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Consumer's Behaviour in The Consumption of Fresh Farm Product During Covid-19 Pandemic at Alor Gajah, Melaka

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Abstract: The Malaysian Government implemented stringent containment measures to avoid the spread of COVID-19, including social isolation and the closure of businesses and schools. Although these steps are necessary to prevent the virus from spreading, many voices have raised concerns about their possible effects on the agri-food system. Therefore, this study aims to identify the effect of the Covid-19 pandemic on fresh farm consumption among consumers in Alor Gajah, Melaka. This study was guided by the following research objectives: (i) to investigate the impacts of Covid-19 pandemic on consumer attitudes and behaviours on food consumption at Alor Gajah. (ii) to find out the implications of the closure of Covid-19 on food security in Alor Gajah, Melaka. Besides, this study uses quantitative methods involving (n=154) residents in the district of Alor Gajah, Melaka. The research data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 20. Descriptive analysis was used, and the result shows that the food consumption behaviour changes during the Covid-19 pandemic especially on the fresh farm produce. The findings may provide information for the local government to develop a framework that will help to address the shortage of fresh agriculture products that were affected by the pandemic at Alor Gajah, Melaka. It will also help to prepare for an unexpected future crisis by building on existing emergency plans as well as long-term food-related strategies.

Keywords: Covid-19, consumer behaviour, agricultural product, fresh-farm products

1. Introduction

The COVID-19 pandemic has been declared a global public health emergency by the World Health Organization (WHO). As of November 8, 2020, the COVID-19 outbreak had resulted in more than 50 million illnesses and 1.25 million deaths worldwide, affecting 219 countries (WHO, 2020). Meanwhile, according to Ministry of Health Malaysia figures, there were 40,209 cases and 290 deaths between November 8, 2020 and November 8, 2020. The COVID-19 epidemic has had a huge influence on people's lives. Further, as of November 17 2020, Malaysia's total number of tests stood at 996 cases (Maisarah, 2020). The Government of Malaysia has taken a range of protective steps to prevent the spread of COVID-19 by the closure of industries, schools and colleges, social distances and others. To prevent the spread of the virus, most countries worldwide implemented strict containment measures, including house confinement, social isolation, temporary closure of companies, schools, universities, and remote working (Maliszewska et al., 2020). While these steps are necessary to avoid COVID-19 from spreading, various voices have raised concerns about their influence on agriculture food systems and food consumption. At the same time, the virus does not affect the natural resources from agricultural products consumed by humans. As shown in Table 1, these strict measures appear to have succeeded in stopping the spread of COVID-19 and help manage its spreading and reduce the impact, with a relatively how death rate compared to other countries with almost the same rate of infection.

Table 1: Main measures to prevent the spread of COVID-19 in Malaysia

Date	Measures
January 27, 2020	Twenty-six hospitals were identified as centres for further examination and treatment of individuals with suspected Covid-19 infection. The entry of Chinese nationals from Wuhan city and Hubei province wassuspended.

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January 28, 2020	A committee comprising the National Disaster Management Agency, theMinistry of Foreign Affairs, the Ministry of Health, the Malaysian Armed Forces and the National Security Council was established to facilitate thereturn of Malaysians from the Hubei province of China. The Sabah Government suspended all flights to China.
February 1, 2020	All Chinese citizens and non-Malaysian citizens who visited China in the last 14 days were prohibited from entering Sarawak. Those with employment passes, studentpasses, or long-term social visit passes had a 14-day self-quarantine imposed.
February 8, 2020	Travel restriction was imposed in Sabah on non-Sabah citizens and 14-day self-quarantine was mandated for Sabah citizens with recent travel history to or returning from China.
February 11, 2020	The agreement was attained between Malaysia and Singapore to form a Covid-19 containment the joint committee headed by the deputy health ministers of both nations.
March 5 – March 14, 2020	The Malaysian Government expanded the travel restriction list and began full restriction of foreign nationals coming from Italy, Iran, and South Korea on March 13.
March 16, 2020	The Prime Minister of Malaysia announced the implementation of the MCO commencing on March 18.
March 18, 2020	The first phase of the MCO came into effect until March 31.
March 25, 2020	An announcement was made on the extension of the MCO from 1 to April 14, namely the second phase of the MCO
April 10, 2020	An announcement was made on the extension of the MCO from 15 to April 28, namely the third phase of the MCO.
April 21, 2020	An announcement was made on the extension of the MCO from April 29 to May 12, and this is called the fourth phase of the MCO.
May 1, 2020	Conditional MCO, which allowed conditional resumption of certain businesses to ease economic losses, was announced. The businesses excluded those requiring close contacts and crowding, such as cinemas, entertainment centres, exhibitions, and theme parks. States were given autonomy in their adoption of the conditional MCO.

