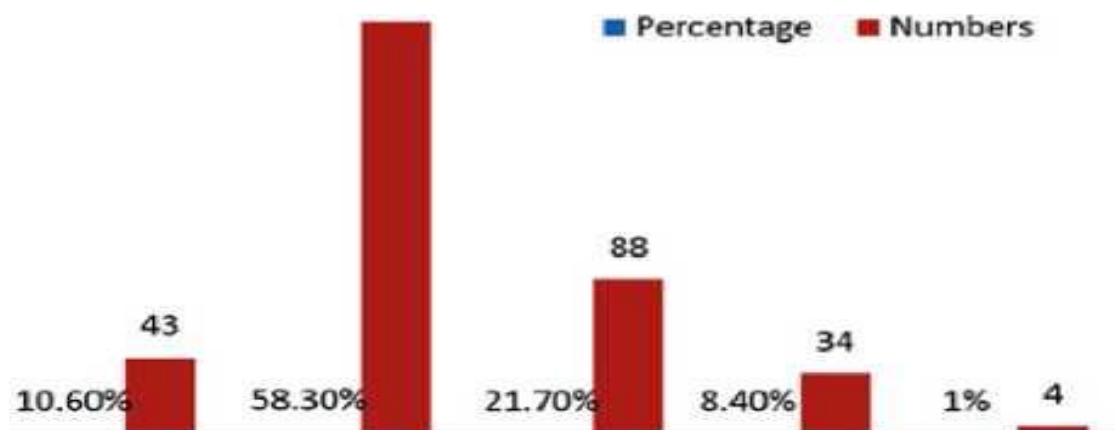


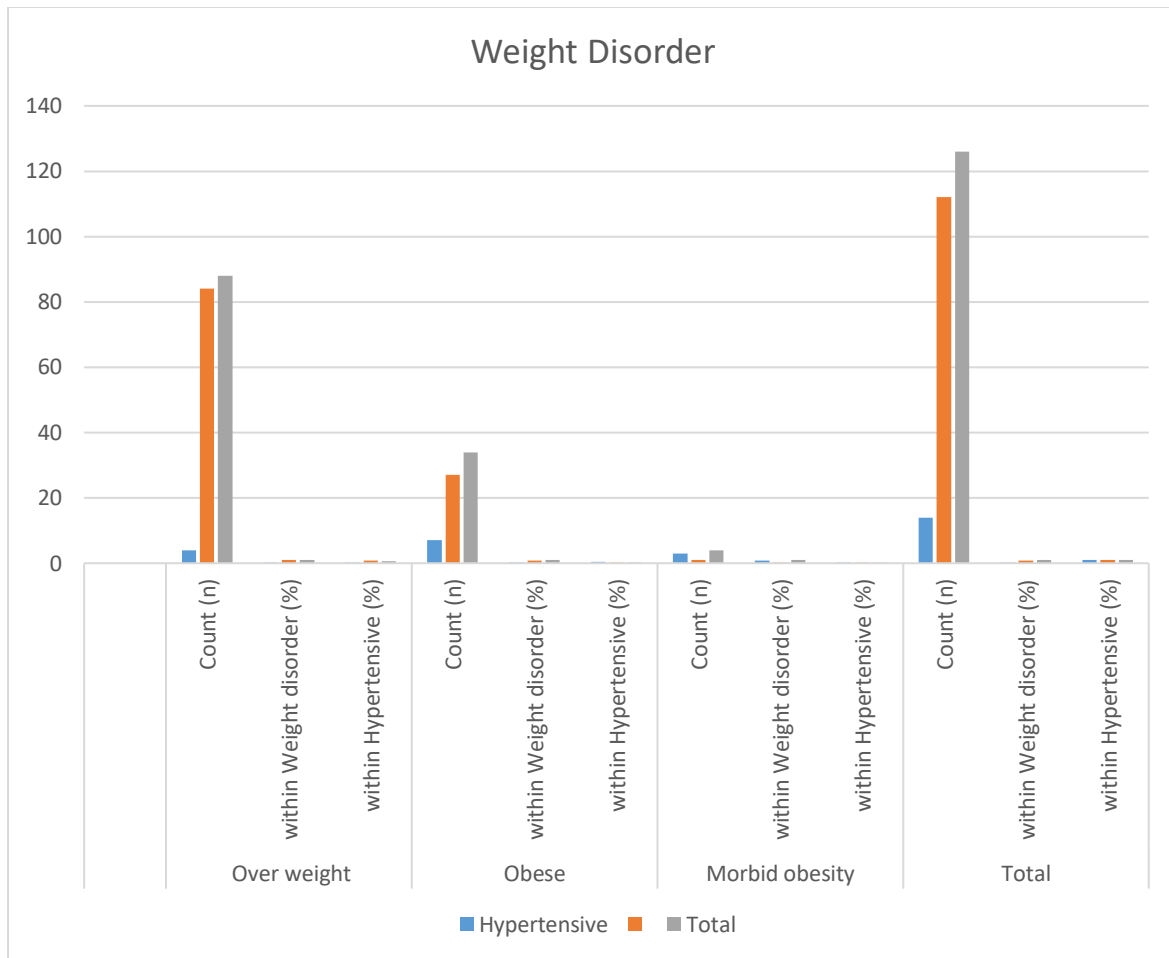
Figure 1 : Weight profile of all students.

