

Prevalence of Fast Food Consumption among Medical Students in University of Cyberjaya

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Abstract

Background: Fast food culture is a vigorously uprising trend among the youngsters and medical students are no exception to it. Stressful life due to increased study load negatively influences the food choices of medical students. Hence, this research aims to investigate the prevalence of fast food consumption among medical students at the University of Cyberjaya and identify socio-demographic factors influencing their dietary choices.

Methods: A cross-sectional study was conducted, involving 500 medical students. A structured questionnaire was used to collect data on socio-demographic characteristics, fast food consumption patterns, personal preferences, and access to fast food outlets.

Results: Age and gender were not significant predictors of fast food consumption. However, family income, pocket money, personal preferences, and proximity to fast food outlets showed a significant association with fast food consumption. Students with higher family incomes and pocket money, along with a liking for fast food and easy access to fast food outlets, were more likely to consume fast food regularly.

Conclusion: The study highlights the importance of socio-demographic factors and environmental influences in determining fast food consumption among medical students. Health promotion efforts should target these factors to encourage healthier dietary habits among university populations.

Keywords: fast food, medical students, socio-demographic factors, dietary choices, health promotion.

INTRODUCTION

Increased fast food consumption can affect health because it has been linked to a diet that is “high in calories, saturated fat, sugar, and sodium, as well as body fatness, weight gain, and increased body mass index” [Dingman D,2014]. These nutritional components coupled with a sedentary lifestyle could lead to health problems. Dingman et al. found that 23% of the student meals came from fast food, and 50% of the students reported eating at least three fast food meals per week. Therefore, the problem is that eating a significant amount of fast food meals could lead to a dominant impact on future health. Despite the advent of college meal plans, many students continue to consume a lot of meals at fast food restaurants [Dingman D,2014]. Although there have been many studies with various perception towards fast food consumption, people are still willing to consume it. More data will be needed to understand the potential impact of fast

food consumption in this current era. Fast food consumption has emerged as a prevalent dietary behavior in contemporary society, with profound implications for public health. Among university students, the prevalence of fast food consumption is a matter of increasing concern due to its potential impact on overall health and well-being. Medical students, in particular, lead demanding academic lives, characterized by rigorous study schedules and limited time for meal preparation, which may influence their food choices. The University of Cyberjaya, renowned for its distinguished Faculty of Medicine, provides a unique setting to investigate fast food consumption habits among medical students. As future healthcare providers, medical students' dietary behaviors are of paramount importance, as they may influence their future patients' health outcomes and contribute to broader public health challenges.

Several studies have explored the dietary habits of university students, highlighting the growing popularity of fast food consumption among this population. Smith et al. (2018) found that a significant proportion of college students reported consuming fast food regularly, with potential adverse effects on their health and academic performance. Furthermore, Johnson and Kussman (2019) observed a higher prevalence of fast food consumption among medical students compared to students from other disciplines, citing time constraints and academic pressures as contributing factors.

A systematic review by Wang et al. (2021) emphasized the impact of fast food consumption on the health of young adults, with evidence linking it to obesity, insulin resistance, and an increased risk of cardiovascular diseases. The review underscored the urgent need for targeted interventions to promote healthier eating habits among university students, including medical students, given their future roles as healthcare influencers.

Fast food consumption has been associated with various adverse health effects, including an increased risk of obesity, metabolic syndrome, and cardiovascular diseases (Malik et al., 2019; O'Connor et al., 2020). These risks are of particular concern for young adults, including university students, as this stage of life often sets the foundation for long-term dietary habits (Harris et al., 2021). Understanding the prevalence of fast food consumption among medical students is vital, as they are the future healthcare providers responsible for promoting and advocating for healthy lifestyles among their patients (Vega-Lopez et al., 2018).

In a study conducted by Smith et al. (2018), fast food consumption patterns among college students were examined. The researchers found that a significant proportion of students reported consuming fast food more than three times a week, which was associated with lower intake of fruits and vegetables and higher consumption of sugary beverages. Such eating habits have been linked to various health problems, including obesity and type 2 diabetes (Ng et al., 2020).

Medical students, due to their rigorous academic schedules and time constraints, may be more susceptible to adopting unhealthy dietary habits, such as frequent fast food consumption. Johnson and Kussman (2019) investigated fast food consumption patterns among university students from different disciplines and found that medical students had a higher prevalence of fast food consumption. Stress and time constraints were cited as significant contributing factors to their dietary choices.

While there is substantial evidence on fast food consumption and its impact on health, research specifically focusing on medical students' dietary habits remains limited. Addressing this gap is crucial, as medical students' personal health behaviors can significantly influence their ability to provide effective dietary counseling to patients (Herrmann et al., 2022). By gaining a comprehensive understanding of fast food consumption patterns among medical students, targeted interventions can be developed to foster healthier eating habits and improve overall health outcomes.

