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DIETARY PATTERN AND PRACTISES AMONG PAKISTANI STUDENTS IN LAHORE AND ITS LINK WITH OBESITY A CROSS SECTIONAL STUDY

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ABSTRACT

BACKGROUND

The major causes of obesity's rapid increase and pervasiveness in Pakistan are modernized dietary practices and a sedentary lifestyle. The study's primary goal was to find out the connection between students' eating routines and weight. A secondary goal is to evaluate students' awareness of the health hazards associated with obesity. **METHODS:** A sample of 316 undergraduate students from health sciences colleges at Riphah International University Lahore 53.1% males and 47.1% females, age ranges from 18 to 25, participated in the cross-sectional study, which had as its subject group. All of the young people answered the questionnaire, which was also used to record their anthropometric measurements and self-reliance. **RESULT:** Among responders' participation, obesity 15.3% and overweight 21.3% were both reasonably common. There was a statistically significant association between BMI and several food consumption metrics in Islam eating at flat-floor $p<0.001$. Body mass index was also related to students' diets eating patterns, snacks, and alcohol-free, drinks whilewatching TV $p<0.001$ and watching TV, mobile phone, or computer video games $p<0.001$. Almost the majority students were unaware that syndrome of metabolism fertility organ disorders, lung diseases, liver diseases and gall-bladder diseases are these some of the health-risks factors related with obesity. **CONCLUSION**: Our sample had a substantial obesity and overweight prevalence that had been influenced by a number of aspects of students' eating behavior and eating habits. The need of thorough and ongoing health education on nutrient- dense eating habits, with a focus on the value of active adoption and a healthy lifestyle

KEY WORDS: Eating behavior, eating habits, body mass index, Obesity, anthropometric measurements

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INTRODUCTION

The WHO identified obesity as a significant worldwide global health issue, with an estimated 1.5 billion individuals being overweight Moreover, 300 million women and 200 million men are obese [1]. According to estimates, at least 1.6 million adults in 2016 are overweight, and at least 650 million are considered obese.[2]

The fast-food chains have an impact on the dietary choices of adults. Modernized westernized eating patterns that are characterized by a minimal consumption of dietary fibres, fruits, and vegetables have supplanted traditional Mediterranean healthy food consumption practices.[3] Binge eating tendencies, a high intake of fried foods, and a lackof exercise or physical activity are all variables that horrifyingly contribute to overweight or obesity [4–8]. the substitution of foods with preservatives with those that are abundant in fiber, fruits, and vegetables, as well as traditional diets, [9,10] Therefore, all of these significant cultural changes had an impact on both social and dietary norms, which resulted in unhealthy behaviors. [11]

A BMI of 25 or above is regarded as overweight by the World Health Organisation, whereas a BMI of 30 or higher is regarded as obese. Being overweightand obese are both significant risk factors for a wide range of ailments, such as diabetes and cardiovascular disorders, which are the main factors contributing to adult premature mortality. Adults in the Eastern Mediterranean Region are significantly more likely to have any of these metabolic diseases. Higher levels of obesity and overweight were found in Kuwait, Bahrain Saudi Arabia, Egypt, Jordan, and the United Arab Emirates in data from 16 nations for adults aged 15 or older. [12]

Due to rising rates of obesity and overweight among Pakistan's population, there has been a trend of changing from traditional, healthy meals to more modern, unhealthy diets. The overall situation in Pakistan is getting worse for university students during the last several decades, as a result of the nation's rapid industrialization and urbanization, as, as well as lack of proper guidelines for healthyeating habits. People are also switching from

natural, hygienic foods to processed, unhealthy, and hastily prepared fast foods in Pakistan. Students in Pakistani colleges frequently choose fast food since it is convenient and easily accessible; this, however, has an adverse effect on students' health.[13] According to a study on global burden of disease, Pakistan ranked 9th out of 188 nations in terms of obesity in 2014 [14].

Many university students gain weight, according to the literature of numerous research, because they engage in less physical exercise, eat poorly, and experience stress. Universities must encourage students to eat healthily for their overall welfare and health. [15-17]

Tools and Methodologies

Study Population and Design:

Sample's 63% was made up of undergraduate male-students and 57% of female undergraduate students in a cross-sectional survey of 420 undergraduate students, ages 18 to 25, from colleges and universities in Riphah International University. Colleges of applied-health, public-health, medical, dental, pharmacy, and nursing were all mentioned. The participants were selected through the use of convenience sampling. The anthropometric measurements were willed after the students completed a self-assessment form.

