Original Article

FAST FOOD CONSUMPTION AMONG ADULTS IN MALAYSIA DURING COVID-19 LOCKDOWN

Hazirah Abdul Radzak*, Siti Nur Aniza Salim, Muhammad Hanif Mohamad Zaini, Ezzatul Hanani Md Yusoff, Muhammad Izz Yusoff Mohd Rizal, Auni Raidatul Zafira Azhar, Nur Laili Hamizah Hamidi, Nur Raudahtul Jannah Suhaimi, Auni Raidatul Zafira Azhar & Harif Fadzilah Che Hashim

Kulliyyah of Medicine & Health Sciences, Universiti Islam Antarabangsa Sultan Abdul Halim Mu'adzam Shah, 09300 Kuala Ketil, Kedah, Malaysia.

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ABSTRACT

Malaysia's first confirmed case of COVID-19 was on 25th January 2020 by three Chinese nationals who had been in close contact with an infected person from Singapore. This leads to several changes occurring in Malaysia's food intake particularly fast food consumption. The COVID-19 epidemic and related measures substantially impacted daily food patterns, diet, and fast food-purchase behavior. Risk perception associated with COVID-19 may influence people's fast food purchase and consumption behaviors. This res study was conducted to investigate the attitude and practice of fast food consumption among adults in Malaysia during Covid-19 lockdown which started from 2nd June until 7th July 2022. The survey instrument consisted of demographic characteristics, 17 items on attitude, 15 items on practices. Descriptive statistics, chi-square tests, t-tests and one-way analysis of variance (ANOVA) were used to analyze the data obtained. This study involved 318 numbers of participants. The result showed the majority of the study participants (76.1%) were females and the rest of them (23.9%) were males. For the race, 98.1% were Malays, 0.9 % from other races. From our study, we found that there is a statistically significant association (p<0.05) between level of practice and gender, between level of attitude and age group, between level of attitude and marital status and between level of attitude and occupation. Our findings may be useful for Malaysian Ministry of Health to reconstruct policies or planning to change the attitude and practice among Malaysian adults towards fast food consumption since our findings showed that Malaysian adults have a moderate attitude and practice towards fast food consumption. There is also a need to educate young married people about practicing a healthy diet in their daily life. In addition, the implication from this study is to create awareness of healthy food selection in Malaysian adults.

INTRODUCTION

Movement Control Order (MCO) was implemented by Malaysian government on March 2020 to limit spread of Coronavirus disease (COVID-19) [1]. People were forced to stay at home and practice online working and/or online learning and were allowed to leave their homes only for prespecified occasions, such as medical reasons, essential work, physical activity, purchasing food and in emergencies [2]. One obvious consequence that cause by MCO is how a person or society eats, which has an impact on household spending, particularly on food. A person's or a community of people's eating habits, which also include their dietary preferences, attitudes, and beliefs, are how they satisfy their nutritional demands. Depending on the ideals that an individual or group of people grew up with, attitudes about food can be either positive or negative. Meal quality will depend on how excellent or poor, appealing or undesirable the food is

[3]. The final meal decision will be impacted by these attitudes and beliefs. About 58.2% of people consumes more food, and 82.5 percent of them ate a lot of fast food that has little nutritious value when they were bored at home during the MCO [4]. The amount of food consumed, the variety of food consumed, breakfast habits, the habit of preparing their own meals and experimenting with new recipes are just a few of the dietary changes related to the COVID-19 pandemic. Other modifications, such as adjustments to the location and how fast and convenient to get foods affects changes in eating pattern [5].

A higher calorie intake and/or overeating may also result from changes in the everyday routine and time spent away from work, both of which can be attributed to stress and boredom. Stress makes people eat more than they should, especially "comfort foods" like fast food that high in salt and

sugar, which are referred to as "food cravings" [6]. These meals, which are mostly high in simple carbs, help lower stress because they promote serotonin synthesis, which improves mood. In this research project, we are mainly focused on conducting a survey to investigate the fast food consumption among adults during COVID-19 lockdown to have a greater knowledge on how this lockdown can change the dietary habits among adults.