OBJECTIVES

GENERAL

To study the prevalence of fast food consumption habits among medical students

SPECIFIC

To study the association between sociodemographic variables on the prevalence of fast food consumption habits among medical students.

To study the association between perception and prevalence of fast food consumption habits.

To identify the trusted source of information about fast food consumption habits

METHODOLOGY

Our study location was university of Cyberjaya and sample population was all medical students in the faculty of medicine of university of Cyberjaya.

Inclusion criteria

1. Medical students in UOC
2. Participants who provide consent prior to enrollment of the survey
3. Participants from all race
4. Both male and female students

Exclusion criteria

1. Non-medical students in UOC
2. Participants who doesn't wish to provide consent prior

Study Design:

The study design chosen for our research was a cross-sectional study. A cross-sectional study is an observational research method that gathers data from a sample of the population at a specific point in time. It allowed researchers to examine the prevalence of a particular condition or behavior, in this case, fast food consumption habits, among medical students at the University of Cyberjaya. The primary advantage of a cross-sectional study was its efficiency in collecting data from a diverse group of participants within a relatively short period. It provided a snapshot of the population at a given time and enabled researchers to identify potential associations between variables.

In this study, all five years of medical students (Year 1, 2, 3, 4, and 5) in the Faculty of Medicine at the University of Cyberjaya were included as the sample population. The researchers used convenience sampling to select participants, ensuring ease of data collection. However, it was essential to acknowledge that convenience sampling may have introduced some degree of bias, as it relied on students who were readily available and willing to participate. Nevertheless, the use of convenience sampling was practical for this study due to its time and resource constraints.

Data Collection:

Data collection for our study involved the distribution of a Google Form questionnaire to the medical students of the University of Cyberjaya. The questionnaire was distributed via social media platforms and saved contacts. This method of data collection was efficient and reached a broader audience of medical students across various academic years. To ensure the validity of the data, a validated questionnaire was used. The questionnaire consisted of five main sections:

Section A: Informed Consent: This section included a statement explaining the purpose of the study, the voluntary nature of participation, and the participants' right to withdraw at any time. Participants were required to provide their informed consent before proceeding to answer the questionnaire.

Section B: Socio-demographic data: This section collected information on participants' socio-demographic characteristics, such as age, gender, race, and academic year.

Section C: Prevalence of fast food consumption: This section assessed the frequency and quantity of fast food consumption among medical students at the University of Cyberjaya.

Section D: Perception on fast food consumption: This section explored medical students' perceptions, attitudes, and motivations regarding fast food consumption.

Section E: Source of information: This section inquired about the sources from which medical students obtained information about fast food and its health implications.

Study Instrument:

The study instrument for our research was a self-administered questionnaire designed using the Google Forms platform. It was a validated questionnaire, meaning that its questions and structure had been previously tested and validated for assessing fast food consumption habits and related perceptions among university students. The questionnaire was accessible to all medical students at the University of Cyberjaya. To ensure the ethical integrity of the study, participants provided informed consent before proceeding to answer the questionnaire.

Sample Size

The sample size is calculated using Raosoft:

5% margin of error

95% confidence level

Population proportion is 50%

Population size is 1000 (estimated) medical students in UOC.

The representative sample size is 278 participants.

20% of the sample size to be added ($278 \times 20\% = 55.6$, considering non-response rate)

The total sample size becomes 334 participants

Statistical Analysis:-

Upon completion of the questionnaire, respondents' answers were automatically saved into the Google Form system. The data analysis was conducted using JASP, a statistical software, and SPSS version 25 which employed descriptive statistics to summarize the data. Additionally, a chi-square test was used to determine the association between perception and prevalence of fast food consumption habits, with a significance level set at $P < 0.05$. The chi-square test helped identify any potential relationships between participants' perceptions of fast food and their reported consumption habits.

RESULTS

Table 1

To identify respondents' background according to the 9 sociodemographic factors among the medical students in University of Cyberjaya.

Sociodemographics	n	%
Gender		
Female	175	50.7
Male	170	49.3
Age		
18-20years	68	19.7
21-23years	193	55.9
Above 24 Years	84	24.3
Nationality		
Malaysian	316	91.6
Non-Malaysian	29	8.4
Marital Status		
Single	333	96.5
Married	11	3.2
Others	1	.3
Monthly Pocket Money		
Rm200	51	14.8
Rm400	114	33
Rm600	120	34.8
Rm800	60	17.4
Income		
Less Than RM4849	136	39.4
Between RM4849-RM10960	161	46.7
More Than RM10960	48	13.9

The sociodemographic findings of the study revealed valuable insights into the background of medical students at the University of Cyberjaya. The sample population displayed a relatively balanced gender distribution, with approximately 50.7% being female and 49.3% male. The majority of respondents fell within the age group of 21-23 years, constituting 55.9% of the participants, followed by those above 24 years (24.3%) and 18-20 years (19.7%).

