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Eating Habits and Lifestyle Practice of Young Adults in Karachi, Pakistan; A Cross-Sectional Survey

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ABSTRACT

Each year in Pakistan about 35% to 40% of deaths occur due to cardiovascular disease that is mainly caused by decreased physical activity and unhealthy food consumption. Obesity among young people is a serious public health issue because it is frequently associated with multiple metabolic syndromes. **Objective:** To determine young adults' eating habits and lifestyle practices and compare this among male and female genders. **Methods:** A total of 249 participants aged between 18 to 25 years young adults were recruited from different universities using a non-probability convenient sampling technique. The participants' eating habits and lifestyle practices were analyzed using a self-designed questionnaire. **Results:** Among 249 students, 43.8% were male 56.2% were female. Statistically, there was a significant difference found between the two genders in the consumption of water ($p<0.001$), and meal consumption daily ($p=0.007$), Eating habits after joining university ($p=0.44$), thinking of physically strong ($p=0.001$), Physical inactivity ($p<0.001$) and their preferred living place in leisure time ($p<0.001$). **Conclusions:** This study concluded that most of the female were involved in unhealthy dietary habits concerning skipping meals and having fast food, whereas there is no difference found between genders in their physical activity. However further research should be conducted to explore the relation of eating habits and lifestyle in gender.

INTRODUCTION

Physical activity is defined as any action of the body that causes an increase in energy expenditure. It can range from sedentary to very active and it is a necessary component of a healthy lifestyle [1]. A healthy lifestyle is defined as a set of positive lifestyle patterns, habits, and practices that contribute to an individual's overall health, a sedentary lifestyle, on the other hand, is well-defined as a pattern of behavior in which people spend more time in sitting or reclining back with little or no energy expenditure (less than 1.5 according to METS) [2, 3]. A person's nature is the influence of their relationship with food, social life, and culture with the environment which are normally referred to by their eating habits. The eating habits of an individual are marked as healthy when they follow the national dietary plans and recommendations that are purely based on international guidelines. If not, so they will be considered unhealthy dietary plans like eating junk food which includes; snacks, fast food, and supplement drinks in excess amounts which can cause various types of health-related issues. In young and middle adulthood, people skip their meals and use high carbs and junk foods [4]. According to the United Nations' World Health Organization

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(WHO), Health risk behaviors that begin in adolescence are the primary cause of disease in adults (e.g., unhealthy eating practices). Each year in Pakistan about 35% to 40% of deaths occur due to cardiovascular disease that is mainly caused by decreased physical activity and unhealthy food consumption [5]. Childhood and adolescents' poor dietary choices and lifestyle patterns will continue till their adulthood and they have a great risk of various nutritional problems in their lives [6]. Obesity is one of the most common chronic diseases in young adults; on the other hand, it is the most common nutritional disorder in children worldwide, with prevalence increasing in both developed and developing countries, affecting all social and economic groups, both sexes, all ages, and ethnic groups [7]. Obesity among young people is a serious public health issue because it is frequently associated with metabolic syndrome, type II diabetes mellitus, hypertension, dyslipidemias, and more frequent sleep disturbance, US students showed a significant difference in their weight with men being more obese as compared to women [8,9]. Being active is slightly different between male and female populations, because males are more involved in physical activities to perform their recreational work, while most of the females do activities because they mostly want to reduce their weight or to maintain it [10,11]. There is a difference in food consumption between the two genders according to studies, like female population used to eat more vegetables and fruits but they also ate more sweets as compared to the male population, while the male used a diet which is high in protein as well as rich in fat, they also drink wine, cold drinks [12]. According to psychological factors, many adults are used to eating more when they feel bored or even when they are happy, this figure is significantly higher in females than males [13]. Men with more physical work mostly like to consume more meat, they show a positive relation about the intake of meat but on the other hand feminine traits are more likely to eat a vegetarian diet [14]. The female population has an increased chance of greater nutritional insecurities as compared to the male population. In poor Asian and African countryside females are 2% more involved in food insecurities than males [15]. Fast food consumption gives 58% of energy demand and 89% more added sugar which is related to more weight gain and this connection is more pronounced in females So, to establish a Healthy lifestyle, a person should adopt good eating habits and do physical activities daily [16, 17].

This study aimed to determine the eating habits and lifestyle of young adults and also to compare these patterns concerning gender. This might have a favorable or detrimental influence on young adults' health, promoting or discouraging healthy lifestyles.