COVID-19 has clearly shown the vulnerabilities of global food systems to shocks and crises, according to Power et al. (2020). According to research by Cranfield (2020), COVID-19 has already impacted agricultural food systems at several levels, from growers to processors and consumers, resulting in a potential global food crisis (United Nations, 2020). Nonetheless, COVID-19's effects are anticipated to vary from nation to country, depending on the epidemiological environment and, among other things, the level of socio-economic development. Therefore, the purpose of this paper is to look at the direct impact of COVID-19 on consumer awareness, attitudes, and behaviours linked to fresh food consumption in Alor Gajah.

2. Impacts of COVID-19 on Global Food Supply

Several voices spoke out against COVID-19 disruption of agri-food systems and food consumption. On the supply side, for starters, restrictions on people migration, border controls, employee absenteeism, and lockdowns contribute to labour shortages in agricultural industries in many countries, reducing harvests in some places. Supply chain interruptions and disturbances caused severe disruptions in the food supply chain and limited access to marketplaces for selling items. The situation results in unsold agricultural products and significant increases in food loss and waste, particularly perishable products, including fruits and vegetables, fish, meat, and dairy products (FAO, 2020a). The COVID-19 epidemic poses a severe threat to the food supply chain's regular operation. Due to supply chain interruptions and falling consumer demand, farmers in several nations bury perishable products and abandon wilted vegetable crops (United Nations, 2020). As a result of the COVID-19 pandemic, the need for short food supply chains and local production has been highlighted (Cappelli & Cini, 2020). According to Recchia et al. (2019), short food supply chains and local production could improve the environment by providing access to sustainable foods and ensuring access to healthful food during the COVID-19 pandemic.

Additionally, even if international food markets are well-supplied, protectionist measures such as food export restrictions during a pandemic could result in global food shortages, increasing global food market instability, driving up global food prices, and precipitating a global food crisis similar to the one that occurred from 2007 to 2008 (FAO, 2020b) On the demand side, Beard-Knowland (2020) noted that as the Coronavirus pandemic proceeded, people's purchasing and consumption habits changed. To begin with, during the early stages of the pandemic, when the knowledge about the virus and its potential severity was limited, peoplefocused on panic shopping to avoid future shortages during MCO. According to Baker et al. (2020), American consumers increased their expenditure during COVID-19 to stockpileneeded

household products like food. Because food is an essential commodity, panic buying is a typical human response to a crisis driven by a fear of simply running out of food rather than food scarcity (Chen et al., 2020).

2.1 Food Behaviours and Consumption during Covid-19

According to the United Nations (2020), the COVID-19 could modify people's eating and dietary patterns, resulting in a deterioration of nutritional and health status at both the individual and national levels. For example, the effects in all forms of malnutrition, undernutrition and over-nutrition are likely to increase). The crisis is also affecting dietary quality. As a result of panic shopping for items with longer shelf lives and supply chain disruptions, consumers are migrating toward increasing consumption of processed foods such as convenience foods, junk foods, snacks, and ready-to-eat cereals (FAO, 2021). There is also a chance that people may consume less meat because of unfounded suspicions that animals could be carriers of the virus and other higher-value foods like fruits and vegetables, which are likely to cause price decreases.