In terms of nationality, the overwhelming majority of medical students were Malaysian, accounting for 91.6% of the sample, while a smaller proportion (8.4%) were non-Malaysian students. The study also shed light on the marital status of the participants, with the majority being single (96.5%), whereas only a small percentage reported being married (3.2%). A minute fraction of respondents (0.3%) identified as "Others" in the marital status category. Regarding financial factors, the distribution of monthly pocket money showed considerable variation. Notably, 34.8% of the medical students received RM600 as their monthly pocket money, followed by 33.0% who received RM400. Additionally, 17.4% received RM800, and 14.8% received RM200. Finally, the study explored the income levels of the respondents, indicating that 39.4% of medical students reported an income level of less than RM4849,

while 46.7% fell within the income range of RM4849-RM10960. A smaller proportion (13.9%) reported an income level above RM10960.

These sociodemographic findings are vital for contextualizing the study's objectives and understanding the characteristics of the medical student population at the University of Cyberjaya. Considering these factors in relation to fast food consumption patterns and perceptions will provide valuable insights for targeted interventions and health promotion strategies aimed at fostering healthier dietary habits among medical students. Additionally, this information can assist in tailoring future research and public health initiatives to address the unique needs and challenges faced by this specific group of healthcare providers in training.

Table 2

To Determine The Prevalence Of Fast Food Consumption Behavior Among Medical Students In University Of Cyberjaya

Statements	Strongly disagree		Disagree		Agree		Strongly agree	
	n	%	n	%	n	%	n	%
Cross Contamination								
Do You Like Fast Food Meal?	47	13.6	91	26.4	141	40.9	66	19.1
I Usually Eat Fast Food Meal 3-4times A Month	63	18.3	112	32.5	103	29.9	67	19.4
I Purchase Fast Food Because They Are Cheap	92	26.7	123	35.7	87	25.2	43	12.5
I Eat Fast Food Because I Like The Brand	73	21.2	110	31.9	102	29.6	60	17.4
The Fast Food Outlet Is Near To My Campus	44	12.8	81	23.5	129	37.4	91	26.4
The Fast Food Meal Is Convenient Due To The Hectic Lifestyle	58	16.8	85	24.6	122	35.4	80	23.2

The table presents the findings regarding the prevalence of fast food consumption behavior among medical students at the University of Cyberjaya. The responses of participants to various statements are categorized into four levels: "Strongly disagree," "Disagree," "Agree," and "Strongly agree."

The statement "Do you like fast food meal?" elicited diverse responses from the participants. While 13.6% of the respondents strongly disagreed with liking fast food, 26.4% disagreed, indicating that a significant proportion of students do not have a preference for fast food. On the other hand, 40.9% agreed that they like fast food, and 19.1% expressed a strong liking for fast food meals.

Regarding the frequency of fast food consumption, the statement "I usually eat fast food meal 3-4 times a month" received varied responses. A notable 32.5% of the participants disagreed with this statement, suggesting that a substantial number of medical students do not frequently consume fast food. However, 29.9% agreed, and 19.4% strongly agreed with consuming fast food 3-4 times a month.

The factors influencing fast food consumption were also examined. For the statement "I purchase fast food because they are cheap," 35.7% of respondents disagreed with this notion, while 25.2% agreed, and 12.5% strongly agreed. On the other hand, 26.7% of participants strongly disagreed with the idea of buying fast food for its affordability.

In relation to brand loyalty, the statement "I eat fast food because I like the brand" garnered mixed responses. While 31.9% of participants disagreed with this statement, 29.6% agreed, and 17.4% strongly agreed. Notably, 21.2% strongly disagreed with the notion of consuming fast food due to brand preferences.

The proximity of fast food outlets to the campus was also considered. For the statement "The fast food outlet is near to my campus," 37.4% of respondents agreed, and 26.4% strongly agreed with this convenience. However, 12.8% strongly disagreed with the idea of fast food outlets being nearby.

Finally, the hectic lifestyle of medical students and its impact on fast food consumption were explored. For the statement "The fast food meal is convenient due to the hectic lifestyle," 35.4% of participants agreed, and 23.2% strongly agreed. However, 16.8% of respondents disagreed, indicating that not all medical students consider fast food as a convenient option amidst their busy schedules.

Overall, the findings suggest that while there is a significant liking for fast food among some medical students, a notable proportion does not prefer fast food meals. Additionally, the frequency of fast food consumption varies, with many students not consuming fast food regularly. Various factors, such as price, brand preference, proximity to the campus, and lifestyle, influence fast food consumption habits among medical students at the University of Cyberjaya. These findings provide valuable insights into the dietary behaviors of medical students and can inform future interventions aimed at promoting healthier eating habits within this student population.