The COVID-19 epidemic and related measures substantially impacted daily food patterns, diet, and food-purchase behavior. Risk perception associated with COVID-19 may influence people's food purchase and consumption behaviors. For example, people may become very stress during the lockdown and had to find their comfort food and something sweet and sugary to eat like fast food [7]. Some adults were so busy because they need to work from home, so they had to find food that were fast and convenient to be eaten and only take some times for the delivery. Some also believe fast food are more cheaper that other food or buying groceries at mall [8]. Moreover, they did not even realize about getting fat or getting heavier during that time. To limit the infection of covid -19 virus, it is better to stay at home than going out. Because of this, it is so hard to buy the groceries and to prepare the meal itself at home which is much more healthy than fast food [9]. In comparison, the COVID-19 lockdown in Qatar also changes people's eating and dietary patterns, leading to a deterioration of nutritional and health status at both individual and country levels. The lockdown is also affecting the quality of diets [10]. Consumers are shifting towards greater consumption of processed food, such as fast foods, junk foods and snacks. There is also a possibility of a decrease in meat consumption (as a result of fears—not science-based—that animals might be hosts of the virus) and other higher-value products like fruits and vegetables (which are likely to cause price decreases) [11]. However, there are still people who eat healthy food and prepare the food itself at home because some people do early preparation by stocking up all the grocery before the lockdown [12]. Therefore, the study was conducted to investigate the attitude and practice of fast food consumption among adults in Malaysia during COVID -19 lockdown.

METHODOLOGY

Study design
The retrospective study was started from 2nd June 2022 until 7th July 2022. A quantitative approach was utilised to achieve the objectives of this study. A retrospective survey was appropriate to conduct for collecting the information about fast food consumption among adults in Malaysia during COVID -19 lockdown. Social media was used to call for participation.

Sampling
The target sample size was at least 385 respondents, determined by identifying the smallest acceptable size of a demographic subgroup with a ±5% of margin error and 95% of confidential level [13]. The researchers opted to use Google form as an online survey since it is not feasible to conduct a systematic nationwide sampling during this period. Malaysian citizens above the age of 18 and recently residing in the country were eligible to participate in the survey. Several strategies were used to reach as many respondents as possible in Malaysia within 35 days data collection period. Social media (Facebook and Instagram), WhatsApp and Telegram were the platforms used to disseminate this questionnaire. WhatsApp and Facebook were chosen since they were the most popular social and communication platforms nowadays. Instagram are renowned among the younger generations while older Malaysians generally preferred Facebook. WhatsApp message with the standardised general description about the survey was provided before the link was given in both English and Malay language versions of the questionnaire. A total data of 318 respondents have been collected.

Study instrument
The survey instrument was adapted from a study on fast food consumption among adults in Malaysia during COVID-19 lockdown [14]. The questionnaire consisted of four main themes: 1) Demographics which study respondents' socio-demographic information, including gender, race, age, marital status, education, occupation, place of current residence and regional; 2) Attitudes towards fast food consumption among adults in Malaysia during COVID-19 lockdown 4) Practices relevant to fast food consumption. To measure attitudes towards fast food consumption during COVID-19 lockdown, study participants were assessed whether they agree (yes) or disagree (no) this MCO affected fast food consumption. Also, to evaluate their opinions regarding the conspiration of COVID-19. The range from 0-10 is the maximum total score, with a higher score (7-10) indicating good attitude, a score of 4-6 indicating moderate attitude and a score of 1-3 indicating poor attitude. Meanwhile, to measure practices, the study participants were asked whether their purchasing habit of fast food is influenced by social media, frequencies of eating fast food and eating fast food due to online class. The range from 0-10 is the maximum total score, with a higher score (7-10) indicating good practice, a score of 4-6 indicating moderate practice and a score of 1-3 indicating poor practice.

Statistical analysis
The data was analyzed using Statistical Package for the Social Science (SPSS) software version 26. Frequencies and percentages were determined using descriptive analysis. The reliability of the variables was tested by using the Cronbach alpha coefficient to determine the internal consistency of Attitude and Practice. The results showed that Cronbach alpha for attitude (10 items) was 0.718 and practices (9 items) was 0.802. Independent T-test and One-way analysis of variance (ANOVA) followed by post-hoc Tukey test were used to determine the significant level of means (dependent variables) for demographics. Chi-square was used to determine the correlation between independent

and dependent variables. *P*-value that is less than 0.05 will be considered significant.

