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ORIGINAL ARTICLE

Relation between Consumption of Fast Food with its Associated Physical and Mental Aspects of Health among Medical Students in Lahore, Pakistan; A Cross Sectional, Comparative Study

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ABSTRACT

Background; Unhealthy dietary patterns or fast-food consumption increase the probability of physical health problems. Junk food consumption effect the physical appearance as well as can be the cause of mental illness.
Aim: The main aim of the study is o observe the perception of junk food consumption and the associated physical and mental health problems.
Methodology; The data was collected using self-designed questionnaire on junk food consumption and related mental or physical issues. The questionnaire was distributed physically to the students with their written consent. The data was collected from 200 students enrolled at a private medical college in Lahore. The data was analyzed and chi-square test of association was used to observe and any link between junk food consumption and health issues.
Results; It was seen that 90% of the total female students were ate fast food while, it was evident in 96% for the male students in comparison to female students. The overall fast-food consumption is 70%. It was seen that fast food consumption has been significantly associated with mental health. Fast food consumption was also found to be associated with less physical wellbeing and risk of obesity.
Conclusion; Male students were found to be more involved in junk food consumption. The significance link of fast-food intake was observed with progress in mental health. Intake of fast food also found to be associated with anger and depression. Consumption of fast-food increases the risk for weight gain and obesity.
Keywords: Consumption, Fast food, Junk food, Obesity, Risk.

INTRODUCTION

Consumption of energy drinks and fast food has been increased over the last decade. Foods such as Coldrinks, chocolate bars, snacks, nuts enriched spread that contain fats, sugar in high proportion and nutritional content in low quantity are referred as junk food[1,2]. Unhealthy dietary patterns or fast-food consumption increase the probability of physical health problems. Junk food consumption effect the physical appearance as well as can be the cause of mental illness.

Some studies observed that consumption of fast food, soft-drinks, total energy intake, carbohydrates has been increasing among adults and children and leading to the adverse level of obesity[3,4]. Energy habits and dietary pattern effect the physical and mental growth of children. Epidemiological study found that 20% of the adolescents and children suffered from poor mental condition and above 50% of those were adults. In general adolescent is the substantial time for the growth and development of mental disorder[5]. It has become a main health problem in adolescent by WHO.

Past literature observed a link between food or dietary pattern with mood swings. For example, in western countries consumption of high quantity of red meat has been associated with various mental health problems and vegetables and fruit intake has been linked with better behavioral outcomes among adults[6].

Adolescents including children in their age-group can have physical and mental illness. Moreover, children might have prolonged illness till they become adolescent[7]. The main aim of the study was to observe the perception of junk food consumption and the associated physical and mental health problems.

This study was planned to measure the association of junk food consumption with physical and mental health. Study participants has been informed about the purpose of the study. Researchers has assured that the data collected was kept confidential and used only for the purpose of study.

METHODOLOGY

A cross-sectional study was conducted after approval from Ethical Review Board, at Avicenna Medical College, Lahore. The data was collected using self-designed questionnaire to collect information on junk food consumption and the various health issues emerging among medical students in Lahore. The targeted age group was 17-23 years. The data was collected using simple random sampling technique from 200 medical students

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enrolled for MBBS. The designed questionnaire was pre-tested. The questionnaire was based on collecting information about junk food consumption, how often it is preferred, feel any urge for fast food, exercise, ill feelings, experience of emotional illness, poor physical health and mental issues like anger, depression and sudden mood swings.

The data was analyzed using SPSS 21.0 version. The incidence of junk food consumption among the participants and the proportion of male and female participants was documented. The test of associated was used to observe the related physical and mental issues. Logistic regression was also fitted to see the effect of fast-food intake that increases the risk of physical wellbeing, mental health issues and obesity or over-weight, global warming, mood swings, anger and depression and emotional health.

RESULTS

Male students were found to be more involved in junk food consumption. It was seen that 90% of the total female students were ate fast food while it was 96% for the male students. This might be due to the fact that the proportion of male students was comparatively high in the sample (Figure 1). The mean age of the respondents was 20.70±1.78.