Furthermore, customers are likely replacing across food categories because they are stocking up on nonperishable foods. According to Richards & Rickard (2020), consumers in Canada and the United States have been stockpiling frozen fruits and vegetables, which could diminish current and future sales of fresh produce and influence dietary quality. Any substitute strategies may inadvertently discourage customers from consuming the necessary fruits and vegetable quantities. COVID-19 also alters where and how customers buy food (Cranfield, 2020). Food purchases shifted to grocery stores once restaurants and cafes closed (Goddard, 2020). Deloitte (2020) stated that physical shopping at a grocery store carries a perceived risk and induces anxieties about being in close proximity to others, influencing customer buying patterns to move to online shopping swiftly. The COVID-19 crisis has accelerated the shift to digital services, and digitization has become a basic need (Sneader & Sternfels, 2020). According to Schilirò (2020), in the fight against the COVID-19 crisis, digital technologies play a crucial role in maintaining daily life and economic and social activities. As a result, according to Sneader and Sternfels (2020), the COVID-19 could mark the start of a new age for digitization by hastening the maturity of digital technologies. At the same time, the increased demand for food has had an impact on online meal delivery. For example, in the United Kingdom, businesses were experiencing overbooking, with delivery arriving late or not at all (Schilirò et al., 2020).

2.2 Effects on the Economy

On the look from an economic point of view, consumers, small and medium entrepreneurs (SMEs) in various sectors are also affected (Rasli et al. 2020) and suffer losses even some premises or companies are closed due to dwindling buyers or customers, the problem of the authorities began to order for applications Control Movement Order (MCO). This order has a significant impact on workers involved in the hospitality, development, tourism, and even agriculture sectors (Rashid et al., 2020). According to Choi et al. (2020), the effects of this epidemic have resulted in depression and anxiety for workers whose salaries are cut and jobs in Hong Kong during the COVID-19 pandemic. Moreover, according to Rashid et al. (2020), this uncertainty causes some communities to face extreme stress because they are worried about the future of their careers and fail to meet the needs and support of their families (Coibion et al., 2020). COVID-19 pandemic that hit Malaysia and the world has had a significant impact on the food and food chains. Following the Movement Control Order (WHO) implementation to the community has affected the agricultural sector. This is because many agricultural products are affected, and eventually, disposal occurs. The implications of COVID-19 on the food supply chain in the local open market, according to Chen et al. (2020). Most of those involved (MCO) have employers, government and private employees, traders, farmers, and fishers, according to FAO (2021c).

As enterprises or premises run should be closed, the organization loses income, demand, and sales from wholesalers and dealers, as well as pay cutbacks for staff. Besides that, Chen et al. (2020) also say that food insecurity has a different impact on low-income populations and the elderly, which may be influenced by limited food choices, availability of financial assistance programs, restaurant locations, and retail and food prices. The fear of scarcity is self-fulfilling because the more people stockpile, the more others become infected by the panic, and the faster the food runs out. However, there is evidence that this preoccupationwith food purchases is a behavioral response to stress and uncertainty. Consumers seek to reclaim control through product acquisition when they think they have lost control (Chen et al., 2020).

3. Methodology

3.1 Site Study

Alor Gajah is a district in Melaka's northwestern region that borders Negeri Sembilan. The district of Alor Gajah consists of three large towns and 16 smaller towns. Alor Gajah town, Masjid Tanah town, and Pulau Sebang town are the three main cities. Alor Gajah district has around 66,302 hectares (660 square kilometers) and is divided into 31 parishes. In the area, there are both historical town areas andnew town development. Alor Gajah is one of the areas which depending on the farm-fresh products as sources of food in their daily consumption.

Fig. 1: Alor Gajah District Map

3.2 Survey

The study population (N=260) consists of residents around the district of Alor Gajah. Data were collected from 154 respondents, whereby the demography information included gender, age, race, and occupation. The Google Form platform was used to administer the questionnaire in Malay and English language from April 1 to April 30, 2021. Reviews were disseminated through various communication methods, including social media (Twitter and WhatsApp) and email. Descriptive statistics were used to analyze the respondent's demographic information. Respondents were volunteers to be recruited in the research. All participants were properly informed about the research's requirements before participating, and they agreed with the rules and privacy during the data collection session. The study's aims are described in the introduction section of the questionnaire. This research investigates how food consumption habits altered during a pandemic, including food spending and consumption habits. Thus, the questionnaire was divided into three sections and contained 16 single-choice, multiple-choice, and open-ended questions: (1) sociodemographic (4 questions): gender, age, race, and occupation; (2) food purchasing and consuming habits (12 questions): shopping spending, food-related behaviours, food-related activities, and so on. The pilot study was conducted on 30 people to confirm the quality of the survey data. The majority of the participants in the pilot study are from the Alor Gajah region of Melaka. This phase ensures that the question is clear and understandable and that the respondent can comprehend and reply to it. Prior to conducting the pilot study, a survey was structured and circulated. The result of the Cronbach Alpha value of 0.805 indicates internal consistency.

