Prevalence of Obesity and Dietary Habits of Students at Rai Medical College Sargodha-Punjab Pakistan

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***Abstract*- Background:** Obesity and its associated disorders are a growing epidemic across world. Many genetic, physiological, psychological, environmental and behavioural factors play a role in etiology of obesity. Diet and exercise are known to play a valuable role in treatment and prevention of obesity and associated disorders. Therefore, purpose of this review is to examine, prevalence, etiology, consequences and treatment of obesity.

Objectives:

- To assess the magnitude of obesity among RMCS students.
- To find out relationship among obesity and dietary habits of students RMCS.
- To examine impact of demographic variables on all variables of current study.

Methodology:- Descriptive cross sectional study was conducted at Rai Medical college Sargodha from August 2019 to September 2019. A total of 100 medical students from all batches participated in this study. A self structured questionnaire was administered to the students after taking their onset. Data included socio demographic characteristics, life style, exercise, dietary habits, diabetes mellitus, Hypertension etc. There were strong relationship between unhealthy dietary habits and being obese.

Results: Out of total participants (100). According to BMI 58% students were normal weight 32% were overweight and 10% were obese

Conclusion: Our study concluded that dietary and exercise counseling is necessary as a preventive strategy.

I. Introduction

The rapid increase of overweight obesity especially in younger generation in many low and middle income countries due to appropriate diet and in acts lifestyles. The WHO projected that 2020 non communicable diseases will be cause of great number of deaths in south east asia and western pacific region. Obesity is one of the contributing factors for non communicable diseases. In 2008, 1.5 billion adults were found to be overweight and obese out of this figure nearly 300 million were obase women.

The WHO latest projection indicates that globally in 2005 there were approx 1.6 billion adults overweight and at least 400 million obase. The Europe who contents that rapidly increasing prevalence of obesity will include 150 million adults and 15 million children 2010.

Abnormal or excessive fat accumulation that presents a risk to health is called obesity. It has two types one is central obesity or apple shaped upper body obesity and which is common in males. Second is peripheral obesity or pear shaped lower body obesity which is common in females presence of excess central fat is associated with and increased risk for morbidity and morality independent of BMI.

Obesity is a multifactorial disorder factors contributing to obesity are physical inactivity/sedentary life style, lack of exercise poor dietary habits, socioeconomic status, environmental, behavioural, (overeating) genetic, endourine (hypothio PCOS, cushing's syndrome), psychology (hereditary) (stress) factors and medication such as cartisoteriods, antuperessants, insulin and drugs containing sulfonylucca.

Medical education is stressful through out the course of training and stressful condition leads to irregularity in diet and lack of exercise. The amount of material to be absorbed social isolation pressure of examination, discrepancies between expectation and reality all can be anticipated to bring psychological stress. However stress will remain part and parcel of every medical student which can not be modified as college level. Other modifiable factors such as increased fast food consumption, increased soft drinks watching television and playing games on the computer and lack of outdoor fames are important from prevention point of view.

"Prevention of obesity is always better than its treatment"

Medical colleges can play a significant role in encouraging healthy behavior in students medical students are exposed to various factors known, unknown for overweight/obesity. Therefore this study was under taken with the objective to find the proportion of overweight/obesity among medical students and to identify various correlates associated with it.

Students who have obesity, compared to those with normal or healthy weight all at increased risk for many serious diseases and health conditions including:

All cases of death (morality), infertility high blood pressure, high LDL and tag low HDL type diabetes mellitus, CHD, stroke Gallbladder disease, Osteoarthritis, sleep apnea, Mental illness, body pain and difficulty with physical functioning.

The height/weight index considered to be most popular of all indices in BMI. It is calculated by dividing a person's weight in kg by person's weight in meter square. The who classifies underweight less than 1805, normal weight as having BMI 18.5-24 9kg/m^2 overweight 25-29 kg/m^2 moderately obese as equal to

or greater than 30 kg/m^2 and morbidly obese as equal to or greater than 40kg/m^2.

Dietary Habits:

Food choices preferred by persons in their daily life.

They differ from person to person. There are two types of diet, unhealthy diet and unhealthy diet. Unhealthy diet includes fast food (sandwiches, pizza, French fries, chicken nuggets etc) dairy products rich in fat, highly flavoured food (meat is food group rich in Umaniflacour), pungent food (ginger, garlic, onion, cloves, turmeric and disadvantages of unhealthy diet can be being overweight or obese, tooth decay, high blood pressure, heart diseases and stroke, type II diabetes Osteoprosis and some causes etc.