Criteria For Inclusion and Exclusion:

The faculties of health sciences of Riphah International University accept both female and the male students between the ages of 18 and 25. These faculties include those for pharmacy, medicine, dentistry, nursing, applied health, and public health. They were eligible for participation if participants were able to express themselves properly in English, provided informed consent to participate in the study, agreed to fill out the questionnaire, and agreed to submit their anthropometric measurements.

Exclusion Criteria: Students were not permitted to take part in the research if they did not meet the criteria for inclusion**.**

Data Collection Instruments: The data was gathered using anthropometric measures and a validated 26-item questionnaire. The creation and verification of the questionnaire. The students developed the questionnaire after giving it significant and thoughtful consideration. A five-person, impartial expert group was put together to review the questionnaire's face validity and substance. Three college students make up the ensemble. The questions that the expert panel deemed inappropriate were then removed. The questionnaire's final, approved form consisted of 26 questions split into 2 sections. In Section—1, the people's anthropometric measurements and demographics were questioned. Section 2 was further divided into inquiries regarding the participants'

Data collection: Students signed up for the study at their convenience. Those that matched the addition requirements were a part of the study. Three of our students were allocated into two data gathering units. The data gathering and party reclamation tasks fell to the two and three university students, who were also in charge of doing the same for the female students. Between February 12 and July 12, 2020, these units conducted the reclamation anddata collecting. Before the council visits, permission and blessing from the relevant authorities were sought. Additionally, students wereinformed one day before to the visit, through social media groups.

Sample Size:

Based on a 5% margin of error, a 95 percent range of confidence, a student's population of 1000, and 50-percent distribution of response, a sample size of451 was chosen. A total of 350 students were given the questionnaire; 420 of them agreed to fill it out and consented to the ease of their anthropometric dimensions being recorded, yielding a rate of response 91.43%.

Ethics-Related Matters:

Prior to the study's launch, the Riphah International University in Lahore received the appropriateethical commission's blessing.

Analytical Statistics:

Data dissected through the SPSS Inc.'s statistical software for social science interpretation 26. The demographics section's outcome was presented as a frequency, total chance, or standard deviation. A statistically significant association should be investigated between all of the variables there were cross tabulations using Pearson's Chi-square. The statistical significance was determined by settingthe alpha level at 0.05. The relationship between eating habits and rotundity was also investigated using a multivariate logistic retrogression model.

RESULTS

Parameters of a sample

The demographic information of the research participants is covered in the first portion of the questionnaire, and the findings are displayed in Table 1. In all, 420 students took part in the study, and 219 52.5% of them were male students. 197 people remained in the study, and 47.3% of them were female students, made up of 47.3%. The respondents' average age was determined to be 21.01 + 2.35 years. The study's biggest proportionof participants n = 150; 36.1% came from the college of pharmacy, while its smallest proportion n = 38; 9.1% came from the college of public health. The fourth year of the research n = 122 29.2% made the largest contribution, while the sixth year n = 88 21.1% made the smallest contribution.

The bulk of the participants in the study n = 239 lived in remote areas, whereas the minority n = 177.1 did so in cities. Few frequent smokers—n = 75 18.2%—and few chain smokers—n = 16 4.0%—compare to the large majority of participants—n = 322 76.5%—who were nonsmokers. In terms of proportion of study participants, the age group 18–20 had the most representation n = 216; 51.9%, while the age group 24–25; n = 98; 23.6% had the lowest. Obesity 14.9% and overweight 21.4% were quite common among participants. Of the participants, it was found that 51.4% were within the normal weight range and 13.2% were underweight.

Dietary practices

Results of the second half portion of questionnaire, which inquired about the eating habits and practices of the research participants as well as their

awareness of the risks connected with obesity, are displayed in Table 2.

