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Original Article

EVALUATING CONCEPT OF HEALTHY EATING IN RELATION WITH PHYSICAL ACTIVITY AND DIETARY HABITS AMONG UNIVERSITY STUDENTS

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ABSTRACT

Objective: To evaluate the physical activities and dietary habits and to determine the concept of healthy eating among university students of Pakistan.

Study Design: Cross sectional survey.

Place and Duration of Study: Three well reputed educational institutes of Lahore Pakistan, from Jul 2019 to May 2020.

Methodology: A questionnaire was used for data collection and validated scientifically as well as linguistically by experts. The questionnaire consists of 4 parts demographic and basic profile of participants i.e., body mass index, age, gender. The rest of parts used to evaluate dietary patterns, physical activities and participant's concept for healthy eating. A total of 324 participants were included in the study and sample size was calculated by using Raosoft sample size calculator by keeping the population size as 200000. The data was collected through online protocols such as by sharing in social media groups of relevant universities. All the collected data was entered and analyzed by using SPSS-21.

Results: Out of 324 participants, there was a major cohort of female participants 202 (62.3%) as well as 209 (64.5%) participants were day scholars. The key findings of current study were observed that the students have satisfactory eating habits and 103 (31.8%) have an active lifestyle; 130 (40.1%) have a normal body mass index; only 142 (43.8%) have quite good nutritional knowledge.

Conclusion: The results specified detrimental behaviors influencing student's dietary habits and they must be considered inevitable for interventions to be made and refining student's responsiveness for acquiring a healthy lifestyle.

Keywords: Dietary propensities, Nutritional information, Physical movement.

How to Cite This Article: *Javed A, Ameer S, Talib H, Bashir I, Jamshaid M. Evaluating Concept of Healthy Eating in Relation with Physical Activity and Dietary Habits Among University Students. Pak Armed Forces Med J 2021; 71(5): 1603-1606. doi: https://doi.org/10.51253/pafmj.v71i5.4466*

INTRODUCTION

Students should be solid, genuinely dynamic, and very much sustained to prevail in their academic life. University is a basic period when deep-rooted ways of life propensities are shaped. It ought to be noticed that it is a significant phase of existence with extraordinary changes in practices.[1] The years spent at the university represent a critical period that is able to influence both the quality of lifestyle and eating habits following long-term impact. Yet, not many studies have conducted to identify the relationship with physical activity and dietary habits during this basic phase of life, depicted as a time of developing adulthood.[2] According to the World Health Organization (WHO), physical inactivity and low intake of fruits and vegetables are considered some of the major preventable risk factors for non-communicable diseases (NCDs). Moreover, the WHO identified physical inactivity as the fourth leading risk factor responsible for 6% of deaths globally.[3]

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Received: 11 Jun 2020; revision received: 10 Dec 2020; accepted: 14 Dec 2020

Number of studies have reported that way of life alteration in teenagers are important in view of the expanded propensity of different inhospitable comfort. That usually results in any case not common for their age, including hypertension, dyslipidemia, and metabolic syndromes.[4] Standard physical activity (PA)/ practice and solid dietary propensities assume significant contributors in forestalling non-communicable diseases (NCD).[5] Although physical movement and solid dietary propensities are useful to human wellbeing, the change from optional school to college is frequently joined by diminished physical action, undesirable dietary propensities and expanded stationary practices-causative operators for the improvement of weight. A few factors may contribute, including food condition, grounds condition, time, religion, and individual inclinations.[6] The customary food habits have been supplanted by more Westernized food habits, which are described by a less intake of dietary fiber, vegetables and organic product, and a high intake of foods wealthy in fat, sugar, and salt. As of now, it is the quickest developing drink class accessible in around 140 Nations of the World, including Pakistan.[7]

Different investigations have likewise demonstrated unhealthy dietary practices among students, for example, skipping suppers, low utilization of leafy foods, high admission of quick nourishments, and low admission of dairy items.[8] According to our understanding, it was the first study conducted to evaluate the dietary habits, physical activities and concept of health eating among university students.

METHODOLOGY

This study was a cross-sectional survey conducted in the period of July 2019 to May 2020. The Data was collected from, 1) University of Central Punjab, 2) University of Lahore, and, 3) Lahore University of Management Sciences, three well-reputed educational institutes in Lahore metropolitan of Pakistan.

The study was evaluated by Research & Ethics Committee (R&EC), Foundation for Young Researchers and data collection was done after ethical approval; (Ref #FYR/R&EC/19/2019; Dated 30th July 2019).

The target sample size was 271, calculated by using online Raosoft sample size calculator. The sample size was calculated by keeping the population size as 200000, response distribution as 50%, while confidence interval and margin of error were set at 90% and 5%, respectively. However, responses of 324 students were added in this study. The data of participants was kept anonymous as well as an informed consent was taken from all participants. Non-probability consecutive sampling technique was used.