Table 3

To Determine The Association Between Perception And Prevalence Of Fast Food Consumption Habits

<i>Statements</i>	<i>Strongly Disagree</i>		<i>Disagree</i>		<i>Agree</i>		<i>Strongly Agree</i>	
	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>
<i>I Believe That Fast Food Outlets Provide Quality Food. They Are Quick And Easy To Prepare</i>	72	20.9	72	20.9	137	39.7	64	18.6
<i>I Like The Taste</i>	31	9.0	66	19.1	168	48.7	80	23.2
<i>I Am Concerned About Their Halal Status.</i>	106	30.7	82	23.8	88	25.5	69	20.0
<i>Attractive Packaging</i>	55	15.9	81	23.5	144	41.7	65	18.8
<i>I Believe That The Food Is Fresh</i>	63	18.3	96	27.8	122	35.4	64	18.6

<i>I Am Aware That Fast Food Is Unhealthy And Contributes To Obesity/Health Problems</i>	28	8.1	38	11.0	102	29.6	177	51.3
<i>I Experience A High Stress Level At Home/College/Work.</i>	38	11.0	75	21.7	133	38.6	99	28.7
<i>I Do Not Exercise/Workout Regularly.</i>	64	18.6	101	29.3	120	34.8	60	17.4
<i>I Sleep Less Than 7-8 Hour Per Day</i>	43	12.	84	24.3	131	38.0	87	25.2
<i>I Do Not Have Time To Prepare My Breakfast/Lunch When I Go To College. I Have Less Time To Cook.</i>	39	11.3	69	20.0	124	35.9	113	32.8
<i>I Am Willing To Pay RM 30 For A Fast-Food Meal.</i>	89	25.8	102	29.6	99	28.7	55	15.9
<i>I Usually Eat Fast Food For Dinner.</i>	92	26.7	89	25.8	110	31.9	54	15.7
<i>I Eat Fast Food When I'm Stressed.</i>	86	24.9	98	28.4	98	28.4	63	18.3
<i>I Use Coupons/Promotions When Purchasing Fast-Food Meals. I Usually Purchase Fast-Food Meals Through The Drive Thru</i>	53	15.4	76	22.0	128	37.1	85	24.6
<i>I Prefer Chicken Over A Burger.</i>	53	15.4	94	27.2	123	35.7	75	21.7

The findings regarding the association between perception and prevalence of fast food consumption habits among medical students at the University of Cyberjaya are presented in the table. Participants' responses to various statements were categorized into four levels: "Strongly disagree," "Disagree," "Agree," and "Strongly agree."

The majority of respondents agreed with the statement "I believe that fast food outlets provide quality food. They are quick and easy to prepare," comprising 39.7% who agreed and 18.6% who strongly agreed. On the other hand, 20.9% of participants both strongly disagreed and disagreed with this statement.

Regarding taste preferences, 48.7% of respondents agreed that they liked the taste of fast food, while 23.2% strongly agreed. Only 9.0% disagreed with this statement.

The concern about the Halal status of fast food was also explored. A considerable proportion (30.7%) of participants strongly disagreed with this notion, and 23.8% disagreed. However, 20.0% agreed, and 25.5% strongly agreed that they were concerned about the Halal status.

For the statement "Attractive packaging," 41.7% of respondents agreed, and 18.8% strongly agreed. In contrast, 15.9% both strongly disagreed and disagreed with the influence of attractive packaging on their fast food consumption. Moreover, 35.4% of participants agreed, and 18.3% strongly agreed that they believed the fast food they consumed was fresh. Conversely, 18.6% strongly disagreed, and 27.8% disagreed with this belief. Regarding awareness of fast food's impact on health, 51.3% of respondents strongly agreed that fast food was unhealthy and contributed to obesity and health problems. Additionally, 29.6% agreed, while 8.1% strongly disagreed with this awareness.

The relationship between stress levels and fast food consumption was also investigated. Notably, 38.6% of participants agreed, and 28.7% strongly agreed that they experienced a high stress level at home/college/work, leading to fast food consumption. Conversely, 11.0% strongly disagreed, and 21.7% disagreed with this association. Similarly, for the statement "I do not exercise/workout regularly," 34.8% of respondents agreed, and 17.4% strongly agreed, suggesting that a lack of regular exercise influenced fast food consumption habits. However, 18.6% strongly disagreed, and 29.3% disagreed with this notion.

The link between sleep duration and fast food consumption was explored, with 38.0% agreeing, and 25.2% strongly agreeing that they slept less than 7-8 hours per day, leading to fast food consumption. Conversely, 12.0% strongly disagreed, and 24.3% disagreed with this association. Time constraints were also examined in relation to fast food consumption. Notably, 35.9% of participants agreed, and 32.8% strongly agreed that they did not have time to prepare their breakfast/lunch when going to college, leading to fast food consumption. On the other hand, 11.3% strongly disagreed, and 20.0% disagreed with this time constraint influence. Regarding the willingness to pay for a fast-food meal, 28.7% of respondents agreed, and 25.8% strongly agreed that they were willing to pay RM 30 for a fast-food meal. However, 25.8% strongly disagreed, and 29.6% disagreed with this willingness.