Crosstab of the consumption of fast food with various mental and physical health problems is given in Table 1. The overall fast-food consumption is 70%. Approximately 36% of the students did not have negative feelings at all for the consumption of fast food and 36% showed that they experienced negative feelings when urged for fast food.

Negative feelings when urged fast food were associated with consumption of fast food. Consumption of fast food worsen the mental health. It was seen that fast food consumption is significantly associated with mental health issues. Fast food consumption was also found to be associated with worsening of physical wellbeing and risk of obesity. The significance link of fast-food intake was observed with progress in mental health problems. Intake of fast food also found to be associated with anger and depression. However, intake of fast food seems to have no effect on emotional health, daily moods, global warming, increased anxiety level, tired sleep, morbid illness and physical wellbeing.

Binary logistic regression was fitted to observe the odds increased for various health issues due to the fast-food consumption. The independent variable was intake of fast food while the dependent variables were physical wellbeing, weight gain, regular illness, mental issues, anxiety, emotional health, depression and anxiety, mood swings and global warming.

Hosmer-Lemeshow statistic with p-value less than 0.005 showed a good fit. Model did not significantly differ from the observed data so it sufficiently fits the data. The reference category was no consumption of fast food. It was seen from the Table 2 that intake of fast food is the potential factor that effects physical wellbeing, mental health and helps in weight gain and obesity. Consumption of fast-food increases the risk for weight gain and obesity.

Figure 1: Proportion of Male and Female Students in Sample

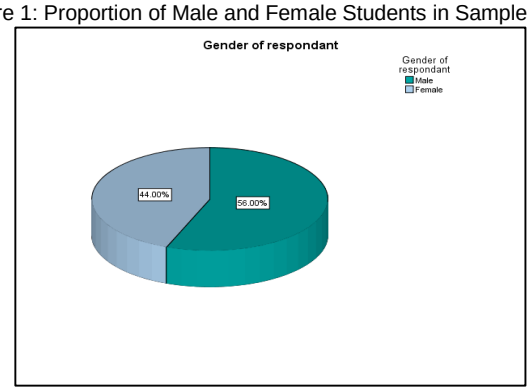

Table 1: Crosstab of factors with Junk Food Consumption

Factor (Consumption of fast food)	Category	Consume Fast food		Total	Chi-square	p-value
		No	Yes			
Negative Feelings	No	08	120	128	0.39	1.000
	Yes	04	68	72		
Experience negative feelings when urge for fast food	No	12	120	132	6.576	0.009
	Yes	00	68	68		
Consume pre-processed or frozen food	No	08	98	106	0.957	0.384
	Yes	04	90	94		
Eating	Alone	02	38	40	0.088	1.000
	With Family	10	150	160		
Role in working	No	08	116	124	0.118	1.000
	Yes	04	72	76		
Determinantal to your health	No	04	64	68	0.003	1.000
	Yes	08	124	132		
Regular exercise	No	06	128	134	1.669	0.215
	Yes	06	60	66		
Physical wellbeing	No	06	114	120	0.532	0.548
	Yes	06	74	80		
Improved physical wellbeing	No	10	133	143	0.877	0.577
	Yes	02	55	57		
Weight gain and obesity	No	04	16	20	7.723	0.022
	Yes	08	172	180		
Morbid illness and disease	No	02	28	30	0.028	0.679
	Yes	10	160	170		
Experience illness	No	08	114	122	0.132	0.768
	Yes	04	74	78		
Family history of obesity	No	04	60	54	0.10	1.000

	Yes	08	128	136		
Role in mental health	No	04	120	124	4.453	0.035
	Yes	08	68	76		
More tired and sleepy in daytime	No	02	52	54	0.692	0.520
	Yes	10	136	146		
Increased anxiety	No	08	108	116	0.394	0.764
	Yes	04	60	84		
Emotional health	No	04	108	112	2.662	0.103
	Yes	08	80	88		
Anger and depression	No	10	99	109	4.280	0.039
	Yes	02	89	91		
Daily moods	No	06	74	90	0.532	0.548
	Yes	06	114	120		
Fashion symbol	No	06	18	24	17.456	0.001
	Yes	06	170	176		
Increase global warming	No	04	57	61	0.048	0.759
	Yes	08	131	139		
Mental health	Improved	08	16	24	17.488	0.000
	Worsened	56	18	74		
	Cannot say	76	26	102		

Table 2: Results of Binary Logistic Regression where Consumption of fast food is independent.