Inclusion Criteria: Both male and female students from three public universities were included.

Exclusion Criteria: Non-consenting individuals were excluded.

A defined questionnaire was used for data collection and validated scientifically as well as linguistically by experts. The questionnaire consists of 4 parts as one for demographic and basic profile of participants i.e. BMI, age, gender. The rest of parts used to evaluate dietary patterns, physical activities and participant's concept for healthy eating.

The data was collected through online protocols such as by sharing in social media groups of relevant universities. Both male and female participants were included to for the survey. Random data was collected to avoid biased results as for specific institutes. Form was available online for 7 days and restricted for one time participation. All the collected data was entered and analyzed by using Statistical Package for the social sciences (SPSS) version 21. The results were interpreted in term of frequencies, percentages and difference in dietary and physical habits according to gender.

RESULTS

Out of the 322 participants, 224 (69.1%) were between the 18 and 23 years of age and 98 (30.2%) were older than 23 years. There were 202 (62.3%) female participants and 120 (37%) male participants. The BMI of all members were grouped according to the National Institute of Health standard formula, 103 (31.8%), 130 (40.1%), 65 individuals (20.1%) and n (7.1%) were classified respectively as underweight (BMI≤18.4 kg/m^2), normal weight (BMI=18.5-24.9 kg/m^2), overweight (BMI=25-29.9 kg/m^2), and obese (BMI≥30 kg/m^2) (Table-I).

Table-I: Comparison of Body Mass Index on gender basis.

Body Mass Index (BMI)	Gender	
	Male=118	Female=206
	Frequency (%)	Frequency (%)
18.5	16 (13.6%)	88 (42.7%)
18.5-24.9	58 (49%)	73 (35%)
25-29.9	32 (27%)	34 (16.5%)
30-more	12 (10%)	11 (5.3%)

According to dietary habits analysis, 162 (50%) of students take breakfast daily (Table-II). Among all participants, 188 (58%) had different diet every day and 16 (4.9%) had an unchanged diet whole week. Crackers is used by 125 (38.6%) among their diet (Table-II).

Out of total participants, 131 (40%) didn't perform physical exercise regularly. The number of students who do not perform physical activity was about 89 (27.5%). In spare time, participants 229 (70.7%) watch TV, 34 (10.5%) practice sports or go walking and about 26 (8%) like to go on shopping (Table-III).

Table-IV represented the concept of healthy eating of participants. Participants 184 (56.8%) considered, food Cooked in boil water as a healthy diet and 308 (95%) of participants considered Fresh vegetables/ fruits as healthy diet.

DISCUSSION

Epidemiological studies regarding physical movement and dietary habits between university students have been carried out in different regions expanding knowledge about the significance of good dieting and active lifestyle. The present study provides the results about the dietary propensities and physical movement designs among the students, the regional differences have shown difference in the dietary patterns among the students in different studies. According to results of present study, 50% of the students regularly do breakfast and this is consistent with the previous study

Table-II: Dietary habits of the participants.

Characteristics	Participants Response	Frequency (%)
Do you eat breakfast?	Often	52 (16%)
	always	162 (50%)
	sometimes	101 (31.2%)
	Never	8 (2.5%)
Do you eat at any rate 2 segment (times) of natural product consistently?	Often	65 (20.1%)
	always	30 (9.3%)
	sometimes	169 (52.2%)
	Never	59 (18.2%)
Do you eat at any rate 2 parts (times) of vegetables consistently?	Often	74 (22.8%)
	always	55 (17%)
	sometimes	134 (41.4%)
	Never	60 (18.5%)
Do you typically eat, lunch and dinner every day?	Often	47 (14.5%)
	always	210 (64.8%)
	sometimes	61 (18.8%)
	Never	5 (1.5%)
Do you drink in any event 1 glass of milk or do you eat at any rate 1 cup of yogurt consistently?	Often	57 (17.6%)
	Always	78 (24.1%)
	sometimes	111 (34.3%)
	Never	77 (23.8%)
Which drink do you catch at breakfast?	milk/coffee	55 (17.9%)
	fruit juice	17 (5.2%)
	Tea	206 (63.6%)
	Yogurt	45 (13.9%)
Your diet is:	different everyday	188 (58%)
	Sometimes different during weekdays	84 (25.9%)
	Only different on weekends	35 (10.8%)
	unchanged	16 (4.9%)
Your diet mainly Consists of:	High-protein content (meat, fish, eggs)	50 (15.4%)
	High-fat content (potatoes, cakes, butter)	16 (4.9%)
	High-carbohydrates (bread, pasta, rice)	59 (18.2%)
	Different food every day	198 (61.1%)

Table-III: Physical activity of the participants.

