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Association between fast-food consumption and the risk of developing coronary heart disease among the male population in Peshawar

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***Abstract*---**Aim and objective: To assess the association between fast-food consumption and the risk of developing coronary heart disease among the male population in Peshawar. Materials and method: The current descriptive cross-sectional study was conducted on males at the department of medicine, Lady Reading Hospital Peshawar after approval from the ethical review board (ERB). The duration of study was one years from January 2021 to January 2022. The age of the participants was from 25-60 years and they were working various kinds of jobs in many types of offices. The total sample size was 428 calculated through the Rao-soft calculator with a 95 % confidence interval. They all were selected through a non-randomized convenient sampling technique. All the data were analyzed by using the latest version of SPSS 24. Results: A total of 428 participants were selected for the study of which 412 (96.26 %) were taking fast food and 16 (3.73%) were not consuming them, moreover, the mean age and BMI of the participants who were taking a fast-food were 38.89± 6.89 and 26.14 ±2.87 respectively, while mean and BMI of those were not consuming them 38.42±7.31 and 25.57± 3.24 accordingly. Out of 412 participants, 82.03 % of them were table-setting workers and 13.59 % were standing workers. The proportion of obesity in fast-food users was more common 178 (43.20 %). 89 (21.60 %) had cardiac diseases and 128 (31.06%) had developed dyslipidemia and only 3 (18.75%) of those who were not taking fast food. Finally, 176 (42.71 %) were hypertensive however, 3 (18.75%) had high blood pressure in those

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non consumer of fast food. Conclusion: The results of the current study in relation to the previous studies concluded that intake of fast food can develop various metabolic risk factors which have a direct relation with the development of coronary diseases. The prevalence of fast-food utilization was more prevalent among office workers and was at more risk of developing cardiac diseases. Therefore, the authorities should increase awareness among the public in order to decrease the utilization of fast food which will help to minimize the risks of coronary diseases and decrease the burden of them.

***Keywords*---**Coronary heart diseases, dyslipidemia, hypertension, fast-food.

Introduction

The worldwide intake of fast food has been experiencing substantial growth. Fast food generally pertains to any food which has been rapidly produced, characterized by a high content of saturated cholesterol, procured from cafes utilizing pre-cooked components, and given to customers in a compact format [1]. The term "cardiovascular diseases" (CVD) refers to a group of multifaceted conditions that are associated with the blood vessels of the heart as well as arteries; the most common of these conditions include coronary heart disease (CHD), moreover, Current research findings from the WHO have identified coronary heart disease as among the top contributing factors to disability and mortality nationwide [2]. Prior research has demonstrated that consuming a high volume of beverages with added sugars raises the risk of developing cardio-metabolic conditions such as obesity [3,4,5,6], type 2 diabetes [7,8,], high blood pressure (hypertension) [9], as well as a condition known as metabolic syndrome [8, 10]. There is a correlation between the rising use of drinks having sugars and the growth in the prevalence of obesity among adults in the United States (68.8% of people are currently categorized as obese [11]. Although there may be some regional variation in risk variables, nutrition and lifestyle are consistently cited as the most influential. Food choices have shifted among Pakistanis of all ages alongside the country's fast economic growth and urbanization during the 20 years prior. Time spent at work along with a shortage of time to prepare food in the house have been cited as important contributors to the shift in eating habits. As a result, this has been identified as a significant risk factor in Pakistani megacities, contributing to the rising prevalence of cardiovascular illnesses, that rank among the country's most prevalent chronic conditions today [12]. Hence, researchers are focusing on people's eating habits, particularly their intake amount and regularity of different kinds of fast food, and come to the decision that fast meals are truly among the key detrimental food that contributes to CHD, furthermore, cardiovascular disease causes 30–40% of fatalities in Pakistan annually. Approximately a million people in Pakistan lose their lives yearly due to coronary heart disease. This equates to approximately 4,10% of all deaths in the country [13]. A higher calorie intake is associated with high blood pressure and severe abnormalities in the levels of lipids (which includes hyperlipidemia), both of which are risk factors for coronary heart disease [13, 14]. This is projected that 15-30% of adults in the USA along with Europe have hypertension, but only 3-5%

of youngsters have. It has been established that eating fast food frequently is correlated with hypertension [15]. Fast-Food items eaten by employees in offices at adjacent eateries during brief break times might be contributing to the increasing incidence of hypertension, a key indicator of CHD [16]. In light of the growing body of evidence linking poor eating habits to an increased likelihood of developing long-term illnesses, nutritional pattern recognition is now recognized as a useful multifaceted tool for researching this connection and making dietary suggestions [17].