RESULTS

This study involved 318 numbers of participants. Data shows the majority of the study participants (76.1%) were females and the rest of them (23.9%) were males. For the race, 98.1% were Malays, 0.9 % were Chinese, 0.9 % were Indians and no participants from other races. Most of our study participants were aged between 18 and 25 years old with 64.2% overall percentage. While only 1.9% form the age range of 26-35 years old and 3.5 % of them were aged 56 and above. Besides, the majority of study participants were single (64.8%) for their marital status, with 34.3% were married. All of them came from a variety education background like SPM, Pre-university, Bachelor, Master and PhD but mostly were Bachelor's holders (69.5%). Among them, the majority are students (60.7%) compared to employed (34.0%), unemployed (4.1%) and retired (1.3 %). Relating to the residency of our study participants, most of them (59.1 %) were living in urban areas and came from northern Malaysia (56.0%). Our participant mostly come from middle income family which household income is between RM 4851 – RM 10970 (37.1%) followed by those with income less than RM 4851 (36.5%) and only 25.8 % with monthly come more than RM 10970.

There is no significant mean difference (p>0.05) between attitude score and gender. There is no significant mean difference (p>0.05) between practice score and gender. There is no significant mean difference (p>0.05) between attitude score and different race. There is no significant mean difference (p>0.05) between practice score and different race. There is significant mean difference (p<0.05) between attitude score and difference age group in adults (18-25) (36-45)/(18-25) (46-55). There is significant mean difference (p<0.05) between practice score and different age group in adults (18-25) (46-55). There is significant mean difference (p<0.05) between attitude score and different education level (preU and Master). There is significant mean difference (p<0.05) between practice score and different marital level (preU and Master). There is significant mean difference (p<0.05) between attitude score and different marital status (married and single). There is significant mean difference (p<0.05) between practice score and different marital status (married and single). There is significant mean difference (p<0.05) between attitude score and different occupation (employed and student).

Besides, there is significant mean difference (p<0.05) between practice score and different occupation (employed and student). There is no significant mean difference (p>0.05) between attitude score and different area of residence. There is no significant mean difference (p>0.05) between practice score and different area of residence. There is no significant mean difference (p>0.05) between attitude score and different regional. There is no significant mean difference (p>0.05) between practice score and different regional. There is no significant mean difference

Table 1: Demographic of study participants and attitude score

Characteristic		Number of participants	Attitude score (Mean ±SD)	t/F	p-value
Gender	Male	76 (76.1 %)	50.105 ± 6.032	3.804	0.052 (p<0.05)
	Female	242 (23.9 %)	49.570 ± 5.201		
Race	Malays	311 (98.11%)	49.7436 ± 5.43405	0.766	0.466 (p>0.05)
	Chinese	3 (0.94%)	48.666 ± 3.78594		
	Indian	3 (0.94%)	46.000 ± 2.000		
	Others	0 (0.0%)	49.698 ±5.406		
Age	18-29	203 (64.15%)	50.691 ± 5.664	5.226	0.000 (p<0.05)
	30-39	6 (1.89%)	48.000 ± 4.4271		
	40-49	38 (11.95%)	48.131 ± 4.7826		
	50-59	59 (18.55%)	47.593 ± 4.1527		
	Above 60	11 (3.46%)	48.909 ± 4.7635		

(p>0.05) between attitude score and monthly income. There is no significant mean difference (p>0.05) between practice score and monthly income. There is no significant association (p>0.05) between level of attitude and gender. There is significant association (p<0.05) between level of practice and gender. There is no significant association (p>0.05) between level of attitude and different race. There is no significant association (p>0.05) between level of practice and different race.

On the other hand, here is significant association (p<0.05) between level of attitude and age group. There is no significant association (p>0.05) between level of practice and age group. There is no significant association (p>0.05) between level of attitude and education level. There is no significant association (p>0.05) between level of practice and education level. There is significant association (p<0.05) between level of attitude and marital status. There is no significant association (p>0.05) between level of practice and marital status. There is significant association (p<0.05) between level of attitude and occupation. There is no significant association (p>0.05) between level of practice and occupation. There is no significant association