Dependent Factors	**B**	**Exp(B)**	**Sig. value**	**C-I**	
				Lower	**Upper**
Physical wellbeing	4.32	0.6049	0.004	0.479	4.958
Weight gain & Obesity	-1.682	0.186	0.012	0.056	0.686
Regular Illness	-0.261	0.770	0.679	0.224	2.649
Mental Health	1.261	3.529	0.046	1.025	12.154
Worse Mental issues	-0.821	0.440	0.192	0.128	1.511
Anxiety	-0.393	0.675	0.196	0.196	2.320
Emotional Health	0.993	2.700	0.105	0.786	9.280
Depression & Anxiety	-1.503	0.222	0.057	0.047	1.043
Mood swings	-0.432	0.649	0.469	0.202	2.089
Global warming	-0.139	0.870	0.826	0.252	3.007

DISCUSSION

This research aimed to evaluate the impact of regular consumption of fast food on medical students at Avicenna Medical College, Lahore. Diet and nutrition are important aspects of medical practice, and the budding medical professional. Fast food has been mostly considered a health hazard if not at the time being in an individual's life, then in the not-so-distant future. It is commonly known to provide low energy and high lipid content in diets, frequently leading to comorbid diseases and adverse health conditions.

In our study, it was heartening to note that 70% of the participants were indulged in the intake of fast food. These findings are contrary to a study conducted by Faculty of Medicine, Mansoura University, Egypt which showed that two-thirds of the 908 medical students included in the study consumed fast food regularly[8]. These facts are alarming as the high prevalence of fast/junk food preference and consumption by future health-care practitioners poses a serious health concern[8]. Research and publications worldwide are in support of increasing scientific evidence that adequate consumption of fruits and vegetables decreases the risk of major chronic diseases[9]. On the other hand, a recent study conducted among college going adolescents in Dhaka, Bangladesh indicated the 68.1% as the consumption rate of fast food[10].

Our study showed that a significant number of students (70%) experienced weight gain and obesity as a result of fast food in their diets which is a contrary when comparison is made with four other medical colleges of Lahore in a study conducted in 2016[11]. Another study observed a high prevalence rate of 29.9% obesity among fast food consumers as compared to non-consumers which was 9.1%[10]. The weight gain and obesity are positively associated with fast food consumption due to the high energy content in the diet[12,13]. Fast food intake is directly associated with obese/ over-weight[13,14,15,16,17]. The fast food contains pizza, sandwich, fried chicken and burger contributed in increasing obese.

Obesity, over-weight and mental health problems has been become a major emerging issue in public health. More specifically, youth, adolescent, college students are more being indulged in fast food consumption which is affecting their physical and mental wellbeing. Proper campaigning must be conducted at high school and university levels to spread awareness about the harmful effects of frequent fast-food consumption.

CONCLUSION

The study revealed that majority of the medical students were aware of the importance of healthy eating habits yet they were not practicing it adequately in their daily lives. The consumption was more common among male students. The consumption was more common among male students. Fast food consumption significantly played an important role in weight gain and obesity and mental health issues. There was no such effect on emotional health, physical wellbeing, sleep disorders and daily working.

Recommendations: Improving nutrition knowledge, attitude and dietary practices through nutritional education may help to prevent many nutrition-related diseases. The results of our study may shed some light on the importance of establishing the evidence-based data for effective

curriculum development on healthy eating, construction of health education materials for the prevention of non-communicable chronic diseases among young youth, and most of all, for the provision of nutrition education to the students for adoption of healthy eating among the medical students.

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