Healthy diet includes:

Protein (fond in fish, meat, poultry, dairy products, eggs, nuts and beans) fat (found in animal, dairy products, nuts and oils) Carbohydrates found in fruits, vegetables whole grains and beans and other legumes) vitamins (such as vitamin A,B,C,D,E and K) minerals (ca^{2+}, k^{+}. fe^{2+}) and water (both in what we drink and what naturally found in foods and advantages of healthy diet includes: Weight loss, reduced cancer risk, diabetes management, hearth health and stroke prevention , health of next generation , strong bones and teeth better mood and improved memory.

As far as cultural perspective is concerned. In Pakistan over all prevalence of obesity was found to be 25% in general population where as higher prevalence of obesity of 28% in medical students.

Obesity remains one of the biggest threats to our children putting millions of Americans at increased risk of chronic diseases and contributing to more than $147 billion to $ 150 billion in preventable health care spending.

Among Asians, obesity has been linked with metabolic syndrome like type 2 diabetes mellitus. A study from India reported increasing prevalence of obesity and its associated risk factors in an Urban population.

Approximately 80% of hearth diseases stroke and type 2 diabetes and 40% of cancer could be avoided through a healthy diet, regular physical activity and avoidance of tobacco use the onsets of type 2 diabetes in younger age groups is likely to result in major economic burden all over the world due to premature ill health and death.

In China according to WHO over all rates of obesity is between 5% and 6% for the country but 5% and 6% for the country but greater than 20% in some cities where fast food is popular.
In 2018 according to most recent behavioral risk factor surveillance system data, west Virginia has highest adult. Obesity rate at 38.1% and Colorado has lowest adult. Obesity rate.

In 2017 a study reported that more than one in two adults were over weight or obese in OECD countries adult obesity rates were highest in United states Mexico , New Zealand while they are lowest in Japan and Korea.

In 2019 recent studies showed that obesity rates are in American, 8060% in Pakistan and lowest (3.60%) in Bangladesh.

This study was carried out to assess the magnitude of obesity among students and to find out the relationship among obesity and dietary habits.

II. Material and Methodology

Study Design:
Descriptive cross sectional epidemiological study.

Study Population:
Students of class 1st, 2nd, 3rd, 4th and final year in Rai Medical college Sargodha, age (19-26 years)

Sample Size:
100 students of Rai Medical college Sargodha.

Sampling Technique:
Non-Probability convenient sampling Technique.

Inclusion Criteria:
Male student (n=50) and female students (n=50) of age (19-26 years) in Rai Medical College Sargodha.

Exclusion Criteria:
Unwilling students.

Tools of Collection:

- A questionnaire containing questions.
- Wight Machine.
- Measuring Tape.

Pre Testing:
It was pre-tested to check any problem in understanding the questions by subjects.

Questionnaire:
Necessary corrections was made and questionnaire about demographic data, dietary and exercise habits was finalized.

Data Collection:
Data was collected in 3rd week of august 2019.

Data Collection Procedure:
First of all permission was obtained from the supervisor and institutional authority for data collection.
Students of Rai Medical College was contacted directly.
The participants were briefed about nature of research.
All the participants were assured that the information they were provided will be used for study purpose and will be kept confidential.

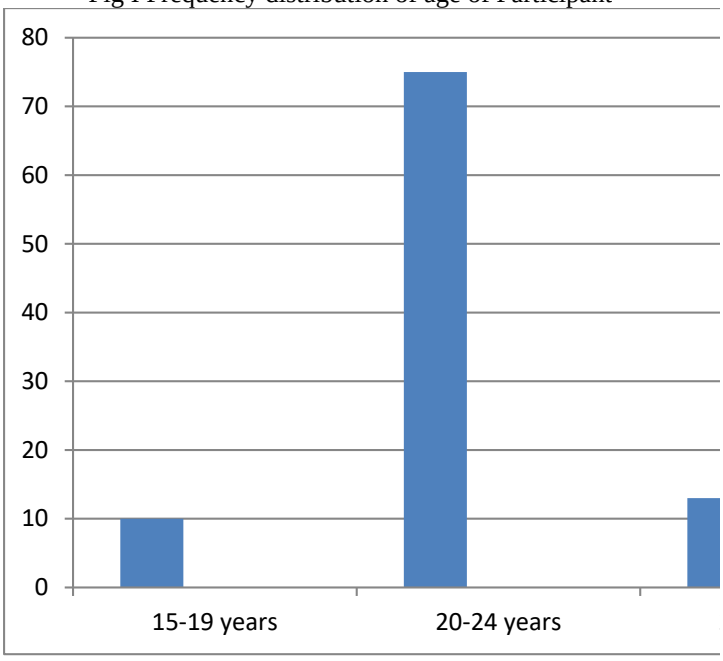
Objectives:

- To assess the magnitude of obesity among students.
- To find out the relationship among obesity and dietary habits.
- To examine impact of demographic variables of current study.

