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PREVELANCE OF OBESITY AND ITS ASSOCIATED RISK FACTORS AMONG MEDICAL STUDENTS OF FAISALABAD DUE TO PHYSICAL INACTIVITY

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ABSTRACT

Obesity is complex disease involving too much body fat. Obesity is not only cosmetic problem but also a medical concern that increases the risk of some other diseases. Obesity has become the most common problem in our society. Obesity is defined as having a body mass index that is higher than what is considered normal and healthy for a certain height. Extra body fat is typically the cause of obesity. However, fluids, excess muscle, or bone density may also contribute to obesity. People who have obesity usually have increased BMI. The term obesity is used to identify the people who are at the high risk for health problems from having extra body fat. The main purpose of this study is to determine the prevalence of obesity and some associated risk factors among the medical students of Universities of Faisalabad due to their inactive life style. In this analytical Cross sectional Study, convenient sampling technique will be used to collect data from 290 medical students the criteria will include age between 19-23 years, and exclude medically diagnosed psychological issues and trauma. Data will be collected by online questionnaire. The data will be evaluated by using Statistical Packages for the social sciences (SPSS) software version 17.

Keywords: Obesity, Overweight, BMI (body mass index), Fleshiness

1. INTRODUCTION

Obesity is a term used in severe medical conditions defined as an increase in body weight due to immoderate accumulation of body fat and it occur when the caloric value of food intake is more than that of energy output. Obesity and overweight is a situation in which the energy reserve of the body that is accumulated in the form of fat in the human beings and other animals, increases more than the healthy limits.(1) Changes in lifestyle, eating habits, physical activity, and the environmental factors can lead to obesity (2) large quantity of caloric consumption such as junk food , high carbonated drinks, high sugar intake and stationary or inactive lifestyle are the chief reasons contributing to greater BMI (3).

Fat is more likely to deposit around the various parts of body like buttock region, thighs, and pelvis area of women and the mostly around the belly of men. Obesity is an issue raising its head day by day end-to-end the world, not only among adolescents, but also among children, teenagers and young adults. Of all the elements leading to overweight and obesity, chronic life stress appears to be essential factor that leads to irregularity in eating pattern, deficiency of exercise and physical activity, each being considered important causes leading to excess weight. The education of medical field is tough, stressful and hectic throughout the training course. During the growth years of adolescent, fat deposit at double rate in girls as compared to boys. Lack of exercise increase the risk of diabetes, hypertension, fatty liver diseases, osteoporosis, coronary heart disease, gout, cancer, pulmonary diseases, obesity, gynecological abnormalities and cardiovascular diseases (4).

The most common kind of physical activity is walk, an essential movement pattern. This movement pattern is extremely complex biomechanical phenomena that involves an interplay between inertial and muscular forces. The functional and structural constraints enforced by the loco motor system are linked with excellence of gait. The capability to enforce an effective motion strategy, and the person’s metabolic efficiency play an important role in walking pattern of individual. As obesity increases overall rate of mortality, obese individuals also face a major risk of mobility impairments. Individuals with higher body mass and waist circumference face difficulty in bending, lifting, stooping, kneeling, and carrying. Problems in performing these simple physical sensations causes instability of posture and functional limitations that effect the task of daily livings (5).

Obesity is also linked to postural instability. The ability of body to maintain center of mass with respect to base of support is called postural instability. Different systems of the body like visual, vestibular, brain, proprioceptive sense and musculoskeletal systems play important role in the stability of posture during walking, standing, and impairments in the function of these systems lead to instability of posture. The influence of a medical condition such as obesity on the health, physical function and wellbeing of me is known as Health related quality of life. Self-report of patients with obesity was used to categorize health related quality of life among the the

individuals suffering from obesity. Several measures were used for this purpose most important the Rand 36-item Health Survey was used. When treating the client suffering from obesity, the goals and aims of treatment should be clear (6). It is important for obese individuals to reach their normal weight gradually and then maintain it throughout their life. Healthy normal weight exerts healthy and benefical effects on our overall body and mind. By losing extra weight, obesity related complications also reduced automatically. The primary goal and aim of treatment is usually a moderate weight loss approximately 5 to 10 percent of your total body weight. All the programs related to weight loss involve changes in your dietary habits, caloric intake and increased and vigorous physical workout (7).

2. METHOD

2.1. Data collection tool

- Self –administered questionnaire
- Calculator to calculate the BMI
- Weight machine
- Inches tap to measure the height

2.2. Selection Criteria

2.2.1. Inclusion criteria

Data was collected from

- Obese medical and non- medical students of Faisalabad only.
- Age group of 19-23 were included.
- All obese students who cognize the questionnaire, research and its purpose, and who were ready to provide information were given the questionnaire or were asked the questions. Consent form were signed by the students who filled the forms and it was attached with each questionnaire. Students were explained the brief background of the research, the use of research and the purpose of research. Students were explained that their names and contact numbers are
- optional and they provide this information, it will not be revealed in research and will remain confidential.
- Both female and male were included.
- Both government and private university students were included

2.2.2. Exclusion criteria

- Any degenerative disease, Hereditary/, genetic reason of obesity were excluded.
- People with medically diagnosed psychological problems were excluded.
- Female students with pregnancy were excluded.
- . Students who refused to give consent and participate in the study even after receiving the essential research material were not included in it.