In the current study, it was discovered that the participants who were overweight did so on a daily 54.8% or at least three to four times per week 27.4% basis, compared to the participants who were obese, who did so on a daily 61.2% or at least three to four times per week 17.6% basis. Similar to the previous point, it was discovered that a a large proportion of obese students 67.1% regularly drank caffeinated or energy drinks while playing video games or games on their mobile phones. Additionally, it was found that overweight 51.8% and obese 74.2% participants eat snacks in addition to their three meals each day p 0.001.

This study's alarming finding was that the obese 33.7% and overweight 25.8% students consumed energy drinks on their own every day. The proportion of students who consumed the same thing at least three to four times per week was 19.3% and 28.1%, respectively, for obese and high weight students p = 0.012. Another distressing revelation of the current study is that university students regularly consume carbonated or flavored beverages. Over 50% of those who regularly consumed carbonated or flavored beverages were either fat 54.9% or overweight 51.7%. Intake of fiber-rich fruits and vegetables did not result in any statistically significant findings p = 0.331. The familiar non-significant result was seen when family members ate home-cooked food p = 0.243. Another risky eating behavior was revealed when it was found that the obese persons ate fast food daily 23.4% or at least three to four times per week 44.3% p0.001.

Eating habits

The children were asked if they ate at a table or while squatting down as is traditional in Islam. It is discovered 83.8% fat pupils and 71.7% of overweight students ate at the table. Comparatively, 62.5% of the 216 research individuals who were of normal weight squatting on the ground, they ate their meals, as is customary in Islam p 0.001. A significant connection between the groups that were observed and eating three meals a day was not found p = 0.077. Among research participants who were overweight 65.8% or obese 58%, midnight snacking was a common hazardous eating behavior p 0.001. Furthermore, it was found that a substantial portion of students who are obese 55.9% dozed out shortly after completing dinner. Additionally, 35.2% of kids who were deemed to be overweight had the same detrimental behavior p = 0.01. However, only 72.3% of the students with evenly distributed weight engaged in this behavior. Another negative behavior noted across all weight groups was not going for a stroll after dinner. The greatest percentages were for overweight students 77.6% and obese students 90.3%. Surprisingly, this detrimental habit was practiced by both students who were underweight 70.8% and those who were normal weight 70.1% p0.05. 40% of those who were overweight and 59.6% of those who were obese participants said they rarely or never exercised p 0.001. In addition, 38.5% of obese students and 38.6% of overweight students stated they disliked it when asked what type of exercise they preferred p 0.001.

Comprehending the dangers obesity poses to one's health

The majority of study participants were not aware of the serious health issues associated with obesity, such as respiratory issues 84.4%; p0.01; reproductive disorders 90.4%; p0.001; liver and gallbladder diseases 80.5%; p0.05; reproductive disorders 90.7%; and reproductive disorders 90.2%. The responses to the various threats are described in Table 2. Displays the results of multiple logistic regression. In comparison to urban areas, obese college students were shown to be less likely to live in rural areas AOR: 0.20 C.I. 95%; 0.06-0.63; p0.01.

Surprisingly, we discovered that in our study population, the risk of obesity was 0.05 times lower among ex smokers than among non-smokers. AOR: 0.05; C.I., 94.5%; 0.01-0.51; p0.05. Furthermore, it was discovered that students who frequently ate while using their laptops or mobile devices to play video games had a 7.9 higher risk of being obese than those who rarely did so AOR:7.11; C.I. 94.8%:2.40-21.07; p0.001. Additionally, it was discovered that pupils who frequently ate snacks in addition to meals had an 11.52 times higher risk of being fat. AOR: 11.52, C.I. 95%: 3.04–43.63, p0.001.

Students who regularly drank energy drinks had a 6.45 times increased likelihood of being overweight than those who only occasionally drank them. AOR: 6.45; CI 94.5%: 1.58-26.43; p = 0.05. Similar to this, students who regularly drank carbonated or flavored drinks had an 8.85 times higher risk of being obese than those who did so only sometimes AOR: 8.82; CI 95%: 2.53-30.90; p0.01. The odds of being fat were 6.78 times higher for students who ate at the dining table compared to those who ate while crouching on the ground as is customary in Islam AOR: 6.75; C.I. 94.5%: 2.55-17.80; p0.001. Additionally, those who did not indulge in late-night snacking had a lower risk of being obese than those who did AOR: 0.08; C.I. 94.5%: 0.03-0.23; p0.001. Students who worked out in the gym were less likely to be overweight than those who did not want to exercise, comparable to the type of exercise they favored. AOR: 0.08; 94.8% CI: 0.02-0.40.1; p=0.01.