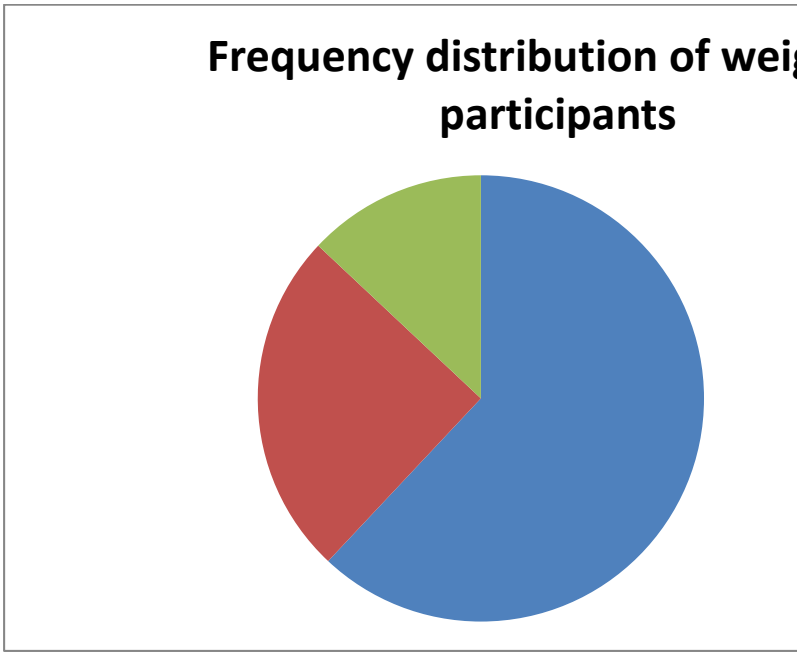
III. RESULTS:

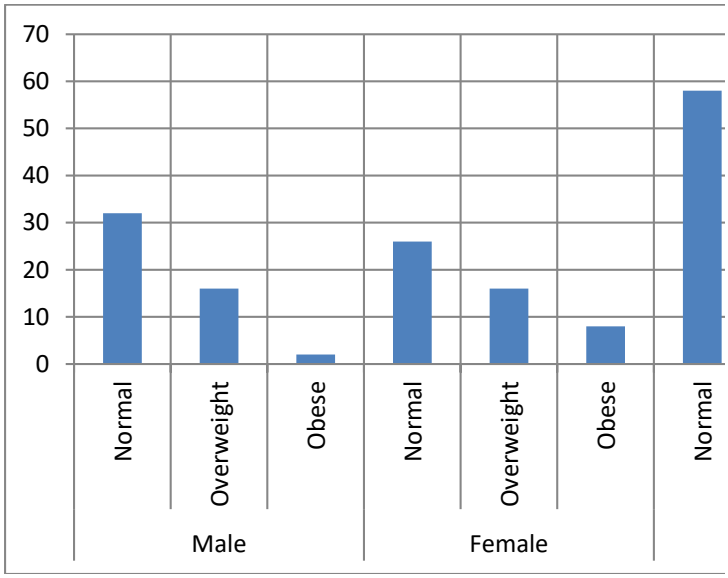
1. Out of total participants (100), 50% were male and 50% were female students. All the students were Pakistani nationals. Among the Pakistani 100% were belonged to Punjab and were Muslims.
2. Out of 100 participants students 10% were of age 15-19 years were 77% were of age 20-24 years and 11% were of age 25 -30 years (figure I)
3. 62% participants have weight in range of 60-65 kg, 25% have in range of 50-59 kg and 13% have in range of 70-90kg (Figure II)
4. According to classification of BMI out of 50 female students 26% were normal 16% were over weight and 8% were obese.
   Out of 50 male students 32% were normal 16 % were overwight and 2% were obese.
   Out of 100 students 58% were normal, 32% were over weight and 10% were obese (figure III6% students consumed tobacco.
5. No significant differences was found among male and female. Students when diatery habits and life style were compared by sex. There is strong BMI with dietary habits association of dairy products rich in fat.
   Students Junk food , fired food, soft drinks , consumption was associated with being over weight as medical having education is stressful through out training and this condition leads to irregularity in diet, mood swings and lack of exercise students.
   Eating cereals fruits and vegetables dairy products low in fat ad doing walk and exercise showed as protective association against overweight (Figure V)
6. BMI is strongly related with dietary habits of students.
   Among all students 0.68% students reported use of cereals 4 times 10% uses cereals 3 times , 11% uses cereals few times and 6% uses cereals 1 time/week in break fast.
   - 40% students use fruits and vegetables 4 times, 34% uses 3 times, 12 % use few times and 7% use 1 time/week.
   - 51% students consumed fried food >4 times/week 28% use fried food 3 times, 11% use few times and 5% use 1 time/week.
   - 50% students use dairy products >4 times/week, 20% use 1.3 times 6% use few times and 12% use 1 time/week.
   - 50% students consumed fast food 4 times, 28% use 1-3 times, 14% week use few times, 4% use 1 time.
   - 49% students drink soft drinks 4 times, 36% drink 1-3 times, 7% drink few time and 4% 1 time/week (figure IV)
7. BMI is related to exercise, 27% students exercise 15 minutes daily 25% students exercise 30 minutes daily and 48 students do not exercise daily so counseling of exercise is required (Table 01)