Regarding meal preferences, 35.7% agreed, and 21.7% strongly agreed that they preferred chicken over a burger when consuming fast food. Conversely, 15.4% both strongly disagreed and disagreed with this preference. Overall, the findings suggest that various perceptions, including taste preferences, Halal status concerns, perceived freshness, and awareness of health implications, are associated with fast food consumption habits among medical students at the University of Cyberjaya. Additionally, factors such as stress levels, exercise habits, sleep duration, time constraints, and willingness to pay also influence their fast food consumption patterns. Understanding these associations can aid in developing targeted interventions to promote healthier dietary behaviors among medical students.

Table 4

To determine how medical students in University of Cyberjaya get to know about fast food.

Statements	Strongly disagree		Disagree		Agree		Strongly agree	
	n	%	n	%	n	%	n	%
I have received sufficient information about the effects on consumption of fast food.	25	7.2	44	12.8	120	34.8	156	45.2
I am aware of daily cases of obesity recorded in Malaysia	21	6.1	58	16.8	128	37.1	138	40.0
I am aware about at least one fast food linked diseases	21	6.1	50	14.5	116	33.6	158	45.8
Advertising media affected my rate of consumption of fast food.	38	11.0	78	22.6	119	34.5	110	31.9
Family and friends' opinion affected my decision on rate of fast food intake.	44	12.8	94	27.2	115	33.3	92	26.7

The findings regarding the sources of information about fast food among medical students at the University of Cyberjaya are summarized in the table. Participants' responses were categorized into four levels: "Strongly disagree," "Disagree," "Agree," and "Strongly agree."

Regarding the availability of information on the effects of fast food consumption, a significant proportion (45.2%) of medical students strongly agreed that they had received sufficient information about its effects. Additionally, 34.8% agreed, while 12.8% disagreed, and 7.2% strongly disagreed with having adequate information.

The awareness of daily obesity cases recorded in Malaysia was also explored. A substantial number of respondents (40.0%) strongly agreed that they were aware of these cases, while 37.1% agreed. In contrast, 16.8% disagreed, and 6.1% strongly disagreed.

Moreover, regarding knowledge of at least one fast food-linked disease, 45.8% of participants strongly agreed, and 33.6% agreed. Conversely, 14.5% disagreed, and 6.1% strongly disagreed with having this awareness.

The impact of advertising media on fast food consumption habits was examined. A considerable proportion (31.9%) of respondents strongly agreed that advertising media affected their rate of fast food consumption, while 34.5% agreed. On the other hand, 22.6% disagreed, and 11.0% strongly disagreed with this influence.

Lastly, family and friends' opinions and their impact on the decision to consume fast food were explored. For this statement, 33.3% of participants agreed, and 26.7% strongly agreed that these opinions influenced their fast food intake. Conversely, 27.2% disagreed, and 12.8% strongly disagreed with this influence.

Overall, the findings indicate that medical students at the University of Cyberjaya obtain information about fast food from multiple sources. They feel sufficiently informed about the effects of fast food consumption and are aware of the daily obesity cases recorded in Malaysia. Additionally, they have knowledge of fast food-linked diseases and acknowledge the influence of advertising media on their

fast food intake. Furthermore, family and friends' opinions also play a role in shaping their decision to consume fast food. Understanding these sources of information can assist in developing targeted educational campaigns to promote healthier dietary choices among medical students.

Table 5

Chi Square analysis between Age and Prevalence of fast food consumption

	Age (in years)			Total
	>24	18-20	21-23	
Highly Prevalent	17	19	36	72
Low Prevalence	20	11	31	62
Moderate Prevalence	47	38	126	211
Total	84	68	193	345

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	5.426 ^a	4	.246
Likelihood Ratio	5.163	4	.271
N of Valid Cases	345		

The chi-square analysis examined the association between age groups (in years) and the prevalence of fast food consumption among medical students. The participants were categorized into three age groups: >24 years, 18-20 years, and 21-23 years. The table shows the number of respondents in each age group who reported being highly prevalent, low prevalence, or moderately prevalent in fast food consumption. The findings indicated that among medical students aged >24 years, 17 reported a highly prevalent fast food consumption, 20 reported a low prevalence, and 47 reported a moderate prevalence, totaling to 84 students in this age group. In the 18-20 years' age group, 19 students reported a highly prevalent fast food consumption, 11 reported low prevalence, and 38 reported a moderate prevalence, totaling to 68 students. Among students aged 21-23 years, 36 reported a highly prevalent fast food consumption, 31 reported low prevalence, and 126 reported a moderate prevalence, totaling to 193 students. The chi-square test did not show a statistically significant association between age groups and the prevalence of fast food consumption among medical students (Pearson Chi-Square = 5.426, $p = 0.246$; Likelihood Ratio = 5.163, $p = 0.271$). The p-values indicate that there is no significant difference in the prevalence of fast food consumption across the three age groups. Importantly, none of the cells in the table had an expected count less than 5, with the minimum expected count being 12.22. The chi-square analysis suggests that age does not appear to have a significant impact on the prevalence of fast food consumption among medical students at the University of Cyberjaya.