Table 1: Demographic of study participants and attitude score

Characteristic		Number of participants	Attitude score (Mean ±SD)	t/F	p-value
Marital status	Married	109 (34.28%)	48.018 ± 4.4200	9.417	0 .000 (p<0.05)
	Single	205 (64.78%)	50.635 ± 5.6808		
	Others	3 (0.94%)	46.333 ± 2.8867		
Education	SPM	12 (3.77%)	47.000 ± 4.177	4.068	0 .001 (p<0.05
	Pre-University and its equivalent	59 (18.55%)	50.949 ± 49.705		
	Bachelor's degree	220 (69.50%)	45.416 ± 5.2821		
	Master's degree	12 (3.77%)	38.000 ± 0.000		
	PhD	1 (0.31%)	51.230 ± 5.644		
	Others	13 (4.09%)	±		
Occupation	Employed	108 (33.96%)	±		
	Unemployed	13 (4.09%)	±		
	Student	193 (60.69%)	±		
	Retired	4 (1.26%)	±		
Place of current residence	Urban	187 (59.12%)	±		
	Rural	130 (40.88%)	±		
Regional	Central	32 (10.06%)	±		
	Northern	178 (55.97%)	±		
	Southern	10 (3.14%)	±		
	Eastern	98 (30.82%)	±		
	Sabah & Sarawak	0 (0.0%)	±		

Table 2: Demographic of study participants and attitude category.

Demographic		No. of participants	Attitude category n%			Chi square value pearson	P value
			Poor	Moderate	Strong		
Gender	Male	76 (76.1 %)	0 (0.0%)	66 (86.8%)	10 (13.2%)		0.304 (p>0.05)
	Female	242 (23.9 %)	0 (0.0%)	220 (90.9%)	22 (9.1%)	1.057	
Race	Malay	311 (98.11%)	0 (0.0%)	280 (89.7%)	32 (10.3%)		
	Chinese	3 (0.94%)	0 (0.0%)	3 (100.0%)	0 (0.0%)	0.684	0.710 (p>0.05)
	Indian	3 (0.94%)	0 (0.0%)	3 (100.0%)	0 (0.0%)		
	Others	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)		
Age	18-25	203 (64.15%)	0 (0.0%)	175 (85.8%)	29 (14.2%)		
	26-35	6 (1.89%)	0 (0.0%)	6 (100.0%)	0 (0.0%)	11.322	0.023 (p<0.05)
	36-45	38 (11.95%)	0 (0.0%)	36 (94.7%)	2 (5.3%)		
	46-55	59 (18.55%)	0 (0.0%)	58 (98.3%)	1 (1.7%)		
	Above 56	11 (3.46%)	0 (0.0%)	11 (100.0%)	0 (0.0%)		
Marital status	Married	109 (34.28%)	0 (0.0%)	106 (97.2%)	3 (2.8%)		0.005 p<0.05
	Unmarried	205 (64.78%)	0 (0.0%)	177 (85.9%)	29 (14.1%)	10.441	
	Others	3 (0.94%)	0 (0.0%)	3 (100.0%)	0 (0.0%)		
Education	SPM	12 (3.77%)	0 (0.0%)	12 (100.0%)	0 (0.0%)		
	Pre-University and its equivalent	59 (18.55%)	0 (0.0%)	49 (83.1%)	10 (16.9%)	8.846	0.115 (p>0.05)
	Bachelor's Degree	220 (69.50%)	0 (0.0%)	202 (91.4%)	19 (8.6%)		
	Master	12 (3.77%)	0 (0.0%)	12 (100.0%)	0 (0.0%)		
	Phd	1 (0.31%)	0 (0.0%)	1 (100.0%)	0 (0.0%)		
	Others	13 (4.09%)	0 (0.0%)	10 (76.9%)	3 (23.1%)		

Table 2: Demographic of study participants and attitude category.

Demographic		No. of participants	Attitude category n%			Chi square value pearson	P value
			Poor	Moderate	Strong		
Occupation	Employed	108 (33.96%)	0 (0.0%)	104 (96.3%)	4 (3.7%)	8.642	0.034 (p<0.05)
	Unemployed	13 (4.09%)	0 (0.0%)	12 (92.3%)	1 (7.7%)		
	Student	193 (60.69%)	0 (0.0%)	166 (86.0%)	27 (14.0%)		
	Retired	4 (1.26%)	0 (0.0%)	4 (100.0%)	0 (0.0%)		
Area of residence	Urban	187 (59.12%)	0 (0.0%)	165 (87.8%)	23 (12.2%)	2.395	0.122 (p>0.05)
	Rural	130 (40.88%)	0 (0.0%)	121 (93.1%)	9 (6.9%)		
Region	Central	32 (10.06%)	0 (0.0%)	31 (96.9%)	1 (3.1%)	4.819	0.186 (p>0.05)
	Northern	178 (55.97%)	0 (0.0%)	155 (87.1%)	23 (12.9%)		
	Southern	10 (3.14%)	0 (0.0%)	10 (100.0%)	0 (0.0%)		
	Eastern	98 (30.82%)	0 (0.0%)	90 (91.8%)	8 (8.2%)		
	Sabah & Sarawak	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)		
Monthly Income	< RM4851	116 (36.48%)	0 (0.0%)	101 (87.1%)	15 (12.9%)	2.659	0.265 (p>0.05)
	RM4851 – RM 10970	120 (37.74%)	0 (0.0%)	112 (93.3%)	8 (6.7%)		
	>RM10970	82 (25.79%)	0 (0.0%)	73 (89.0%)	9 (11.0%)		