Characteristics	Participants Response	Frequency (%)
Do you as a rule play out a physical movement (exercise gym)?	often	56 (17.3%)
	always	46 (14.2%)
	sometimes	131 (40.4%)
	never	89 (27.5%)
For how long in seven days do you perform physical movement (exercise, gym)?	whole week	33 (10.2%)
	less than three days	137 (42.3%)
	more than three days	57 (17.6%)
	never	95 (29.3%)
What do you like to do during your spare time?	watching TV	229 (70.7%)
	shopping	26 (8%)
	practicing sports	34 (10.5%)
	walking	34 (10.5%)
What is the reason that stops you from a doing physical exercise (running, gym, etc.)?	you feel it tiring	38 (11.7%)
	you feel it boring	15 (4.6%)
	don't have time for that	108 (33.3%)
	laziness	162 (50%)
Your lifestyle is	active	103 (31.8%)
	moderately active	185 (57.1%)
	inactive	35 (10.8%)

Table-IV: Concept of healthy eating of the participants.

Characteristics	Participants Response	Frequency (%)
Which is a sound eating regimen?	Diet rich in different foods	257 (79.3%)
	Diet rich in protein only	49 (15.1%)
	Diet rich in fats	6 (1.9%)
	Diet rich in fats	10 (3.1%)
Which are the healthiest eating behaviors?	Consume two glasses of milk/eating a cup of curd	142 (43.8%)
	Preferring cooked over uncooked vegetables	30 (9.3%)
	Eating meat	33 (10.2%)
	Preferring fruit juices over biscuits or snacks	118 (36.4%)
Which is the most advantageous cooking technique?	Cooking in boil water	184 (56.8%)
	Frying	17 (5.2%)
	Cooking in the oven without oil	58 (17.9%)
	Cooking in a pan with oil	64 (19.8%)
What is healthy food?	Fresh vegetables/fruits	308 (95.1%)
	canned food	5 (1.5%)
	fried food	8 (2.5%)
	food rich in dressing	2 (0.6%)

conducted among university students of Thailand in 2017 by Persson *et al*.[9] About 69% of the students were between 18-23 years of age which shows that dietary patterns of majority of our youth gives a good sign as they likely to go for the healthy diet. Tea is the favorite beverage among youngsters. Majority participant takes tea in the morning and milk/coffee is their second choice. About 64% students of this study are day scholars. As far as BMI is related, mostly students lie in normal go as per standard BMI extend. About 64% students had three meals a day and this relates with the normal BMI of majority of the students. Recognized dietary examples in our investigation were gene-

rally like those detailed in a study on the population of Lebanon conducted by Naja *et al*.[10] The trend of obesity is less according to this study. Nevertheless, the frequency of overweight is increasing which is alarming. This might be due to the lack in physical activity of majority of students.[11] Radical steps must be taken to undertake this situation before it gets worse. Environmental factors, for example, sports offices, the open vehicle framework, and atmosphere and grounds security are viewed as significant determinants of physical movement.[12] The percentage of students performing physical activities is less. Major reason behind this is laziness.

Students have moderately active lifestyle due to which they don't bother to make them physically active.[13] The purposes behind the watched higher pervasiveness of dormant relaxation time might be clarified as far as a pattern towards fast financial development what's more, supplanting of a functioning way of life with an expanding recurrence of inactive schedules in day-by-day life.[14] In this way, this current investigation's discoveries bolster the requirement for obesity prevention programs among university students to incorporate eating concepts that have been hard for youthful grown-ups to get a handle on/acknowledge, for example, giving predictable opportunities for eating and confiding in interior procedures for picking food and controlling food intake.[15] The previous studies has also shown that the socioeconomic status of students have an impact on the eating habits and activities.[16] The impediments and quality of this examination are important. Similarly as with all human research of this sort, study members self-chose themselves to participate. There likewise may have been inclinations in self-reports of stature and weight.[17] There have been significant public health suggestions for forestalling weight gain and diminishing the risk of overweight/corpulence in students, a group at expanded hazard for weight gain.[18]

CONCLUSION

Less physical activity and low eating fitness were factors related with overweight/corpulence among youthful grown-ups enlisted in university. Future research is expected to explain this current examination's discoveries, utilizing increasingly target proportions of physical movement and fruit /vegetables utilization. The findings from this examination may assist with advising future longitudinal investigations and weight the board intercessions for youthful grown-ups.

Conflict of Interest: None.

Authors' Contribution

AJ: Conceptualization, data collection, draft writing, result interpretation, SA: Data collection, literature review, data analysis, HT: Data collection, critical review, data analysis, data interpretation, IB: Critical review, supervision, final approval, MJ: Critical review, supervising.

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