Fig I Frequency distribution of age of Participant



(Figure II) frequency distribution of weight of participants





Frequency distribution of BMI of participants (fig III)

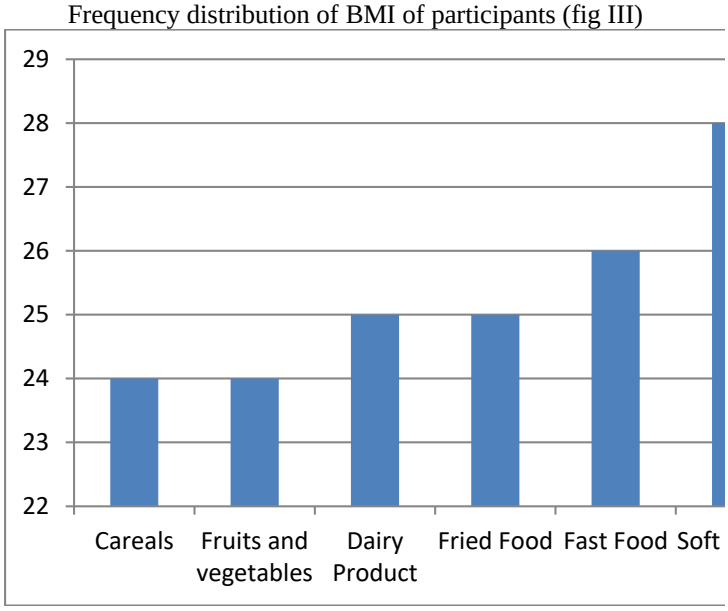


Fig iv. Frequency distribution of food preference of participants

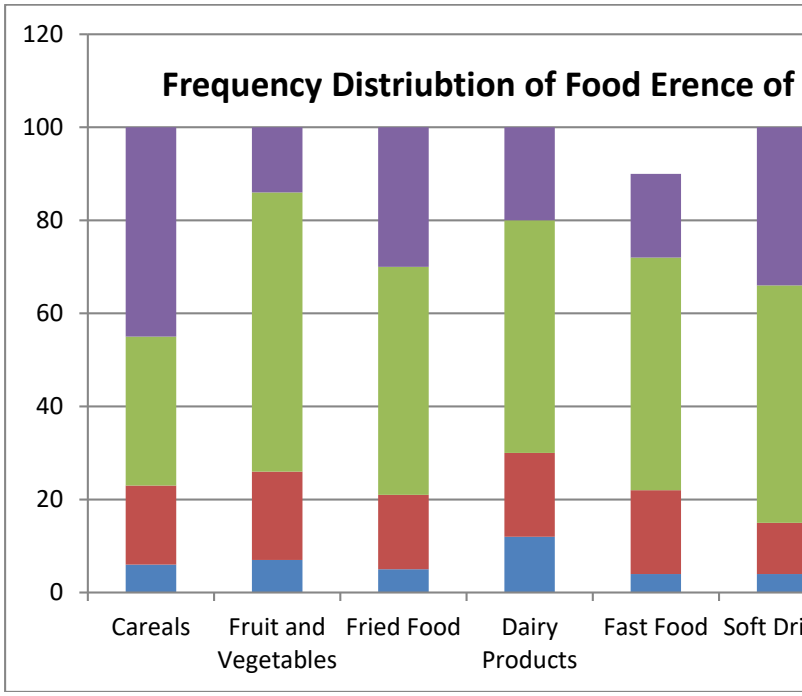


Fig V. Frequency distribution of BMI versus eating habits of participants.