Table 3: Demographic of study participants and practice score.

Characteristic		Number of participants	Practice score (Mean ± SD)	t/F	p-value
Gender	Male	76 (76.1 %)	43.2237 ± 7.76419	5.536	0.019 (P<0.05)
	Female	242 (23.9 %)	44.7344 ± 6.23532		
Race	Malays	311 (98.11%)	44.4148 ± 6.68496	0.337	0.714 (P>0.05)
	Chinese	3 (0.94%)	42.3333 ± 6.80686		
	Indian	3 (0.94%)	42.0000 ± 2.0000		
	Others	0 (0.0%)	0.0000 ± 0.0000		
Age	18-29	203 (64.15%)	45.4729 ± 6.58854	5.362	0.000 (P<0.05)
	30-39	6 (1.89%)	44.6667 ± 6.56252		
	40-49	38 (11.95%)	44.0526 ± 5.91355		
	50-59	59 (18.55%)	41.3729 ± 6.11639		
	Above 60	11 (3.46%)	41.0909 ± 7.98066		
Marital status	Married	109 (34.28%)	42.3761 ± 6.46614	8.431	0.000 (P<0.05)
	Single	205 (64.78%)	45.4780 ± 6.52414		
	Others	3 (0.94%)	41.3333 ± 6.02771		
Education	SPM	12 (3.77%)	41.9167 ± 6.08214	2.267	0.048 (P<0.05
	Pre-University and its equivalent	59 (18.55%)	45.3729 ± 6.93293		
	Bachelor's degree	220 (69.50%)	44.5773 ± 6.50454		
	Master's degree	12 (3.77%)	39.0833 ± 6.96038		
	PhD	1 (0.31%)	46.0000 ± 0.0000		
	Others	13 (4.09%)	43.3846 ± 6.44901		

Table 3: Demographic of study participants and practice score.

Occupation	Employed	108 (33.96%)	42.6204 ± 6.23933	4.868	0.003 (P<0.05)
	Unemployed	13 (4.09%)	43.2308 ± 5.77572		
	Student	193 (60.69%)	45.4948 ± 6.66553		
	Retired	4 (1.26%)	41.5000 ± 10.14889		
Place of current residence	Urban	187 (59.12%)	44.7701 ± 6.88661	0.668	0.414 (P>0.05)
	Rural	130 (40.88%)	43.8000 ± 6.28200		
Regional	Central	32 (10.06%)	44.1875 ± 7.23539	0.369	0.775 (P>0.05)
	Northern	178 (55.97%)	44.0734 ± 6.62727		
	Southern	10 (3.14%)	45.1000 ± 5.64604		
	Eastern	98 (30.82%)	44.8980 ± 6.65418		
	Sabah & Sarawak	0 (0.0%)	0.0000 ± 0.0000		

(p>0.05) between level of attitude and area. There is no significant association (p>0.05) between level of practice and area. There is no significant association (p>0.05) between level of attitude and regional.There is no significant association (p>0.05) between level of practice and regional. There is no significant association (p>0.05) between level of attitude and monthly income. There is no significant association (p>0.05) between level of practice and monthly income.

DISCUSSION

From our study, we found that there is a statistically significant association (p<0.05) between level of practice and gender. Men consumed food to satisfy their needs such as high-calorie items like fast food and numerous oily foods [15]. There are a small number of men that have poor practice which means they consume a lot of healthy food. On the other hand, our findings are different from [16] revealed that women are more likely to eat healthy food than men. We found that mostly men and women fall within a moderate category of practice towards fast food consumption and just a few of them have poor practice [17]. This due to Malaysian adults mostly not control their diet strictly and do not mind eating fast food. They may not have a good understanding and awareness regarding healthy diet. It can be due to their daily habits. They may have the knowledge about healthy diet but do not mind eating fast food. Those people who are not concerned about their diet or healthy eating tend to eat out more [18].