2.3. Data collection procedure

This study was undertaken in government and private universities of Faisalabad to assess the prevalence of obesity among the medical and non-medical students in universities of Faisalabad due to sedentary behavior. The study type used was convenient sampling and sample size selected was 290. . To obtain agreement from each medical college's head of department and to better comprehend our study topic, informed consent was issued to the medical schools prior to data collection. After getting approval, data was collecting using self- administrated questioner. Self-administered questioner includes questions regarding demographic data, hours of study, hours of physical activity, risk factors, and no of meals and was comprising of 17 questions and all questions were totally according to our study protocol. The self-administered questioner was approved by a statistician and supervisor before using it for study. The actual study aim was to check the risk factors related to obesity and physical inactivity. Inclusion criterion for our study was involving medical students studying at least 6-8 hours and were obese due to unhealthy life-style. Exclusion criteria was having female students who were pregnant and those male or female medical students having other disorders of wrist like arthritis changes. After completing questioner, we calculated the BMI of the students who were obese due to sedentary life- style. The BMI was calculated with the help of inches tap, weight machine and calculator. their rights and welfare have also been protected. Participants were allowed to withdraw from study for any reason, at any time. Information about the results of study were already offered to participants. Research did not pose potential harm, risk or danger to the participants. Respect and dignity of the respondents have been kept prioritized. This study ensured the anonymity of participants and organization. Communication with participants have been done with transparency and honesty.

3. RESULTS

Table 1: FREQUENCY DISTRIBUTION OF OBESITY

	Frequency	**Percent**
Normal	96	33.0
Overweight	67	23.0
Obese	118	40.5
Severely Obese	10	3.4
Total	291	100.0

Table 1.shows that 33.0 % of the students were normal, 23.0 percent of the students were overweight, 40.5 percent of the students were obese and 3.4 percent of the respondents were severely obese.

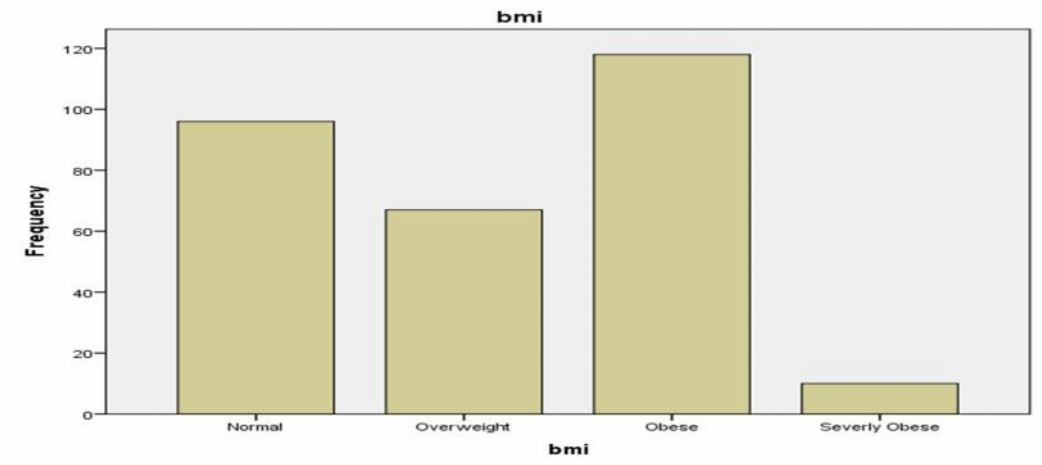

Figure 1a: Bar represents that 33.0 percent of the students were normal, 23.0 percent of the students were overweight, 40.5 percent of the students were obese and 3.4 percent of the students were severely obese.

Table 2: Distribution of respondent according to association between obesity and risk factor in medical students

Obesity	**Risk Factor**		**Total**
	Yes	No	
Overweight	36	20	56
Obese	87	88	175
Severely obese	35	25	60
Total	158	133	291

Chi-square = 4.126a d.f. = 2 P-value = .040** Gamma = .061

** = Significant

Table 2. Shows the association between obesity of the respondents and their perception about the risk factor. Chi-square value shows a significant association between obesity of the respondents and their perception about the risk factor. Gamma value shows a positive relationship between the variables.

