

ASSOCIATION BETWEEN SOCIO-DEMOGRAPHIC FACTORS AND BODY MASS INDEX (BMI) WITH FRUITS AND VEGETABLES INTAKE AMONG ADULTS IN THE WEST COAST IN PENINSULAR MALAYSIA.

Nuraini Sofiya Amran, Nur Shafikah Suhada Abdul Rahman and Napisah Hussin

School of Nutrition & Dietetics, Faculty of Health Sciences,
Universiti Sultan Zainal Abidin, Terengganu, Malaysia



INTRODUCTION

Consumption of fruits and vegetables is linked to a number of positive health effects. Consume a variety of fruits and vegetables, as no single fruit or vegetable can deliver all important nutrients⁵. Globally, 3.9 million fatalities were related to a lack of fruits and vegetables in 2017⁶. In addition, poor fruit and vegetable consumption is considered to be responsible for 14% of all gastrointestinal cancer deaths globally, 11 % of ischemic heart disease fatalities, and 9 % of stroke deaths². The WHO/FAO 2019 report recommends 400g of fruit and vegetables per day to prevent chronic diseases. A nutritious diet required fruits and vegetables. They are high in bioactive components and nutrients like vitamins, minerals, phytochemicals, antioxidants, and fibre³. Furthermore, data from NHMS 2019 indicated that only 5% of Malaysians consume an adequate amount of fruits and vegetables. This is not the direction nutritionists and others concerned with public health hoped for⁹. The Malaysian Dietary Guidelines 2020 recommend at least three servings of vegetables and two servings of fruits per day⁵.

METHODS

- The sampling technique used was convenience sampling. Source of data derived from adults aged 18-59 years old from Kuala Lumpur, Selangor, Melaka, Negeri Sembilan, and Putrajaya. A 396 respondents were recruited through the distribution of online surveys posted on online platforms such as WhatsApp groups and Facebook in November and December 2021.
- A set of self-administered questionnaires consisting of three sections were distributed including the consent form:
 - Socio-demographic profile
 - Fruits and Vegetable intake
 - Semi-quantitative FFQ
- Descriptive statistics was used to determine the percentage of fruit and vegetable intake among adults and the preferences and purchasing patterns of adults in the form of a percentage (%).
- Chi-square test was applied to discover the association of sociodemographic and BMI with fruit and vegetable intake among adult.

RESULTS

- Only 15.4 % among Malaysian adults that met the Malaysian Food Pyramid Recommendation 2020. Meanwhile, the percentage of insufficient fruit and vegetable intake is still high, accounting for 84.6% of the population.
- Majority of the adults like to purchase fruits and vegetables in a hypermarket. The most preferred fruits were banana, apple, and mango and the most preferred vegetables were lettuce, cabbage, and broccoli. Finding indicated that Malaysian adults like to purchase fruit and vegetable weekly.
- In present study, results indicate that BMI, age, gender, ethnicity, monthly income level and educational level were not significant predictors of fruit and vegetable intake in Malaysia with p -value > 0.05.

DISCUSSION

- In general, this study found that only (15.4%) consumed the recommended amount of fruit and vegetables. This finding was lower than the former study conducted based on the Malaysian Adults Nutrition Survey 2014¹ which was (22.9%) that met the required fruit and vegetable intake. Available local data from (NHMS) 2019 indicated 95% of Malaysian adults do not eat the recommended daily amount of both fruits and vegetables.
- Majority of the adults in this study like to purchase fruits and vegetables in a hypermarket. Findings of this study indicated that hypermarket was the most popular place to buy fruits and vegetables among the respondents. These findings have found similar results where hypermarkets are preferred over ordinary grocery stores⁴.
- It was found that Malaysian adults like to purchase fruit and vegetable in a weekly manner. When compared to previous studies, this current study was conducted during a pandemic that may have had a significant impact on grocery shopping habits, which may have caused consumers to start reverting from buying groceries daily to at least once a week, which represents a "new normal" to deal with the pandemic thus causing the consumers to visit the store less frequently⁶.

CONCLUSIONS

This study portrayed that adults' fruit and vegetable intake was grossly insufficient, with only 15.4 % meeting the guidelines for fruit and vegetables. Once again, analysis of the data from this survey found that the majority of adults in West Coast Malaysia do not reach the recommended minimum fruit and vegetable intake needs. This demonstrates the critical need for broad-reaching and new ways to impact fruit and vegetable consumption across Malaysia's whole population. Hence, further longitudinal studies should be performed in order to uncover more diverse and comprehensive findings and produce reliable results.

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OBJECTIVES

- To determine the percentage of fruits and vegetables intake among adults.
- To determine the preferences and purchasing patterns of fruit and vegetable intake among adults.
- To determine the association between socio-demographic factors and BMI with fruits and vegetables intake among adults.

Figure 1. Percentage of fruit and vegetable intake among adults

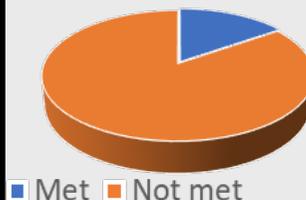


Table 1. Frequency pattern of FVI

Frequency	Fruits (%)	Vegetables (%)
Daily	5.3	17.4
2-3 times a week	27.0	31.3
Weekly	51.5	44.2
Monthly	16.2	7.1

Table 2. Purchasing Place of FV

	Place	N%
Fruits	Hypermarket	50.3
	Supermarket	14.6
	Wet market/ Farmer's market	17.2
Vegetables	Fruits Store	17.9
	Hypermarket	48.2
	Supermarket	13.9
	Wet market/ Farmer's market	29.8
	Vegetable store	8.1

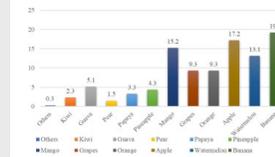


Figure 2. Fruit preferences

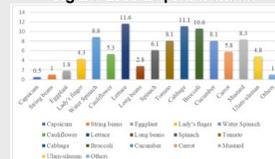


Figure 3. Vegetable preferences