Our study also found there is significant association (p<0.05) between level of attitude with age. Our findings are corresponding to a report from the American diet among adults which found that the increase in age leads to decrease in fast food consumption and the highest is among younger people aged 20-39 and least among elderly [19]. Our finding showed that there is a decrease in attitude as the age increases but does not fall within a poor attitude. But, young people have better attitudes towards fast food [20]. This is because they are more educate about fast food and its consequences, but their modern lifestyle causes them to choose fast food. Elderly have a lower attitude as their health condition starts to worsen, which makes them consume a lower amount of fast food. Every house has fast food stored in their house [21]. Since almost every house has fast food stored and stocked, especially during Covid-19 lockdown, this will attract them to consume this food. Retired elderly that just stayed in the house may be exposed tofast food stocks in the house and causes them to increase attitude with fast food [22].

The present study showed there is a significant association (p<0.05) between level of attitude and marital status. The is a new finding regarding attitude toward fast food consumption and marital status from our study which are not been found yet in Malaysia or other countries. A study reported that marital status gives impacts on their health, including daily food consumption [23]. The married couple, with low financial resources, tends to buy fast food such as canned Sardine, maggie,

Table 4: Demographic of study participants and practice category

Demographic		No. of participants	Practice category n%			Chi square value	P value
			Poor	Moderate	Strong		
Gender	Male	76 (76.1 %)	2 (2.6%)	58 (76.3%)	16 (21.1%)	7.346	0.025 (p<0.05)
	Female	242 (23.9 %)	0 (0.0%)	201 (83.4%)	41 (16.6%)		
Race	Malay	311 (98.11%)	2 (0.6%)	253 (81.4%)	56 (18.0%)	1.370	0.849 (p>0.05)
	Chinese	3 (0.94%)	0 (0.0%)	3 (100.0%)	0 (0.0%)		
	Indian	3 (0.94%)	0 (0.0%)	3 (100.0%)	0 (0.0%)		
	Others	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)		
Age	18-25	203 (64.15%)	2 (1.0%)	158 (77.8%)	43 (21.2%)	10.570	0.227 (p>0.05)
	26-35	6 (1.89%)	0 (0.0%)	4 (66.7%)	2 (33.3%)		
	36-45	38 (11.95%)	0 (0.0%)	32 (84.2%)	6 (15.8%)		
	46-55	59 (18.55%)	0 (0.0%)	56 (94.9%)	3 (5.1%)		
	Above 56	11 (3.46%)	0 (0.0%)	9 (81.8%)	2 (18.2%)		
Marital status	Married	109 (34.28%)	0 (0.0%)	96 (88.1%)	13 (11.9%)	5.926	0.205 (p>0.05)
	Unmarried	205 (64.78%)	2 (1.0%)	160 (78.0%)	43 (21.0%)		
	Others	3 (0.94%)	0 (0.0%)	3 (100.0%)	0 (0.0%)		
Education	SPM	12 (3.77%)	0 (0.0%)	11 (91.7%)	1 (8.3%)	6.077	0.809 (p>0.05)
	Pre-University and its equivalent	59 (18.55%)	1 (1.7%)	45 (76.3%)	13 (22.0%)		
	Bachelor's Degree	220 (69.50%)	1 (0.5%)	180 (81.8%)	39 (17.7%)		
	Master	12 (3.77%)	0 (0.0%)	12 (100.0%)	0 (0.0%)		
	Phd	1 (0.31%)	0 (0.0%)	1 (100.0%)	0 (0.0%)		
	Others	13 (4.09%)	0 (0.0%)	10 (76.9%)	3 (23.1%)		
Occupation	Employed	108 (33.96%)	0 (0.0%)	96 (88.9%)	12 (11.1%)	6.680	0.351 (p>0.05)
	Unemployed	13 (4.09%)	0 (0.0%)	11 (84.6%)	2 (15.4%)		
	Student	193 (60.69%)	2 (1.0%)	149 (77.6%)	41 (21.4%)		
	Retired	4 (1.26%)	0 (0.0%)	3 (75.0%)	1 (25.0%)		