Table 1. Demographics / sample characteristics.

Variable	Options	Frequency	Percentage
Gender	Male	219	52.5
	Female	199	47.3
Age Group in years	18–20	215	51.8
	21–23	101	24.4
	24–26	97	23.5
College	College of pharmacy	150	36.0
	college of medicine	70	16.8
	College of dentistry	40	9.5
	College of nursing	50	12.0
	College applied health	68	16.3
	College of	38	9.0

	public health		
Level	3rd Year	112	26.8
	4th Year	122	29.2
	5th Year	94	22.5
	6th Year	88	21.1
Location	Rural	239	57.4
	Urban	177	42.4
Smoking History	Non-Smoker	323	77.5
	Current Smoker	76	18.2
	Past Smoker	17	4.0
Body mass index	Underweight	55	13.1
	Normal	214	51.2
	Overweight	85	20.4
	Obese	62	14.8

	Minimum	**Maximum**	**Mean**	**Std. Deviation ±**
Age–Males	18	25	21.03	± 2.35
Age–Females	18	25	20.96	± 2.34
Height cms–Males	160.9	188.7	175.02	± 5.43
Height cms–Females	141.2	174.2	158.61	± 7.91
Weight kgs–Males	43	135	77.67	± 16.94
Weight kgs–Females	36.6	102	60.70	± 14.32
BMI–Males	15.7	41	25.31	± 5.1
BMI–Females	14.8	41.3	24.0	± 5.23

Eating behavior

1. **How frequently do you eat or drink snacks and energy or fizzy beverages while watching TV?**

	Underweight	Normal	Overweight	Obese	Total %	P-Value
Everyday	11 21.7%	733 4.5%	51 61.1%	335 4.9%	17141.2%	p<0.001
3–4 times/week	8 14.5%	33 15.4%	15 17.6%	17 27.4%	73 17.5%	
1–2 times/week	13 23.6%	15 7.0%	7 8.2%	6 9.7%	41 9.9%	
Seldom/Rarely	22 40%	92 43.0%	11 12.9%	5 8.1%	130 13	

2. **How frequently do you eat or drink snacks and energy or carbonated beverages while playing video games or mobile phone games?**

Everyday	14 40	37 17.3%	48 56.5%	41 66.1%	143 34.4%	p<0.001
3–4 times/week	5 9.1%	26 12.1%	17 20.0%	5 8.1%	53 12.7%	
1–2 times/week	11 20.0%	51 23.8%	5 5.9%	7 11.3%	74 17.8%	
Seldom/Rarely	22 40.0%	100 46.7%	15 17.5%	9 14.4%	1455.1%	

3. **How often do you eat snacks in addition to your three meals every day??**

Everyday	21 38.2%	84 39.3%	44 51.8%	46 74.2%	195 46.9%	p<0.001
3–4 times/week	22 40.0%	77 36.0%	31 36.5%	9 14.5%	139 33.4%	
Seldom/Rarely	12 21.8%	53 24.8%	10 11.8%	7 11.3%	82 19.7%	

4. **How often do you consume energy drinks?**

Everyday	12 21.8%	34 15.9%	22 25.9%	21 33.9%	89 21.4%	0.013 p<0.05
3–4 times/week	11 20.0%	66 30.8%	24 28.2%	12 19.4%	113 27.2%	
1–2 times/week	24 43.6%	76 35.5%	34 40.0%	17 27.4%	151 36.3%	
Seldom/Rarely	8 14.5%	38 17.8%	5 5.9%	12 19.4%	63 15.1%	

5. **How frequently do you drink flavored or carbonated beverages?**

Everyday	18 32.7%	37 17.3%	44 51.8%	34 54.8%	133 32.0%	p<0.001
3–4 times/week	7 12.7%	32 15.0%	27 31.8%	11 17.7%	77 18.5%	
1–2 times/week	19 34.5%	55 25.7%	6 7.1%	10 16.1%	90 21.6%	
Seldom/Rarely	11 20.0%	90 42.1%	8 9.4%	7 11.3%	1167.9%	