Table 6

Chi Square analysis between Gender and Prevalence of fast food consumption

	Gender		Total
	Female	Male	
Highly Prevalent	40	32	72
Low Prevalence	30	32	62
Moderate Prevalence	105	106	211
Total	175	170	345

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	.886 ^a	2	.642
Likelihood Ratio	.888	2	.642
N of Valid Cases	345		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 30.55.

The chi-square analysis examined the association between gender and the prevalence of fast food consumption among medical students. The table shows the number of female and male students who reported being highly prevalent, low prevalence, or moderately prevalent in fast food consumption. Among the female participants, 40 reported a highly prevalent fast food consumption, 30 reported low prevalence, and 105 reported a moderate prevalence, totaling to 175 female students. For male students, 32 reported a highly prevalent fast food consumption, 32 reported low prevalence, and 106 reported a moderate prevalence, totaling to 170 male students. However, the chi-square test did not show a statistically significant association between gender and the prevalence of fast food consumption (Pearson Chi-Square = 0.886, $p = 0.642$; Likelihood Ratio = 0.888, $p = 0.642$). These findings suggest that gender does not appear to be a significant factor influencing the prevalence of fast food consumption among medical students at the University of Cyberjaya. Further research may be needed to explore other potential factors that could impact dietary behaviors in this student population.

Table 7

Chi Square analysis between Ethnicity and Prevalence of fast food consumption

	Ethnicity								Total
	Arab	Arabia	Banglades	Chines	Indian	Malay	Nigeria	somali	
	n	n	hi	e			n	an	
Highly Prevalent	0	0	2	21	29	19	1	0	72
Low Prevalence	0	0	0	14	42	6	0	0	62
Moderate Prevalence	2	2	0	49	106	49	2	1	211
Total	2	2	2	84	177	74	3	1	345

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	22.564 ^a	14	.068
Likelihood Ratio	24.269	14	.043
N of Valid Cases	345		

a. 15 cells (62.5%) have expected count less than 5. The minimum expected count is .18.

The chi-square test showed that the association between ethnicity and the prevalence of fast food consumption was not statistically significant (Pearson Chi-Square = 22.564, $p = 0.068$; Likelihood Ratio = 24.269, $p = 0.043$). These findings suggest that ethnicity may not be a significant factor influencing the prevalence of fast food consumption among medical students at the University of Cyberjaya.

Table 8

Chi Square analysis between Nationality and Prevalence of fast food consumption

	Nationality		Total
	Malaysian	Non-Malaysian	
Highly Prevalent	64	8	72
Low Prevalence	58	4	62
Moderate Prevalence	194	17	211
Total	316	29	345

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1.025 ^a	2	.599
Likelihood Ratio	.993	2	.609
N of Valid Cases	345		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.21.

The chi-square analysis examined the association between nationality and the prevalence of fast food consumption among medical students. The table displays the number of Malaysian and non-Malaysian students who reported being highly prevalent, low prevalence, or moderately prevalent in fast food consumption. Among the Malaysian participants, 64 reported a highly prevalent fast food consumption, 58 reported low prevalence, and 194 reported a moderate prevalence, totaling to 316 Malaysian students. For non-Malaysian students, 8 reported a highly prevalent fast food consumption, 4 reported low prevalence, and 17 reported a moderate prevalence, totaling to 29 non-Malaysian students. However, the chi-square test did not show a statistically significant association between nationality and the prevalence of fast food consumption (Pearson Chi-Square = 1.025, $p = 0.599$; Likelihood Ratio = 0.993, $p = 0.609$). These findings suggest that nationality may not be a significant factor influencing the prevalence of fast food consumption among medical students at the University of Cyberjaya.

Table 9

Chi Square analysis between Marital status and Prevalence of fast food consumption

	Marital status			Total
	Married	Others	Single	
Highly Prevalent	0	1	71	72
Low Prevalence	2	0	60	62
Moderate Prevalence	9	0	202	211
Total	11	1	333	345

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	6.902 ^a	4	.141
Likelihood Ratio	8.465	4	.076
N of Valid Cases	345		

a. 5 cells (55.6%) have expected count less than 5. The minimum expected count is .18.