4. DISCUSSION

The present study results were based to find the prevalence of obesity and associated factors among medical students of Faisalabad, included 290 students from government and private sectors. The analysis and result of this study concluded that medical students due to lack of physical inactivity, showed the high prevalence of obesity. Physical inactivity was major contributing factor in causing obesity. The results were in favor of medical students, because the medical students having lack of physical activity were complaining about obesity. Associated factors like sedentary lifestyle, bad eating habits and physical inactivity were found to be associated with present study results (8).Our study showed that the prevalence of obesity was high among medical students.

The results of our study were consistent with the previous study, that rate of obesity were high among medical students. Our study results supported the previous study in which poor life style, bad dietary habits and lack of physical activities caused obesity. Students falling in the category where due to study burden the couldn't focus on their healthy lifestyle were found more prone to obesity. Recent study concluded that the prevalence of obesity was high among medical students due to their lack of interest in physical in activities. Medical students have found to be at higher risk of obesity in our study, because of sedentary behavior and physical in activities. In another study it was evident that medical students has greater prevalence rates of being obese. The authors evaluated the results in a literature review showing that causative factors like stress, lack of self-consciousness and addiction are associated with obesity among medical students. Because stress is a major factor in student's life due to burden of tough syllabus. (9).

This study results were similar to our present study that prevalence rate of obesity was high among medical students. In medical students, unhealthy lifestyle and higher interest of students among indoor activities gave rise to symptoms of obesity. Our study findings also suggest that medical students who show carelessness towards physical in activities and got busy in their educational and social life are more likely to have symptoms of obesity. Present study provide that medical students between 21-23 years of age reported more obesity symptoms. Another previous study substantiated our findings, reported that prevalence of obesity was high among medical students and also found out that causative factors like repetitive snack intake, more junk food, high caloric intake and lack of extra curriculum activities, all related in developing obesity (10).

While comparing our study results to another study, we found out that according to previous researches, prevalence obesity among medical students was high because they spent too much time on television during their free time despite of doing any physical activity during that time. This study showed that the modernized lifestyle have destroyed the health and nutritional behavior of students. In our study, the same evident was made and it was concluded that high prevalence of obesity among medical students is due to physical inactivity (11).

Recent study findings were based to find association of medical students with physical in activities that can cause obesity. Hence, it was concluded that medical students due to lack of physical activities have more symptoms of obesity. It was also evident from our research that students who take poor diet, eat high calorie food, spend more time on studies and take less part in extracurricular activities are more likely to develop obesity. This can be prevented by taking healthy food, low calorie diet, healthy life style, more physical activities and periods of rest after some time of study.

4.1. Conclusion

This study concluded that the risk of obesity increases due to unhealthy life style and physical inactivity. It also concluded that 71.8% prevalence rate was found in the medical students. Medical students age 19-23 years were included in more risk group than non- medical students. Moreover low physical activity rate, overeating, and psychological issues are the main factors in medical students and contributing to obesity. Almost three–fourth of the study sample comprised of female students. At multivariable analysis level, the variables which were found to be significant are level of physical activity, gender, diet, eating habits, and hours of study etc. Students who spent more studying hours and who took more number of meals per day while being inactive all the day, experience more symptoms associated with overweight or increased BMI. In the end Physical activities are necessary for body and mind, it keeps them healthy. Physical activity is the major treatment to avoid obesity. Aerobic exercise can help burn fat through exercise, which keeps the students relax, with little risk of rebound. Hence aerobic exercise is more appropriate for obese college students to lose weight.

4.2. Conflict of interest

There are no conflicts of interest that the authors of this study need to disclose.

4.3. Limitations

Our study's findings have been impacted by some limitations that we encountered while conducting the research. There are a few drawbacks listed below,

1. The young volunteers were uncooperative, which made it challenging for us to collect data.

2. Lack of availability of participants.

3. Few participants were not willing to use measuring tool, waist and height with inches tap to calculate BMI.

4. Male students showed less interest to fill the questioner than female students.

4.4. Recommendations

- The outcomes of our study would be much improved if we engaged in some exercise or physical activity. However, due to time constraints, we were unable to complete this task, hence it is advised that further research be carried out to determine better prevalence and outcomes for any fitness program.
- It is advised that additional research be done on the related risk factor for future studies.
- In order to address the health problems and other risk factors brought on by obesity and an active lifestyle, interventions or fitness programs should be implemented.
- Students who experience obesity while studying might adjust their workstations during class times to avoid movement restriction.
- Physical exercise can raise overall energy expenditure, which can assist with weight loss or maintaining energy balance. Exercise reduces body fat overall and waist fat, which delays the onset of abdominal obesity.
- Consuming less bad fat and more good fat, fewer processed and sugary foods, more servings of fruits and vegetables, and dietary fibers are just a few of the healthy eating habits that can help avoid obesity.
- Osteoarthritis, fatty liver disease, sleep apnea, high blood pressure, heart disease, and type 2 diabetes are among the chronic diseases that obesity increases the risk of developing.

4.5. STRENGTH

- Ethical consideration was taken into account during research.
- Awareness about physical activity, healthy diet, and risk factors etc.
- Improve quality of life.

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