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# RELATIONSHIP OF EATING HABITS AND OBESITY AMONG MALE AND FEMALE STUDENTS OF LIAQAT UNIVERSITY OF MEDICAL AND HEALTH SCIENCES

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**ABSTRACT**

BACKGROUND: *The changing trends of eating adopted by our younger generation can lead to increase in the burden of Diabetes, Dyslipidemias and Hypertension in future years.*
OBJECTIVE: *To find out the relationship of eating habits and obesity among the male and female students of Liaqat University of Medical and Health Sciences, jamshoro.*
DESIGN: *Cross-sectional study.*
METHODS: *222 students belonging to the II nd professional M, B; B, S participated in the study, which was approved by the ethical committee. After taking informed consent each student was given a Questionnaire. BMI of all students was calculated by dividing their weights in Kg with the square of the heights in meters.*
RESULTS: *222 students, 102 males, 120 females, with the mean age of 20±1.25 participated in the study. 205(92.34%) were Muslims, mostly (85.5%) belonging to the urban population of the Sindh. 78.43% males and 70% females were of normal weight, while 13.72% males and 21.66% females were over weight . The prevalence of obesity was very less (1.66% males, 2% females).There was a significant change in breakfast pattern, boys were more regular (53.9%) as compared to female students(26.66%). Similarly 55.83% female students were having meals two times as compared to the males who took it three times a day. As result females were more prone to eat fried food. There was no significant change found in other habits*
CONCLUSION: *There is incidence of overweight among students due to unhealthy eating habits. The awareness of healthy eating habits should be encouraged.*

**KEY WORDS:** Obesity, eating habits, Body mass Index (BMI).

## INTRODUCTION

Most of us and specially our young generation have adopted the modern trends, not only in terms of living but in eating too; the work has been replaced by machines mostly. The work puts only minimal physical requirement on them, therefore they do not have enough exercise.[1] Pakistan too, has been experiencing a nutritional transition in food choices during the past years from the typical oriental diet into the fast food pattern [2,3,8]. Eating habits of our young adults are influenced by easy availability of fast-food. As a consequence, overweight and obesity are increasingly observed among the young. Obesity in combination with unhealthy life style, such as smoking and physical inactivity, may increase the risk of chronic diseases like Hypertension, Diabetes mellitus Type II.[4,5,14] A study from India reported increasing prevalence of obesity and its associated risk factors in an urban population.[6] Approximately 80 percent of heart diseases, stroke, and type-2 diabetes and 40 percent of cancer could be avoided through a healthy diet, regular physical activity and avoidance of tobacco use, moreover the age at which type-2 diabetes develops has also decreased, and the prevalence of the disease in children and adolescents has risen.[7]

## MATERIALS AND METHODS

This cross sectional study was conducted by the department of Pharmacology and therapeutics, Liaqat University of medical & Health Sciences Jamshoro. The study was approved by the ethical committee of the university. A study sample comprised of 222 students belonging to 2nd professional M.B; B.S (session 2008-09). After taking an informed consent, their sociodemograhic and information regarding their eating habits

was obtained from a proforma filled by them which was provided by the investigating team who adopted it from a previous study after a little modification[8]. The BMI was calculated by standard method (dividing the weight in Kg of each student by the square of height in meters).Weight status was categorized in four types, underweight (BMI? 18.5), normal weight (BMI between 18.5-24.9), overweight (BMI 25-29), and obese (BMI ?30).[9, 10]

The data was analyzed by using statistical package for social sciences version 16, software. Chi square analysis was used for non parametric variables and students t – test for parametric variables. Results were expressed in mean ± SD (standard deviation).

**RESULTS:**

222 students, (49.9% males, 54.1% females) participated in the study. The mean age was 20 ± 1.25. Among them 92.34% were Muslims, mostly (85.5%) belonging to the urban population of Sindh. As regards to their BMI 78.43% of boys and 70.0% of girls were of normal weight, while 13.72% boys and 21.66% girls were overweight. The prevalence of obesity was very less, i.e. seen in 2% girls and 1.66% boys (Table I).

The meal regularity pattern was more pronouncedly observed (p value 0.05) in boys, 79(77.45) were always regular in taking their meals. There was a significant change in breakfast pattern in both the genders that 53.9% boys were found to be regular in taking breakfast as compared to girls (26.66%) Table II.

Meal intake frequency was also significantly different in boy students as compared to girls, as they were found to eat more frequently (2-3 times) as compared to girls who preferred to have meals two times a day. A finding which is different as compared to female gender is fried food intake which is more frequently observed i.e. 41% consumed it on daily base and 58% consumed it 3-4 times per week (Table II).

**(TABLE I) BASELINE CHARACTERISTICS OF STUDENTS**

| VARIABLE | MALE n = 102 | FEMALE n= 120 | TOTAL N= 222 |
|---|---|---|---|
| **Age** | | | |
| Range | 18-24 | 18-22 | 18-24 |
| Mean | 20±1.25 | 20±1.22 | 20± 1.22 |
| **Religion** | | | |
| Muslims | 93(%) | 112(%) | 205(92.34%) |
| Non- Muslims | 09(%) | 08(%) | 17(7.65%) |
| **Residence** | | | |
| Urban | 92(90.19%) | 115(95.83%) | 208(173.3%) |
| Rural | 10(9.80%) | 04(3.33%) | 14(11.66%) |
| **BMI *** | | | |
| **Underweight** | | | |
| (BMI ≤ 18.5) | 06(5.88%) | 08(6.66%) | 14(6.30%) |
| **Normal weight** | | | |
| (BMI b/w 18.5- 24.9) | 80(78.43%) | 84(70. 0%) | 164(73.37%) |
| **Overweight** | | | |
| (BMI b/w 25- 29.9) | 14(13.72%) | 26(21.66%) | 40(18.01%) |
| **Obese** | | | |
| (BMI ≥ 30) | 02(2 %) | O2 (1.66%) | 04 (1.8%) |