: The chi-square analysis investigated the association between marital status and the prevalence of fast food consumption among medical students. The table shows the number of married, others, and single students who reported being highly prevalent, low prevalence, or moderately prevalent in fast food consumption. Among the participants, there were no married or others students in the highly prevalent or low prevalence categories. However, 71 single students fell into the highly prevalent category, and 60 single students reported low prevalence. In the moderate prevalence category, 9 married and 202 single students were reported, totaling 211 students. The chi-square test did not reveal a statistically significant association between marital status and the prevalence of fast food consumption (Pearson Chi-Square = 6.902, $p = 0.141$; Likelihood Ratio = 8.465, $p = 0.076$). Importantly, 5 cells (55.6%) in the table had an expected count less than 5, with the minimum expected count being 0.18.

Table 10

Chi Square analysis between Family income per month and Prevalence of fast food consumption

	Family income per month (RM)			Total
	<4849	>10960	4850-10960	
Highly Prevalent	21	19	32	72
Low Prevalence	30	7	25	62
Moderate Prevalence	85	22	104	211
Total	136	48	161	345

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	14.351 ^a	4	.006
Likelihood Ratio	12.981	4	.011
N of Valid Cases	345		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.63.

The chi-square analysis examined the association between family income per month and the prevalence of fast food consumption among medical students. The table displays the number of students from different income groups (<RM4849, RM4850-10960, and >RM10960) who reported being highly prevalent, low prevalence, or moderately prevalent in fast food consumption. Among the participants, 21 students from the <RM4849 income group fell into the highly prevalent category, and 30 reported low prevalence. For the RM4850-10960 income group, 19 reported high prevalence, and 7 reported low prevalence. In the RM>10960 income group, 32 students reported highly prevalent fast food consumption, and 25 reported low prevalence, totaling to 48 students. In the moderate prevalence category, 85 students from the <RM4849 income group, 104 from the RM4850-10960 income group, and 22 from the RM>10960 income group were reported, totaling to 211 students. The chi-square test revealed a statistically significant association between family income per month and the prevalence of fast food consumption (Pearson Chi-Square = 14.351, $p = 0.006$; Likelihood Ratio = 12.981, $p = 0.011$). None of the cells in the table had an expected count less than 5, with the minimum expected count being 8.63.

Table 11

Chi Square analysis between Family pocket money and Prevalence of fast food consumption

	Monthly pocket money (RM)				Total
	200	400	600	800	
Highly Prevalent	5	25	24	18	72
Low Prevalence	15	19	16	12	62
Moderate Prevalence	31	70	80	30	211
Total	51	114	120	60	345

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	12.709 ^a	6	.048
Likelihood Ratio	12.760	6	.047
N of Valid Cases	345		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 9.17.

The chi-square analysis investigated the association between monthly pocket money and the prevalence of fast food consumption among medical students. The table shows the number of students who received different amounts of pocket money (RM200, RM400, RM600, and RM800) and reported being highly prevalent, low prevalence, or moderately prevalent in fast food consumption. Among the participants, 5 students who received RM200 as pocket money fell into the highly prevalent category, and 15 reported low prevalence. For those who received RM400, 25 reported high prevalence, and 19 reported low prevalence. In the RM600 pocket money group, 24 reported highly prevalent fast food consumption, and 16 reported low prevalence. For those who received RM800, 18 reported high prevalence, and 12 reported low prevalence, totaling to 60 students. In the moderate prevalence category, 31 students who received RM200, 70 who received RM400, 80 who received RM600, and 30 who received RM800 were reported, totaling to 211 students. The chi-square test revealed a statistically significant association between monthly pocket money and the prevalence of fast food consumption (Pearson Chi-Square =

12.709, $p = 0.048$; Likelihood Ratio = 12.760, $p = 0.047$). None of the cells in the table had an expected count less than 5, with the minimum expected count being 9.17.

DISCUSSION

The present study aimed to investigate the relationship between socio-demographic factors and the prevalence of fast food consumption among medical students at the University of Cyberjaya. The findings shed light on the factors influencing the dietary habits of medical students and have significant implications for health promotion and intervention strategies within the university setting.

Contrary to some prior research that has found age and gender to be associated with fast food consumption patterns (3,4), our study did not find any significant associations in this regard among medical students. This result suggests that, unlike the general population where age and gender may play a role in shaping fast food preferences, medical students, as a distinct subpopulation, may not exhibit the same patterns. This discrepancy could be attributed to the unique lifestyle and demands of medical students, which might overshadow the influence of age and gender on their dietary choices. Moreover, medical students are typically driven, ambitious, and highly committed to their studies, and these factors may mediate the influence of socio-demographic variables on their eating habits.

However, our findings regarding the impact of family income and pocket money on fast food consumption prevalence align with previous research (7). Students with higher family incomes and more pocket money tend to have greater financial freedom and, therefore, may have a higher likelihood of consuming fast food regularly. Fast food is often perceived as an inexpensive and convenient option, and individuals with more disposable income may find it more accessible and affordable. In contrast, students from lower-income families may be more financially constrained and thus opt for home-cooked meals, which are perceived as more economical and healthier.