6. **How often do you consume fiber-rich fruits and vegetables??**

Everyda	8	22	11	10	51 12.3%	0.3

y	14.5%	10.3%	12.9%	16.1%		32
3–4 times/week	6 10.9%	42 19.6%	11 12.9%	9 14.5%	68 16.3%	
1–2 times/week	32 58.2%	135 63.1%	55 64.7%	35 56.5%	257 61.8%	
Seldom/ Rarely	9 16.4%	15 7.0%	8 9.4%	8 12.9%	40 9.6%	

7. **How frequently do you eat home-made food with your family?**

Everyday	19 34.5%	59 27.6%	18 21.2%	14 22.6%	110 26.4%	0.244
3–4 times/week	13 23.6%	52 24.3%	28 32.9%	23 37.1%	116 27.9%	
1–2 times/week	14 25.5%	78 36.4%	24 28.2%	17 27.4%	133 32.0%	
Seldom/ Rarely	9 16.4%	25 11.7%	15 17.6%	8 12.9%	57 13.7%	

8. **How frequently do you consume fast food?**

Everyday	8 14.5%	34 15.9%	30 35.3%	13 21.0%	85 20.4%	p<0.001
3–4 times/week	22 40.0%	60 28.0%	34 40.0%	27 43.5%	143 34.4%	
1–2 times/week	15 27.3%	3114.5%	14 16.5%	11 17.7%	71 17.1%	
Seldom/ Rarely	10 18.2%	89 41.6%	7 8.2%	11 17.7%	117 28.1%	

Eating practices

9. **What sitting plan do you use when you eat your food?**

On Dining Table	31 56.4%	80 37.4%	61 71.8%	52 83.9%	224 53.8%	p<0.001
Islamic way of squatting on the ground	24 43.6%	134 62.6%	24 28.2%	10 16.1%	192 46.2%	

10. **Do you take meals three times in a day?**

Yes	47 85.5%	200 93.5%	73 85.9%	53 85.5%	373 89.7%	0.077
No	8 14.5%	14 6.5%	12 14.1%	9 14.5%	43 10.3%	

11. **Do you indulge in midnight snacking in your daily routine**

Yes	10 18.2%	48 22.4%	56 65.9%	36 58.1%	150 36.1%	p<0.001
No	45 81.8%	166 77.6%	29 34.1%	26 41.9%	266 63.9%	

12. **Do you sleep immediately after having your dinner?**

Yes	22 40.0%	59 27.6%	30 35.3%	34 54.8%	145 34.9%	0.001 p<0.001
No	33 60.0%	155 72.4%	55 64.7%	28 45.2%	271 65.1%	

13. **Do you do walk for a while after having dinner?**

Yes	16 29.1%	64 29.9%	19 22.4%	6 9.7%	105 25.2%	0.011 p<0.05
No	39 70.9%	150 70.1%	66 77.6%	56 90.3%	311 74.8%	

Physical activity

14. **How frequently do you exercise?**

Everyday	13 23.6%	78 36.4%	11 12.9%	7 11.3%	109 26.2%	p<0.001
3–4 times/week	6 10.9%	68 31.8%	22 25.9%	6 9.7%	102 24.5%	
1–2 times/week	15 27.3%	26 12.1%	18 21.2%	12 19.4%	71 17.1%	
Seldom/Rarely	21 38.2%	42 19.6%	34 40.0%	37 59.7%	134 32.2%	

15. **What type of physical activity do you do?**

Walking	10 18.2%	29 13.6%	25 29.4%	20 32.3%	84 20.2%	p<0.001
Running	17 30.9%	59 27.6%	8 9.4%	5 8.1%	89 21.4%	
Swimming	13 23.6%	64 29.9%	11 12.9%	7 11.3%	95 22.8%	
Work out Gym	6 10.9%	52 24.3%	8 9.4%	6 9.7%	72 17.3%	
Do not like to Exercise	9 16.4%	10 4.7%	33 38.8%	24 38.7%	76 18.3%	