Table 01: BMI is VS Duration of Exercise

BMI	Duration of Exercise			Total
	15 minutes	30 minutes	nil	
Underweight <18.5	0	0	0	0
Normal 19-24.9	18	14	26	58
Overweight 25-29.9	6	8	18	32
Obese > 30	3	3	4	10
Total	27	25	48	100

IV. Discussion

Regardless of predisposing factors diet and life style have great influence on morbidity and morality in life. Due to cumulative effect of adverse effects through out life of an individual it is particularly important to adopt a healthy diet and lifestyle practice. This study assessed the dietary habits and life style of medical students who represent a significant community of future health practitioners. Improvement in life style is made early in life and during medical life would produce physicians practicing and promoting healthy diet and active life style. A need for improvement is required in health seeking behavior of medical students. Physical inactivity and inappropriate dietary habits along with overweight student were alarming signs reported in our study whole a very low prevalence of tobacco consumption was noted. Similar findings have been reported in United Arab Emirates where 24% of medical students were overweight or obese with 77% having insufficient physical activity levels and 50% unhealthy dietary habits . Another study conducted of Aga Khan university on medical student reported that 33% had family history of CHD, 28% exercised regularly 9% were overweight and 8% reported smoking. The physical activity guidelines recommended moderate physical activity for at least 30 minutes preferably daily. Two American studies have reported much more regular exercise and a higher prevalence of smoking among students as compared to our study. Our study has found no difference between male and female students dietary habits. On the contrary a few studies have reported that females were more conscious of their diet and found underweight as compared to male students Junk food cola consumption and physical in activity were identified as the main cause for being over weight. Americans are getting nearly one third of their calories from Junk foods; soft drinks, sweets, desserts.

Alcholic beverages and salty snacks. This dietary habit is prevalent in our youngsters both males and females, despite knowing its harmful effects. It is a known fact that a healthy diet containing fiber and exercise can prevent obesity and chronic diseases. Our study had similar results showing that obesity was observed in students having caloric Junic food. Family history being associated with diabetes has also been reported on other studies from Pakistan. The results from previous studies done in that changes in life style are effective in preventing diabetes. The results of our study also calls for intervention regarding diet and exercise among the future physician population.

V. Conclusion

The dietary habits and life style of medical students were not healthy, Junk food and cola consumption was high with predominance of overweight and physical inactivity. Dietary and exercise counseling is required as a preventive strategy for this group.

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QUESTIONARE

PREVALENCE OF OBESITY AND DIETARY HABITS OF STUDENTS AT RAIMEDICAL COLLEGE SARGODHA

Name:_____ **Son *I* Daughter of**_____

Ag e:_____ **G e n d e r:** _____

Class;_____ **BMI:** _____

Address_____

Q1: What do you eat for breakfast most days?

_____

Q2: How often do you eat fried food?

_____

Q3: How often do you eat fruit and vegetables?

_____

Q4: How many times a week do you eat fast food or always?

_____

Q5: How often do you consume dairy products?

_____

Q6: How well do you know the guidelines of food pyramid?

_____

Q7: How often you drink soft drinks?

_____

Q8: Have your Physical health is negatively impacted by obesity?

_____

Q9: Do you see yourself as an obese person?

_____

Q10: Do you believe your**eating habits** are cause of your obesity conditions?

Q11: Are you suffering from diabetes Mellitus?

Q12: Do you **smoke** daily?

Q13: Have your **social life** been limited because of obesity?

Q14: Have you **experienced** shame or other uncomfortable feelings around obesity?

Q15: Do you believe exercise will help you loose weight?

Q16: Do you believe that you are depressed person and it contributes to your obesity?

Q17: Have you ever been told by **family** or **physician** that you are obese?

Q18: Do you feel comfortable **"Working Out"** in gym?

Q19: Do you believe that **supportive counseling** can assist in sustaining your obesity healing Regimen?

Q20: Do you have any other **Comorbidities?**