METHODS

A Cross-sectional study was conducted among university-going students in Karachi, Pakistan from February 2023 to July 2023. Data were collected from young adults, including males and females in the age group of 18-25 residing in Karachi, Pakistan. All those participants who were using any medications that may impact eating habits had a history of any psychological eating issues, and did not provide consent to participate in the survey were excluded from the study. A Non-probability convenient sampling technique was used. The sample size for the study was calculated using Open Epi version 3.0 (18) with an error margin of 5 % and a 95 % confidence interval of 249. Data were collected with the help of self-designed questionnaires that included fifteen close-ended questions to assess the general eating habits among young adults and the lifestyle practices of participants (the questions were related to the number of meals consumed each day, water intake, meal choices related to home cooked or junk food preferences, change in eating habits, lifestyle pattern, engagement in physical activity and sleep pattern). The research team surveyed different universities to approach young adults in the age group of 18-25 years. The purpose of the study was explained to the participants. The data were analyzed statistically using IBM SPSS (Statistical Package for Social Sciences) version 20.0. To determine the distribution of data, a test of normality was applied. To provide a comprehensive overview of the variable, descriptive statistics were used to evaluate the mean frequency and percentage. An Independent sample t-test was applied to compare the test values. Institutional review board approval was attained in February; reference number (ASC-PT-007/02/2023) and participants were asked to fill out a consent form for voluntary participation. Following the written informed consent taken by participants, they were enrolled in the study and asked to fill out the questionnaire. Confidentiality was maintained throughout the study.

RESULTS

The survey was collected from 249 young adults in Karachi, Pakistan. The response rate was 100%. Among 249 students, n=109 (43.8%) were male whereas n=140. (56.2%) were female. The participants with age 18-20 were 65(26%), in the 21-23 age group were 148 (59.4%) students whereas, in the 24-25 years of age group, participants were only 36 (14.5%). Table 1 represents the response of the questionnaire on water consumption, it is found that the majority of the females consume 6 glasses of water per day and most of the males consume 8 glasses of water per day. Regarding the question of consuming three meals a day, it was found that only 39 (35.8%) males regularly consume 3 meals daily whereas females who consume habitually were

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84 (60%). In response to the question regarding breakfast during the study period, it was calculated that only 49 (45.0%) males and 79 (56.4%) females had breakfast at home and we also found that 12 (11.0%) males whereas 44 (31.4%) females who neither have their breakfast at home nor canteen/cafe. By using a questionnaire, it was found that there were 63 (57.8%) males and 92 (65.7%) females who followed unhealthy lunch patterns and consumed restaurant fast food during their study hours. It was also found that there were 35 (32.1%) males and 34 (24.3%) females who consumed fast food every day during their study period. In response to the question regarding the change in participants eating patterns after getting into university, it was concluded that there were 71 (65.1%) males and 108 (77.1%) females whose eating patterns changed a lot since they started university (Table 1).

Table 1: Response of Participants Associated with Eating Habits

Questions	Options	Responses		p-Value
		Male N (%)	Female N (%)	
Water Consumption Per Day	2 liter (8 Glasses)	64 (58.7)	32 (22.9)	<0.001
	1.5 liter (6 Glasses)	29 (26.6)	59 (42.1)	
	1 liter (4 Glasses)	16 (14.7)	49 (35.0)	
Consumption of Three Meals Per Day	Regularly	39 (35.8)	84 (60.0)	0.007
	Sometimes	65 (59.6)	38 (27.1)	
	Not at all	5 (4.6)	18 (12.9)	
Consumption of Breakfast During Studies	Home	49 (45.0)	79 (56.4)	0.879
	Canteen	48 (44.0)	17 (12.1)	
	Never	12 (11.0)	44(31.4)	
Lunch During the Period of the Lesson	Home	19 (17.4)	35 (25.0)	0.600
	Canteen	27 (24.8)	13 (9.3)	
	Fast Food Restaurant	63 (57.8)	92 (65.7)	
Consumption of Lunch During Studies	Everyday	35 (32.1)	34 (24.3)	0.109
	More than Once in a Month	68 (62.4)	93 (66.4)	
	Not At All	6 (5.5)	13 (9.3)	
Consumption of Fast Food During University Hours	Yes, A Lot	71 (65.1)	108 (77.1)	0.049
	Yes, But Not Much	35 (32.1)	27 (19.3)	
	Not At All	3 (2.8)	5 (3.6)	