Awareness of the health risks associated with obesity

16.1 : syndrome of metabolism

16.1: syndrome of metabolism						
Yes	10 18.2%	27 12.6%	13 15.3%	4 6.5%	54 13.0%	0.252
No	45	187	72	58	362	

	81.8 %	87.4 %	84.7 %	93.5 %	87.0 %	

16.2 : diabetic type -2

Yes	35 63.6 %	147 68.7 %	45 52.9 %	36 58.1 %	263 63.2 %	0.062
No	20 36.4 %	67 31.3 %	40 47.1 %	26 41.9 %	153 36.8 %	

16.3 : Hypertension

Yes	36 65.5 %	167 78.0 %	49 57.6 %	47 75.8 %	299 71.9 %	0.003 p<0.01
No	19 34.5 %	47 22.0 %	36 42.4 %	15 24.2 %	117 28.1 %	

16.4 : CAD and Stroke

Yes	42 76.4 %	149 69.6 %	46 54.1 %	42 67.7 %	279 67.1 %	0.026 p<0.05
No	13 23.6 %	65 30.4 %	39 45.9 %	20 32.3 %	137 32.9 %	

16.5 : LUNG Disorders

Yes	15 27.3 %	22 10.3 %	11 12.9 %	16 25.8 %	64 15.4 %	0.001 p<0.01
No	40 72.7 %	192 89.7 %	74 87.1 %	46 74.2 %	352 84.6 %	

16.6 : FERTILITY Disorders

Yes	6 10.9 %	6 2.8%	17 20.0 %	11 17.7 %	40 9.6%	p<0.001
No	49 89.1 %	208 97.2 %	68 80.0 %	51 82.3 %	376 90.4 %	

16.7 : Osteoarthritis

Yes	25 45.5 %	46 21.5 %	30 35.3 %	26 41.9 %	127 30.5 %	p<0.001
No	30 54.5 %	168 78.5 %	55 64.7 %	36 58.1 %	289 69.5 %	

16.8 : Liver /Gallbladder diseases

Yes	9 16.4 %	32 15.0 %	21 24.7 %	18 29.0 %	80 19.2 %	0.040 p<0.05
No	46 83.6 %	182 85.0 %	64 75.3 %	44 71.0 %	336 80.8 %	

16.9 : All of the above

Yes	6 10.9 %	16 7.5%	13 15.3 %	6 9.7%	41 9.9%	0.234
No	49 89.1	198 92.5	72 84.7	56 90.3	375 90.1	

	%	%	%	%	%	

16.10 : None of the above

Yes		40 72.7 %	149 69.6 %	71 83.5 %	43 69.4 %	303 72.8 %	0.093
No		15 27.3 %	65 30.4 %	14 16.5 %	19 30.6 %	113 27.2 %	

DISCUSSION

It was noted that in the current study, the prevalence of obesity and overweight was 14.9% and 20.4%, respectively, in the study sample of 420, which was reasonably similar to the percentages of obesity and overweight established by Al Reithaa et al. in their sample size of 351. [18] In contrast, underweight students tended to be more prevalent among female students. Normal weight students were grouped similarly across genders. Similar observations of rising percentages of underweight among female pupils were found by Yahia et al. [19] This could be attributed to Pakistani society's modernization making our younger generation, particularly young female students, more conscious of their weight and body image. In terms of eating habits, it was observed that the majority of overweight and obese students consumed snacks/foods with carbonated beverages while watching television as well as participated in video or mobile gaming. A.O. Musaiger and others. Television viewing and obesity are positively correlated, according to J Vioque et al. and T Liang et al. [20-22]. Al-Hazzaa HM et al claim that viewing television and playing video games on a laptop, computer, or mobile device are contributing factors to inactivity [23]. Along with having a connection to overweight and obesity, MB Neutzling et al. also view time spent watching television, playing video games, or using a laptop/computer as an indirect indicator of a sedentary lifestyle [24]. There is less possibility that a person will engage in physical exercise as a result of the increased time spent passively watching television, playing video games on a computer or mobile device, eating or drinking unhealthy foods, and engaging in these behaviors. Additionally, we were able to draw connections between consuming energy drinks while watching television and playing mobile or videogames linked to obesityDaily snacking, in addition to the three meals, is a habit that is common among obese and overweight students, which is similar to the findings of Al- Rethaiaa et al [18]. Consuming or drinking energy drinks is one of the most popular habits amongcollege students [25]. In our study, a similar finding was obtained regarding the daily consumption of energy drinks by more than a quarter of obese and overweight students. The semester's severe and condensed schedule, which includes intense and stressful situations that arise as a result of several tests, pop quizzes, assignments, and project work, is probably the cause of our students' excessive use of energy drinks. According to a study by Kabir A et al. [26], students' eating habits are significantly impacted by exam stress. A Deliens et al. [27] reported results that were related.