Aim and objective

To assess the association between fast-food consumption and the risk of developing coronary heart disease among the male population in Peshawar.

Materials and method

The current descriptive cross-sectional study was conducted on males at the department of medicine, Lady Reading Hospital Peshawar after approval from the ethical review board (ERB). The duration of study was one years from January 2021 to January 2022. The age of the participants was from 25-60 years and they were working various kinds of jobs in many types of offices. The total sample size was 428 calculated through the Rao-soft calculator with a 95 % confidence interval. They all were selected through a non-randomized convenient sampling technique. Males who were working at the office and aged 25-60 years as well as willing to participate in the study were included in the study, while those who are not willing to participate and age more than the above criteria were excluded from the study. A well-organized questionnaire was adopted for gathering data. It asked about age, work, along with particular things like fast-food consumption, the type of employment, and additional medical conditions that include diabetes, high blood pressure, alongside obesity. All the data were analyzed by using the latest version of SPSS 24. When describing continuous variables alongside a normal distribution, the mean along with the standard deviation was used. When describing continuous variables despite a normal distribution, the middle and range are used. The chi-square test was implemented to figure out if diseases were linked to eating fast food based on data that was categorical shown in percentages and numbers. If the value of the p-value had been less than 0.05, it was thought to be statistically meaningful.

Results

The current was conducted to assess the association between fast-food consumption and the risk of developing coronary heart disease among the male population in Peshawar. A total of 428 participants were selected for the study of which 412 (96.26 %) were taking fast food and 16 (3.73%) were not consuming them, moreover, the mean age and BMI of the participants who were taking a fast-food were 38.89± 6.89 and 26.14 ±2.87 respectively, while mean and BMI of those were not consuming them 38.42±7.31 and 25.57± 3.24 accordingly. Out of 412 participants, 82.03 % of them were table-setting workers and 13.59 % were standing workers. 182 (44.17 %) of the participants who were taking fast food had 6-8 hours of working time, furthermore,151 (36.65 %) had 8-12 hours of working time. 418 (97.66 %) had knowledge regarding fast food, while 369 (86.21 %) says

that fast food is not good for health. Additionally, 201(48.78 %) were weekly users, and 105 (36.40 %) were monthly users of fast food.

Table # 01 Correlation of Demographic Characteristics of Individuals in Relation to their Intake of fast-food

Study participants characteristics	Intake of fast-food				P value
	Yes		No		
Mean Age	38.89± 6.89		38.42±7.31		0.614
BMI	26.14 ±2.87		25.57± 3.24		0.815
	412 (96.26 %)		16 (3.73%)		
	Yes	%	No	%	
Kind of a work (job)					
Table worker	338	82.03 %	7	43.75 %	0.038
Standing workers	56	13.59 %	5	31.25 %	
Office boys	18	4.36 %	4	25 %	
Working time (hours)					
6 hours	79	19.17 %	4	25 %	0.061
6-8 hours	182	44.17 %	9	56.25 %	
8-12 hours	151	36.65 %	3	18.75 %	
Information regarding fast-food					
Yes	418		97.66 %		
No	10		2.33 %		
Does intake of fast foods good for health?					
Yes	59		13.7 %		
No	369		86.21 %		
How often do you consume fast-food					
Daily	38		9.2 %		
Weekly	201		48.78 %		
Monthly	105		36.40 %		
Sometimes	69		16.74 %		

Table # 02 highlights the characteristics of individuals in relation to their intake of fast food. The proportion of obesity in fast-food users was more common 178 (43.20 %) were obese, while 234 (56.79%) had a normal weight, however, moreover, 5(31.25%) were obese those who were non-consumers of fast food. Along with that, 89 (21.60 %) had cardiac diseases and 128 (31.06%) had developed dyslipidemia, and only 3 (18.75%) of those who were not taking fast food. Finally, 176 (42.71 %) were hypertensive however, 3 (18.75%) had high blood pressure in those non consumer of fast food.