The influence of family income on dietary habits is a critical area of concern, especially considering that medical students are future healthcare professionals. It highlights the importance of addressing economic disparities to promote healthier eating habits among this population. University administrations should consider implementing strategies to support students from lower-income backgrounds, such as providing affordable and nutritious on-campus meal options or financial assistance programs.

Furthermore, our study revealed that students' liking for fast food was positively associated with higher fast food consumption prevalence. This finding emphasizes the significance of personal preferences and taste preferences in shaping dietary behaviors (9). Taste is a complex interplay of biological, psychological, and cultural factors, and individual food preferences can strongly influence eating habits. Therefore, health promotion initiatives should aim to not only educate students about the health risks associated with excessive fast food consumption but also to introduce healthier food alternatives that are equally delicious and appealing.

Additionally, the proximity of fast food outlets to the university campus was found to be positively correlated with fast food consumption prevalence among medical students. This result underscores the role of environmental factors in influencing food choices (10). The ease of access to fast food outlets on or near campuses can significantly impact students' eating behaviors, especially when they are time-pressed due to academic commitments. To counteract this influence, universities can collaborate with food vendors to offer healthier menu options and promote nutritious eating habits. Furthermore, providing

communal cooking facilities and promoting meal prepping and planning may encourage students to opt for healthier homemade meals rather than relying on fast food.

Despite the valuable insights provided by this study, it is essential to acknowledge some limitations. The cross-sectional design restricts our ability to establish causal relationships between socio-demographic factors and fast food consumption. A longitudinal study design would allow for the examination of changes in dietary patterns over time and provide stronger evidence for causality. Additionally, the study was conducted at the University of Cyberjaya, which may limit the generalizability of the findings to other medical student populations or young adults from different cultural backgrounds.

To conclude, this study contributes to the growing body of research on dietary habits and fast food consumption among university students, particularly in the context of medical education. The results highlight the influence of family income, pocket money, personal preferences, and environmental factors on fast food consumption prevalence among medical students. Health promotion efforts targeting this population should consider addressing these factors through educational campaigns, improved campus food environments, and support for students from lower-income backgrounds. By doing so, universities can play a vital role in shaping healthier dietary behaviors among future healthcare professionals, thereby contributing to improved overall well-being and reduced risk of diet-related health problems.

CONCLUSION

In conclusion, this study sheds light on the factors influencing fast food consumption prevalence among medical students at the University of Cyberjaya. Age and gender were not found to be significant predictors, suggesting that the unique lifestyle of medical students may overshadow the influence of these socio-demographic factors on their dietary choices. However, family income, pocket money, personal preferences, and the proximity of fast food outlets were identified as crucial determinants of fast food consumption. Students with higher family incomes and pocket money, along with a liking for fast food and easy access to fast food outlets, were more likely to consume fast food regularly.

Several limitations must be acknowledged in this study. Firstly, the cross-sectional design restricts our ability to establish causal relationships between socio-demographic factors and fast food consumption. A longitudinal study would provide stronger evidence for causality and better understanding of changes in dietary patterns over time. Secondly, the study was conducted at a single university, which may limit the generalizability of the findings to other medical student populations or young adults from different cultural backgrounds. Future research should consider including diverse samples to enhance the external validity of the findings.

Based on the study's findings, several recommendations can be made to promote healthier dietary habits among medical students and university populations in general: **Health Promotion Initiatives:** Universities should develop health promotion campaigns that raise awareness about the health risks associated with excessive fast food consumption. These campaigns should also focus on the importance of balanced nutrition and the benefits of healthier food choices. **Improving Campus Food Environments:** Collaboration with food vendors on campus can lead to the introduction of healthier menu options that are both appealing and nutritious. This approach can help students make healthier food choices even when they opt for fast food. **Financial Support for Students:** Considering the impact of family income and pocket money on fast food consumption, universities could implement financial assistance programs for students from lower-income backgrounds. This support can help reduce financial barriers to healthier eating.

Cooking Facilities and Meal Planning: Providing communal cooking facilities and promoting meal prepping and planning may encourage students to prepare their meals, which are often healthier than fast food options. Curriculum Integration: Incorporate nutrition and healthy eating modules into the medical curriculum. Medical students, as future healthcare professionals, can benefit from early exposure to the importance of dietary habits in preventing and managing chronic diseases. Further Research: Conduct longitudinal studies that follow students over time to understand changes in their dietary behaviors. Additionally, exploring the cultural and social factors influencing fast food consumption among medical students can provide deeper insights for tailored interventions.

By implementing these recommendations, universities can play an active role in fostering healthier dietary behaviors among students, particularly those pursuing medical education. Such efforts will not only benefit the individual well-being of students but also contribute to the cultivation of healthier practices among future healthcare professionals.

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