**DISCUSSION:**

The sedentary lifestyle and eating too much of fast food has made our youth more prone to overweight and if not caught at proper time can lead to an increased burden of diabetes, hypertension and ischemic heart diseases in future years. According to WHO 60% of the quality of an individual s health is dependent on his/her life style and behavior, if healthy habits are adopted earlier this can prevent from problems of future years.[11]

Our study aimed to evaluate eating habits along with the prevalence of overweight and obesity in our students, and we found that most of the students were having ideal weight (BMI 18.5 – 24.9), and a low prevalence of obesity.[1, 2, 12]

The meal regularity was observed in boys as compared to girls, a significant gender difference was seen in skipping of breakfast especially in girls (Table I) as compared to their male counter parts.[13]

The food patterns as regards to our native place have modified a lot, the food is processed and cooked differently as it was in older days, mostly frozen food which is fried before eating is preferred nowadays. Even trend of fried items like French fries along with pizza and burger is on the top. Our younger generation who is imitating the western values is fond of it. The interesting finding in our study is that girls preferred to take such food on regular basis as compared to boys who usually take them once or twice a week. Soft drinks, fried food consumption were commonly correlated with the overweight in girl students. [14]

Although our students are conscious regarding their body weight, but there is prevalence of overweight among them so the awareness is much needed to motivate them (especially girls) towards healthier life style pattern.

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**(TABLE II) RESPONSE TO QUESTIONNAIRE**

| Sr no | Question | Sub question | Males n= 102 | % | Females n= 120 | % | Total n=222 | p-value |
|---|---|---|---|---|---|---|---|---|
| 1 | Do you take your meals regularly? | regular<br>Irregular | 79<br>23 | 77.45<br>22.54 | 80<br>40 | 66.66<br>33.33 | 159<br>63 | <0.05* |
| 2 | Do you take breakfast? | Daily<br>3-4 times/week<br>Once or twice/week<br>Rarely | 55<br>22<br>09<br>16 | 53.92<br>21.56<br>8.82<br>15.68 | 32<br>40<br>22<br>26 | 26.66<br>33.33<br>18.33<br>21.66 | 87<br>62<br>31<br>42 | 0.001*** |
| 3 | How many times do you eat meals except snacks? | One time<br>Two time<br>Three time<br>Four time | 05<br>45<br>51<br>01 | 4.90<br>44.11<br>50.00<br>0.98 | 11<br>67<br>31<br>11 | 9.16<br>55.83<br>25.83<br>9.16 | 16<br>112<br>82<br>12 | 0.001*** |
| 4 | How often do you take snacks apart from regular meals? | Daily<br>3-4 times/week<br>Once or twice/week<br>Rarely | 28<br>20<br>24<br>30 | 27.45<br>19.60<br>23.52<br>29.41 | 26<br>34<br>38<br>22 | 21.66<br>28.33<br>31.66<br>18.33 | 54<br>54<br>62<br>52 | NS |
| 5 | How often do you eat green, red, or yellow colored vegetables? | Daily<br>3-4 times/week<br>Once or twice/week<br>Rarely | 20<br>36<br>34<br>12 | 19.60<br>35.29<br>33.33<br>11.76 | 23<br>42<br>36<br>19 | 19.16<br>35.00<br>30.00<br>15.83 | 43<br>78<br>70<br>31 | NS |
| 6 | How often do you eat fruits? | Daily<br>3-4 times/week<br>Once or twice/week<br>Rarely | 16<br>27<br>36<br>23 | 15.68<br>26.47<br>35.29<br>22.54 | 22<br>38<br>32<br>28 | 18.33<br>31.66<br>26.66<br>23.33 | 23<br>65<br>68<br>51 | NS |
| 7 | How often do you eat fried food? | Daily<br>3-4 times/week<br>Once or twice/week<br>Rarely | 23<br>23<br>41<br>15 | 22.54<br>22.54<br>40.19<br>14.70 | 56<br>19<br>21<br>24 | 46.66<br>15.83<br>17.05<br>20.00 | 79<br>42<br>62<br>39 | 0.001*** |
| 8 | How often do you eat with friends and family? | Daily<br>3-4/ week<br>Once or twice/week<br>Rarely | 48<br>15<br>24<br>15 | 47.05<br>14.70<br>23.52<br>14.70 | 56<br>19<br>24<br>21 | 46.66<br>15.83<br>20.00<br>17.05 | 104<br>34<br>48<br>36 | NS |
| 9 | What type of food do you think you should eat to have a balanced nutrition? | Mainly meat<br>Mainly vegetables<br>Meat vegetables and variety of food<br>Others | 04<br>17<br>68<br>13 | 3.92<br>16.66<br>66,66<br>12.74 | 02<br>28<br>62<br>28 | 1.66<br>23.33<br>51.66<br>23.33 | 06<br>45<br>130<br>41 | NS |
| 10 | How often do you do you take soft drinks | Daily<br>2-3 times/ week<br>Rarely | 49<br>41<br>12 | 48.03<br>40.19<br>11.76 | 59<br>42<br>19 | 49.16<br>35.00<br>15.83 | 108<br>83<br>31 | NS |
| 11 | Please state your smoking history | Current smoker<br>Never smoke | 02<br>100 | 1.96<br>98.03 | 00<br>120 | 00<br>100 | 02<br>220 | NS |

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