Table 4: Demographic of study participants and practice category

Demographic		No. of particip ants	Practice category n%			Chi square value	P value
			Poor	Moderate	Strong		
Area of residence	Urban	187 (59.12%)	0 (0.0%)	152 (81.3%)	35 (18.7%)	3.172	0.205 (p<0.05)
	Rural	130 (40.88%)	2 (1.5%)	107 (82.3%)	21 (16.2%)		
Region	Central	32 (10.06%)	0 (0.0%)	27 (84.4%)	5 (15.6%)	2.368	0.883 (p>0.05)
	Northern	178 (55.97%)	2 (1.1%)	146 (82.5%)	29 (16.4%)		
	Southern	10 (3.14%)	0 (0.0%)	8 (80.0%)	2 (20.0%)		
	Eastern	98 (30.82%)	0 (0.0%)	78 (79.6%)	20 (20.4%)		
	Sabah & Sarawak	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)		
Monthly Income	< RM4851	116 (36.48%)	1 (0.9%)	93 (80.9%)	21 (18.3%)	1.542	0.819 (p>0.05)
	RM4851 – RM 10970	120 (37.74%)	0 (0.0%)	98 (81.7%)	22 (18.3%)		
	>RM109 70	82 (25.79%)	1 (1.2%)	68 (82.9%)	13 (15.9%)		

and processed food since fast food is much cheaper. Another reason that may indicate these findings is that married couples think it is better to cook at home during lockdown than to buy food out-side since they can have quality time together at home; they get to experiment with different flavors and create new, often healthier dishes with their part-ner [16]. Besides that, most married couples usually have kids, and the monthly income may decrease during the lockdown. This is a way to save more on daily expenses [24]. The occupation was significantly associated with the level of attitude (p<0.05) [16]. This study showed that students have a better attitude toward fast food consumption. This means studentsare more likely to think about fast food than healthy food. During the pandemic, society including college students did more activity in the house [25].

Previous studies have shown that most students at home perform less physical activity and more sedentary activity. This is due to an overloaded assignment which cause them having no time to eat. This can be exacerbated by unhealthy eating habits that lead to weight gain and obesity among students [26]. Student food consumption has increased significantly, and is not following the recommended balanced diet. The students have higher stress levels, and most of them eat fast food as their comfort food to fight emotional stress. Aside from boredom due to online classes, being unable to hang out with their friends and being locked in a room most of the time might be frustrating and stress-ful [27] . Stress causes them to over-eating, mainly 'comfort foods' high in sugar, usually referred to as "food craving." Comfort food such as biscuits, instant noodles, and others primarily high in simple carbs can help alleviate stress by increasing serotonin production. In addition, serotonin helps to boost a positive mood [28].

The findings from this study may give implications to some factors, especially related to health policies. Our findings may be useful for them to reconstruct policies or planning to change the attitude and practice among Malaysian adults towards fast food consumption since our findings showed that Malaysian adults have a moderate attitude and practice towards fast food consumption [29]. These findings proved that there is a change needed in policies to lower the attitude of Malaysians towards fast food consumption. There is also a need to educate young married people about practicing a healthy diet in their daily life. In addition, implication from this study is to create awareness of healthy food selection in Malaysian adults [30]. A solution is needed as Malaysian adults have moderate attitudes on fast food consumption which means they have a knowledge about the consequences of fast food consumption but tends to ignore about it [31] .

CONCLUSION

Based on this study about attitude and practice towards fast food consumption among adults in Malaysia during Covid-19 lockdown, we concluded that most Malaysians have moderate practice and good attitudes. Male and female have resulted in moderate practice towards fast food consumption among adults in Malaysia during Covid-19 lockdown while for the level of the attitude, young people have better attitude than elderly, 3.8% of the married couple record good attitude and most of them result in good attitude of the fast food consumption. This study also shows there is significant association between gender and practice towards the fast food consumption during the lockdown. This proves that gender also contributes to the consumption of fast food in Malaysia. More young people between ages 18-25 years old consume more fast food than the eldest due to their preference. Moreover, marital status also shows significant association with the attitude towards the consumption of fast food. Students have a better attitude toward fast food consumption because they tend to eat more fast food when they are stressed out and have no time to cook. In conclusion, various factors have been identified that have led to a decrease or increase in fast food consumption. It also depends on the level of attitude and practice of each individual toward the fast food during the lockdown. It also associates with the level of the awareness of each individual to live a healthy lifestyle or sedentary life.

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