4. Results

Descriptive analysis was used to analyze the demographic information of respondents, including gender, age, race, and occupation.

4.1 Socio-demographic Characteristics of the Participants

Table 2 shows that 59.7% of respondents were female, 40.3% were male, 80.5% of Malays were active, and 33.8% worked in the private sector. Following that, most respondents were in their forties and fifties (26.0% of whom were 21 to 30 years old). This is relevant to administrative bias procedures since most young and educated individuals and those who work for themselves have access to the internet and social media used to disseminate surveys. Furthermore, although self-employed, 23.4 percent of respondent households make the same amount of money.

Table 2: Socio-demographic characteristics of the participants (n = 154)

Variable	Category	Frequency, N	Percentage
Gender	Female	92	59.7%
	Male	64	40.3%
	Total	154	100.0%
Age	15-20 years	5	3.2%
	21-25 years	40	26.0%
	26-30 years	40	26.0%
	31-35 years	30	19.5%
	36-40 years	25	16.5%

	41-45 years	9	5.8%
	46-50 years	4	2.6%
	51-60 years	1	0.6%
	Total	154	100.0%
Race	Malay	124	80.5%
	Chinese	15	9.7%
	Indian	15	9.7%
	Total	154	100.0%
Occupation	Government Employee	22	14.3%
	Private Sector Worker	52	33.8%
	Student	19	12.3%
	Self-work	25	16.2%
	Others	36	23.4%
	Total	**154**	**100.0%**

4.2 Food Behaviour and Consumption Habits During COVID-19 Pandemic

Before and throughout the current epidemic stages, there have been some major changes in consumer behaviour connected to food spending. Table 3 shows that during the COVID-19 pandemic, 50.6 percent of respondents (including "agree" and "strongly agree") ordered more fresh farm products online. Meanwhile, 52.6 percent of respondents said they had never ordered agricultural products online or even purchased them in a store.

Table 3: Household Behavior during the COVID-19 Pandemic

Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean*
I frequently buy fresh farm produce like vegetables during the COVID-19 pandemic.	44.8	26.0	21.4	5.2	2.6	4.05
I buy fresh farm produce like fruits and vegetables in person from the supermarket during the MCO.	52.6	25.3	14.3	3.2	4.5	4.18
I frequently buy farm produce prepare meals to eatwith my family during MCO	55.2	22.7	15.6	5.2	1.3	4.25
I frequently order fresh farm produce via online during theMCO.	50.6	18.8	14.3	7.8	8.4	3.95
To save the current cost of MCO. I would rather eat snacks than buy fresh farm produce to prepare meals.	1.3	5.8	5.2	12.3	75.3	1.45

*Scale: strongly agree = 5; agree = 4; neutral = 3; disagree = 4; strongly disagree = 1

Furthermore, during the COVID-19 epidemic, 44.8 percent of respondents said they bought fresh agricultural produce such as vegetables less frequently online than at full-service or fast-food restaurants or through a delivery app. Furthermore, 1.3 percent of respondents stated that they would prefer to eat snacks than purchase fresh farm products for meal preparation to save money. In terms of eating and drinking patterns during the COVID-19 pandemic (Table 4), it is worth noting that 40.3 percent of respondents prefer to purchase food online and have it delivered during MCO rather than cooking at home. Furthermore, 39.6% of consumers noted a rise in the price of fresh farm products such as vegetables during the MCO. Meanwhile, 26.6% of respondents deliberately reduced the use of new agricultural products athome due to high cost; 13.6% of respondents regularly ate out at restaurants or cafeterias during MCO instead of buying fresh agricultural produce to prepare food. Table 5 shows different consumer perceptions of the quality of fresh farm food. Due to the elimination of inefficient storage and transportation networks during the MCO, 78.6% of the cohort said that the COVID-19 pandemic resulted in the purchase of fresh agricultural products. Besides that, 40.9 percent of food consumers were aware that COVID-19 disrupted farmers' activities in terms of delivery and shortages of agricultural produce during the pandemic, and this was related to the fact that 39.0 percent of food consumers were aware that the government had provided various forms of assistance to farmers to ensure the sustainability of agricultural products. Additionally, according to respondents' views, to avoid a reduction in the food supply, 31.8 percent prefer to minimize the usage of fresh farm products at home due to high expenses during the pandemic.