Table 2 represents the responses associated with weight analysis; it was found that 20 (14.3%) females are more prone to being underweight rather than 13 (11.9%) males. and it was also found that 69 (63.2%) males and 86 (61.4%) females were normal weight. In the lifestyle patterns, 36 (33.0%) males and 46 (32.9%) females are living sedentary lifestyles while other participants 67 (61.5%) males and 74 (52.9%) females are active while the remaining is highly active. Regarding the question of physically strong it was found that 44 (40.4%) males and 22 (15.7%) females are physically strong while others are not much at all. In leisure time the extracurricular activities participants are 37 (33.9%) males and 22 (15.7%) females daily. In other questions about being physically inactive, it is found that 58 (53.2%) males and 37 (26.4%) females are physically inactive (Table 2). Responses on the questionnaire in the weight category, it is found that 20 (14.3 %) females are underweight as compared to males, and 13 (11.9 %) males are underweight. The frequency of females who are of normal weight is 86 (61.4 %) whereas 69 (63.2 %) are male. It is observed that there is no greater difference in living a sedentary life among males and females but there is a remarkable difference in activity level among both genders as shown in Table 2 there are 67 (61%) males are active whereas only 74 (52.9%) are active females. It is noted that 37 (33%) of males are involved in extracurricular activities in their leisure time whereas only 22 (15.7%) females are involved in activities daily according to table 2.

Table 2: Participant Responses Associated with Lifestyle Patterns

Questions	Options	Responses		p-Value
		Male N (%)	Female N (%)	
Weight Analysis	Under Weight	13 (11.9)	20 (14.3)	0.729
	Normal Weight	69 (63.3)	86 (61.4)	
	Over Weight	27 (24.8)	34 (24.3)	
Lifestyle Patterns	Sedentary	36 (33.0)	46 (32.9)	0.355
	Active	67 (61.5)	74 (52.9)	
	Highly Active	6 (5.5)	20 (14.3)	
Physically Strong	Yes, a lot	44 (40.4)	22 (15.7)	0.001
	Yes, but not much	51 (46.8)	102 (72.9)	
	No, not at all	14 (12.8.)	16 (11.4)	
Extracurricular Activities in Leisure Time	Everyday	37 (33.9)	22 (15.7)	<0.001
	More than Once a Month	64 (58.7)	77 (55.0)	
	Never	8 (7.3)	41 (29.3)	
Being Physically Inactive	Yes, a lot	58 (53.2)	37 (26.4)	<0.001
	Yes, but not much	37 (33.9)	77 (55.0)	
	No, not at all	14 (12.8)	26 (18.6)	

According to table 3, the response to the questionnaire about worrying about everyday problems showed that females are more prone to stress than males and males can manage everyday problems nicely as compared to females. It is found that 84 (60%) females get worried easily about everyday problems whereas males are only 56 (51.4%) Regarding the question period of lessons they live, it was found that 63 (57.8%) males live with their families during the period of lessons whereas 122 (87.1%) female lives with their families during study hours, Regarding the question make an effort to feel happy and content, it was found that 65 (59.6%) males make an effort to feel happy whereas, 72 (51.4%) females make an effort to be happy, regarding the question about how many hours do you sleep on an average at night 37 (33.9%) males sleep 3 to 5 h on an average at night whereas 53 (37.9%) females sleep 3 to 5 h on an average at night. The statistically significant difference between males and females was found in the consumption of water ($p<0.001$), consumption of three meals daily ($p=0.007$), change of eating habits after joining university ($p=0.49$), thinking of being physically strong ($p=0.001$),

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extracurricular activities in leisure time (p<0.001), physically inactive (p<0.001) and living place during study (p<0.001).

Table 3: Participant Responses on Sleeping Habits

Questions	Options	Responses		p-Value
		Male N (%)	Female N (%)	
Worrying about Everyday Problems	Yes, A Lot	56 (51.4)	84 (60.0)	0.073
	Yes, But Not Much	36 (33.0)	47 (33.6)	
	No, Not At All	17 (15.6)	9 (6.4)	
Living While Study	With Your Family	63 (57.8)	122 (87.1)	<0.001
	With Your Relatives	10 (9.2)	7 (5.0)	
	With Your Friends	36 (33.0)	11 (7.9)	
Feel Happy and Content	With Your Family	65 (59.6)	72 (51.4)	0.737
	With Your Relatives	26 (23.9)	61 (43.6)	
	With Your Friends	18 (16.5)	7 (5.0)	
Sleeping Hours	3 to 5 hours	37 (33.9)	53 (37.9)	0.271
	6 to 8 hours	57 (52.3)	76 (54.3)	
	9 to 10 hours	15 (13.8)	11 (7.9)	