Out of four hundred and five participants, one hundred and twenty-six students were available with body mass index from 25 to 45.60. Male students were 15.30% (n: 62) & female students were 15.80% (n: 15.8) among them. Out of one hundred and twenty-six patients,

11.10% (n: 14) students were hypertensive & 7.10% (n: 9) were available with gallstones. Disorders of weight & hypertension has displayed a strong association with one another when assessed in the total population of the research work as mentioned in Table-1.

**Table-I: Weight disorder \* Hypertensive Cross Tabulation**

Weight Disorder		Hypertensive		Total	Pearson Chi Sq.	p value
		Yes	No			
Over weight	Count (n)	4.00	84.00	88.00	23.46	0
	Within Weight disorder (%)	4.500%	95.500%	100.000%		
	Within Hypertensive (%)	28.600%	75.000%	69.800%		
Obese	Count (n)	7.00	27.00	34.00		
	Within Weight disorder (%)	20.600%	79.400%	100.000%		
	Within Hypertensive (%)	50.000%	24.100%	27.000%		
Morbid obesity	Count (n)	3.00	1.00	4.00		
	Within Weight disorder (%)	75.000%	25.000%	100.000%		
	Within Hypertensive (%)	21.400%	0.900%	3.200%		
Total	Count (n)	14.00	112.00	126.00		
	Within Weight disorder (%)	11.100%	88.900%	100.000%		
	Within Hypertensive (%)	100.000%	100.000%	100.000%		



Out of one hundred and twenty-six students with disorders of obesity, 58.70% (n: 74) students were available with positive history of family for obesity whereas 41.30% (n: 52) were present with no family history for obesity. The eating of junk food for greater than 2 times was available in 73.0% (n: 92) students while 27.0% (n: 34) were the victims of obesity without any utilization of junk foods. Total 76.20% (n: 96) were available with less physical activity whereas 23.80% (n: 30) were playing sports.

### DISCUSSION:

The problem of obesity is creating a healthy burden on health care facilities in our country Pakistan. This issue is also growing fast in various other countries of the world as Turkey, Oman, Kuwait, and Jordan & Saudi Arabia. The people from both gender are present with highly overweight values in Saudi Arabia [9]. The regions of North Africa had 7<sup>th</sup> high occurrence of obesity in men & 2<sup>nd</sup> among females in 2008 [10]. The prevalence of this disease is also increasing in the Kingdom of Saudi Arabia due to less physical activity [11]. Sudip Paul [12] reported 25.0% overweight

among students in one university of Bangladesh which close to the result of our research work. Zaytoon S [13] discovered that 6.20% students of university were available as obese among total 500 samples. S, Bakr [14] concluded 12.50% obesity and Farahat & Abou-El Fath [15] discovered that 13.40% students of university were suffering from obesity in Egypt. Mukhtiar Baig [16] discovered 19.0% were obese in a university of Saudi Arabia.

There is overall prevalence of obesity in Saudi Arabia is 35.50%. The occurrence of overweight & obese person in Kuwaiti were 80.40% & 47.50% correspondingly [18, 19]. The prevalence of the obesity in young females of our nation was very high similar to the works of past [20]. In on other research work, the occurrence of obesity & overweight was 20.50% & 13.80%. There is association of family history and less physical activity with the incidence of obesity [21]. Another research work showed the high association of family history with the occurrence of obesity [22]. The occurrence of obesity & overweight is 11.0% & 20.0% in the school going females of our country Pakistan

[23]. Ibrahim stated in his research work, obesity as 12.70% and overweight as 19.10% among medical students [24]. There is strong relationship of obesity with diabetes, hypertension, gallstones and various heart diseases [25, 26]. A study in Sweden displayed hypertension has association with obesity [27]. Obesity is responsible for 26.0% patients of hypertension in males & 28.0% in females [28]. There was an increase in BP with the increase of weight of patients [29]. The occurrence of gallstones was also very high in fat population [30].

### CONCLUSION:

The rate of occurrence of obesity & overweight in the students of medical field were 8.40% & 21.70% correspondingly in this research work. This research work finding are very helpful to aware the medical students about the complications and high rate of morbidities as well as mortalities associated with these problems. This research work encourages to adopt healthy life style & use of balanced diet. Our work is also very important for professionals to tackle the issue of obesity on national basis.

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