Table 4: During the COVID-19 pandemic, food-related fresh agricultural product activities and lifestyles changed

Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean*
I frequently eat out (e.g., restaurants/cafeteria) during MCO instead of buying freshfarm produce to prepare meals.	13.6	5.8	16.2	18.8	45.5	2.23
I am frequently ordering food online and receive it through deliveries during the MCO instead of home cook food.	40.3	27.9	13.6	11.7	6.5	3.84
I noticed the fresh farm products price was educed when I ordered or ate out at restaurant during the MCO.	34.4	18.2	25.3	13.6	8.4	3.56
The farm-fresh product price,such as vegetables, was increased during the MCO.	39.6	24.0	23.4	8.4	4.5	3.86
I purposely reduce the fresh farm products consumption at home due to the high cost.	26.6	14.3	16.9	16.9	25.3	3.00

*Scale: strongly agree = 5; agree = 4; neutral = 3; disagree = 4; strongly disagree = 1

Table 5: Consumer's Perception of Fresh Farm Produce Level in Alor Gajah, Melaka

Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean*
I have heard about the fresh farm products sufficiency level in Alor Gajah?	31.2	22.7	33.1	10.4	2.6	3.69
I notice the effect of the COVID-19 on farmers' activities and fresh farmproducts.	40.9	27.3	22.7	7.1	1.9	3.98
I am aware that the government provides various forms of assistance to farmers to ensure the sustainability of fresh farm products.	39.0	29.0	27.9	1.9	1.9	4.01
I notice that the COVID-19 pandemic has led to a reduction in the supply of fresh farm products during the MCO.	37.0	31.2	22.7	6.5	2.6	3.94
I purposely reduce the fresh farm products consumption at home due to high the cost.	31.8	21.4	32.5	10.4	3.9	3.00
I noticed that the COVID-19 pandemic had caused the purchase of fresh farm products due reduction of the poor storage and transportation system duringthe MCO.	78.6	12.3	6.5	0.6	1.9	4.59

*Scale: strong agree = 5; agree = 4; neutral = 3; disagree = 4; strong disagree = 1

5. Conclusion

The direct influence of COVID-19 on consumer behaviour on the consumption of fresh agricultural products in Alor Gajah, Melaka, is investigated in this paper. Individuals' attitudes and habits toward acquiring fresh agricultural products such as vegetables and fruits are changing dramatically. People spend more time at home, and eating out becomes less accessible. There has been a noticeable shift in how food is sourced, purchased, and customer perceptions about fresh agricultural produce adequacy. This study focuses on some of the most important consumer trends influencing Alor Gajah's food and health habits. Firstly, due to food safety concerns, Malaysian food consumption is increasing. With the COVID-19 pandemic, there was still a lot of mystery about the virus's spread, and people were becoming more interested in knowing where their food came from. User views that imported food products offer a safety risk are unsustainable, resulting in options for locally produced goods. Secondly, based on observations, there is no panic shopping in Alor Gajah, as most individuals choose to do so rather than stockpile food. This can be explained by the Malaysian government's numerous regulations and tactics to reduce the impact of the COVID-19 pandemic on the food supply. As a result, COVID-19 has no impact on the food supply or prices. Prices remain stable without affecting the number of goods, food, and consumer products. Furthermore, hypermarkets reported no significant disruptions in the food supply chain. Indeed, they claimed to have at least three months' worth of buffer stock, ensuring that any large increase in demand as a result of stockpiling could be supplied quickly.

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