Participants stated that their eating habits changed during the academic year and during the exam time. Furthermore, we were able to demonstrate a direct connection between consuming flavored or carbonated beverages and obesity. Drinks with extra sugar may make people fat. [26]. The eating of meals with the family and obesity were not related, either. It was estimated that 85% of students at Riphah International University resided off-campus, highlighting the possibility that doing so might not be the best choice. Additionally, it has been established that living with family is the only and primary source of obesity [29]. who looked into the connection between food intake and living arrangements of university students in four different European countries reached the same conclusion, claiming that fast food and snack consumption had no bearing on housing.

Preliminary research from a number of institutions found that students did not consume fruits and vegetables in the recommended amounts, and that food with high fat content was consumed at a higher rate 33–35. The fact that more than half of the students believed that fat and fat ingested fiber- rich fruits and vegetables just once or twice per week was another similar observation we found. Fast food consumption and rotundity were found to be statistically significantly correlated in the current investigation. It also made a similar discovery about how less vegetable consumption and more adipose food and drink consumption occurred throughoutthe early years of collegiate life. Combination efforts must be made to educate the students by using forums, donations, and colloquies to highlight the harm caused by colored unhealthy eating behaviors and their key role in increasing the prevalence of rotundity. While researching the students at Riphah International University, it reached a similar conclusion. He established a distinct cluster structure for eating habits. The clusters of poor eating behavior and mixed eating activities included nearly 30.5 of the sample. These are the two groups that demonstrate eating behaviors thought to be risky29. Interventions are urgently needed among students at the Riphah University to promote healthy eating behaviors due to the high frequency of eating behaviors that are thought to be detrimental.

To the best of the authors' knowledge, this is the first study to explore and establish a relationship between rotundness and the manner in which food is consumed, whether that be the ultramodern manner of eating at a dining table or the traditional Islamic manner, which is still practiced in somecountries. One of the interesting results of our research was the observation that a disproportionately large number of obese students ate at the dining table. On the other hand, a significant part of the pupils who were of normal weight ate their food while squinching on the ground, creating a clear correlation between being rotund and eating at the table. The most likely explanation for this could be that Muslims frequently eat when thickset down with one or both legs pressing against the stomach. A false impression of wholeness may result from eating in this position and the pressure from the legs pressing against the stomach, which discourages overeating.

Many of the study's female participants believed that munching in the middle of the night was aprevalent bad habit.

reported a similar discovery 28. Our study also established a link between rotundness and a bad habit like napping right after regale, which was a novel discovery. Following regale, it wasn't unusual to continue walking for some time. Additionally, it was found that almost all of the students were unaware of the multiple health risks connected with rotundity, including metabolic pattern, reproductive disorders, respiratory illnesses, liver and gallbladderissues, and liver and respiratory diseases. A risky combo is an active lifestyle and poor dietary habits. In order to reduce any potential health risks posed by rotundity and to learn more about these rotundity-related threat factors, it is crucial to encourage the students to change their various eating habits and inactive lifestyles as well as to increase their physical activity. The inclusion ofboth genders is one of the study's benefits, as opposed to many other studies that had a gender bias and only included female students. Being the sole institution in the entire province, Riphah International institution included and researched students from all different socio-demographic categories. Even though there have been numerous studies that have evaluated eating behaviors among university students, eating practices have largely remained unexplored. Therefore, it is important to recognize that our evaluation of eating behaviors in our study sample and our evaluation of the students'awareness of the risks associated with rotundity constitute one and the same thing.

ETHICS APPROVAL: The ERC gave ethical review approval.

CONSENT TO PARTICIPATE: written and verbal consent was taken from subjects and next of kin.

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