Table # 02 Correlation of metabolic Characteristics of Individuals in Relation to their Intake of fast-food

Obesity (overweight)					
Yes	178	43.20 %	5	31.25 %	
No	234	56.79 %	11	68.75 %	0.009
Cardiac diseases					
Yes	89	21.60 %	2	12.5 %	
No	323	78.39 %	14	87.5 %	0.579
Dyslipidemia					
Yes	128	31.06 %	3	18.75 %	
No	284	68.93 %	13	81.25 %	0.324
Hypertension (HTN)					
Yes	176	42.71 %	3	18.75 %	
No	236	57.28 %	13	81.25 %	0.212

Discussion

Food items including burgers fall under a group of fast food. While these options are often considered convenient as well as delicious, they are typically prepared with low nutritional value or potentially harmful ingredients. Fast food establishments employ various strategies, such as extensive marketing campaigns, appealing recipes, and captivating advertisements, to attract young people and middle-aged individuals. However, the detrimental effects of consuming such food are not widely understood by the general public, as its regular intake can contribute to the development of various health disorders, particularly obesity resulting from an inactive way of life in addition to time constraints as well as easy availability, individuals with busy work schedules often compromise upon the quality of their meals by opting for fast food over official time. The utilization of diverse fast-food options is prevalent among both men along with females across different age categories all over Pakistani number of people. Regular utilization of fast food might contribute to obesity along with increasing the risk of various systematic diseases affecting various organs [18]. In the current study, the mean age and BMI of the participants who were taking a fast-food were 38.89± 6.89 and 26.14 ±2.87 respectively, while the mean and BMI of those were not consuming them 38.42±7.31 and 25.57± 3.24 accordingly that indicates a clear variation of BMI in both, however, a study conducted by Hanif MK et al reported the same results of difference of BMI among both [19]. The rate of obesity in fast-food users was more common 178 (43.20 %) were obese, while 234 (56.79%) had a normal weight, however, moreover, 5(31.25%) were obese those who were non-consumers of fast food. Along with that, 89 (21.60 %) had cardiac diseases and 128 (31.06%) had developed dyslipidemia, and only 3 (18.75%) of those who were not taking fast food. Finally, 176 (42.71 %) were hypertensive however, 3 (18.75%) had high blood pressure in those non consumer of fast food. In relation to these, a research study reported that metabolism health risks include diabetes, hypertension, being overweight, as well as dyslipidemia, whereas behavioral risks include food, smoking, along with inactivity. Numerous studies have shown the high incidence of obesity within Saudi Arabia [20].

According to the findings of the INTERHEART as well as INTERSTROKE studies, the leading global risk variables of myocardial infarction, also known as stroke, include high blood pressure, type 2 diabetes, dyslipidemia, being overweight or obese, cigarette smoking, insufficient regular exercise, poor diet, as well as excessive alcohol use [20, 21]. Obesity has proved linked to a variety of negative health effects, including high blood pressure, diabetes, heart disease, joint discomfort, mobility issues, and even death [22]. Two times weekly use of Western-style fast food was associated with a higher likelihood of developing type 2 diabetes (TIIDM) as well as increased mortality from (CHD) in Chinese as well as Singaporean adults [23]. The INTERHEART trial found that eating fried foods on a regular basis was associated with an increased risk of developing a severe heart attack [24]. If you plan on keeping an office job for the foreseeable future, you should probably avoid eating fast food on a regular basis to prevent yourself from getting fat and possibly killing yourself. The media ought to spread consciousness of the negative consequences of fast food, but the medical authority should regulate the widespread development of restaurants that serve fast food [25].

Conclusion

The results of the current study in relation to the previous studies concluded that intake of fast food can develop various metabolic risk factors which have a direct relation with the development of coronary diseases. The prevalence of fast-food utilization was more prevalent among office workers and was at more risk of developing cardiac diseases. Therefore, the authorities should increase awareness among the public in order to decrease the utilization of fast food which will help to minimize the risks of coronary diseases and decrease the burden of them.

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