DISCUSSION

The purpose of this study was to access and analyze young adults' lifestyle practices to educate them about a good and healthy lifestyle, as well as to assess the effectiveness of how gender-based eating patterns affect young people. It was found that there was no significant difference in water consumption among genders but there was a significant difference in eating habits among both genders. There is a huge amount of scientific evidence that suggests eating fast food frequently can be bad for one's health. This is due to the high levels of sugar, salt, saturated fat, processed components, and calories in the majority of fast food. Additionally, it typically has low levels of fiber, antioxidants, and many other minerals. The main findings are that eating breakfast regularly and eating home-cooked meals are preventative factors against a poorer QOL across all of its aspects. However, eating fast food and sugary snacks are risk factors for low QOL. [19]. A survey study conducted by Ushula *et al.*, on the students, revealed that missing meals especially breakfast is prevalent among university students (63.1% of them missed breakfast on less than one day). Missing breakfast is common in young adults, especially students [20]. Many experts have asserted that eating breakfast must be healthy. Numerous studies indicated that those who eat breakfast are more likely to be in better health, but they cannot establish that breakfast consumption was the direct reason. Breakfast eaters probably have other healthy living practices that can account for this admission to a university may cause significant changes in the pattern of exposure to health risks Sahrin S *et al.* proposed this in their study. She also stated that some males and females have changed their eating habits after attending university while other males and females have changed but not much while others have not changed their eating habits. Healthy eating leads to a healthy person and a beautiful peaceful mind which makes a person healthy [22]. The main objective of this study was to assess and inquire about young adult males and females perceptions regarding their weight and in which category they fall. There is a rich literature devoted to the role women play in ensuring the food security of the household and other household members. However, relatively little attention has been paid to their food security situation. This was studied in detail by Broussard NH *et al.*, where almost all females and males consider themselves as having normal weight while others having an overweight female are more than males and others underweight [15]. Sahrin S *et al.*, discussed in detail the relationship between physical activity, sedentary behavior, and the subjective and objective indications of quality of life as well as life satisfaction among university students, whose education is related to different dimensions of health. Having a good lifestyle makes a difference between a healthy person and an unhealthy person this study has shown that some males and females are active and few males and females are highly active while others have a sedentary lifestyle without having any regret. This sedentary lifestyle affects them physically, mentally, emotionally, and socially. Sedentary behavior during the week related positively with the subjective quality of life and its intimacy dimension, but sedentary behavior at the weekends was negatively related to the objective and subjective quality of life as well as dimensions including intimacy, safety, and communicative aspects of life. Neither physical activity nor sedentary behavior demonstrated a significant relationship with the level of life satisfaction [22]. In this study, it has been observed that some males and females consider themselves physically strong while some of them do not. Activities in our lives play an important role which works as therapy for us we have asked a question to young adult males and females do they indulge in extracurricular activities in their leisure time? this makes a big difference in our life mentally and physically too, which we get answered that few males and females do extracurricular activities in their leisure time while some do once a month and others don't. This study is based on limited exposure and through this study, we have observed that young adult males and females are having an unhealthy lifestyle and having unhealthy eating habits which is not a good sign of a healthy person. Healthy eating habits have a positive effect on students' academic performance. However, other factors, such as sleep habits, may be more important [23, 24]. So, according to this study, young adults should have healthy eating habits and good lifestyle practices that give them good life satisfaction and a healthy body. Also, the majority of the participants regardless of gender; males and females showed that they are physically inactive and worried more about their everyday problems leading to depression and anxiety. Masella R *et al.*, reported findings

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similar to our study and claimed that more than 20 % of students have moderate levels of stress and depression which indicates some psychological issues in students. Our study also reflected that more males and females live with their parents as family participation and physical activity help students to practice a good lifestyle, and the type of living and sleeping hours determine the lifestyle of an individual [25, 26]. A study reported that males show healthy lifestyles and have good quality sleep as compared to females because most of the females have household responsibilities that show sleep changes in females [27].

CONCLUSIONS

Young individuals have a high frequency of unhealthy eating habits and lifestyles, and this is greatly influenced by gender. The findings of this study proved that the female gender has an unhealthy food choice predisposition and it does impact the activity status and lifestyle choices. Also, this study reported that regardless of gender; physical activity status remained unchanged. However, similar studies need to be conducted on a larger scale with reliable outcome tools to draw meaningful results that can be generalized across the globe.

Authors Contribution

Conceptualization: FMI[1], FMI[2]
Methodology: SUR, MA[1], MA[2]
Formal analysis: AF
Writing, review and editing: Ma[1]

All authors have read and agreed to the published version of the manuscript.

Conflicts of Interest

The authors declare no conflict of interest.

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