



UNIVERSITI PUTRA MALAYSIA

***INTENTION TOWARDS VEGETARIAN DIET IN MALAYSIA AS A
CONCERN OF HEALTHY EATING LIFESTYLE***

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**INTENTION TOWARDS VEGETARIAN DIET IN MALAYSIA AS A
CONCERN OF HEALTHY EATING LIFESTYLE**

By

MD. JAHIRUL ISLAM

**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia,
in Fulfillment of the Requirements for the Degree of Master of Science**

March 2018

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the degree of Master of Science

INTENTION TOWARDS VEGETARIAN DIET IN MALAYSIA AS A CONCERN OF HEALTHY EATING LIFESTYLE

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Human health can be described as an individual's quality of life and the impacts of such living pattern on the development of the individual's social and economic aspects. One of the most effective ways of ensuring healthy living is the adoption of vegetarian foods. Vegetarian foods play an important role in healthy eating as they offer several health benefits and provide protection against numerous diseases. Despite all the advantages, the development of green food markets and the consumers' interest in the vegetarian culture are still below the satisfactory level in Malaysia. Thus, it becomes necessary to examine the consumers' perception, attitude and intention towards vegetarian food consumption with regards to healthy eating lifestyle.

In total, 1000 respondents were interviewed via structured questionnaire. The result of the factor analysis revealed that most of the factor loadings are above 0.60 which is considered acceptable. As hypothesized in the study, the result of the first regression analysis showed that perceived health status, perceived control of health and perceived benefit of health promoting behavior have positive relationship with attitude. The perceived barrier to health promoting behavior is also positive but not significant. The result of the second regression analysis revealed that attitude, subjective norm, and perceived behavioral control have significant positive relationship with consumers' intention to consume vegetarian foods. The result of the study showed that consumers have positive perception and attitude towards vegetarian food which can be explored to improve its adoption with regards to healthy eating lifestyle. Thus, efforts need to be intensified in the form of increased campaigns by all stockholders such as the food industry, government agencies, health bodies, and consumer groups.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Master Sains

NIAT MENUJU KE ARAH DIET VEGETARIAN DI MALAYSIA SEBAGAI AMALAN GAYA HIDUP SIHAT

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Secara umumnya, kesihatan manusia sering dikaitkan dengan kualiti hidup seseorang individu dan kesannya terhadap perkembangan sosial dan ekonomi masing-masing. Salah satu cara untuk menjamin kehidupan yang sihat adalah melalui pemakanan secara vegetarian. Tabiat pengambilan makanan vegetarian yang terdiri daripada makanan yang kaya dengan buah buahan, sayur sayuran dan bijirin boleh mendorong seseorang itu kearah kehidupan yang lebih sihat. Walau bagaimanapun, perkembangan terhadap pasaran hijau dan keinginan pengguna terhadap makanan vegetarian masih di bawah tahap memuaskan di Malaysia. Perubahan gaya hidup moden masa kini telah menjadi satu titik permulaan dalam peningkatan taraf kehidupan dan kesihatan manusia. Oleh itu, ia menjadi satu keperluan untuk mengkaji persepsi, sikap dan keinginan pengguna terhadap pemakanan vegetarian yang menuju ke arah pemakanan yang lebih sihat.

Seramai 1000 orang responden telah menjawab soal selidik berstruktur. Hasil analisis faktor menunjukkan bahawa indikator beban faktor adalah melebihi 0.60 dan boleh diterimapakai. Sebagaimana yang telah ditunjukkan dalam hipotesis, hasil kajian menunjukkan taraf kesihatan, kawalan kesihatan yang ditetapkan dan persepsi faedah bagi kelakuan mempromosikan kesihatan mempunyai hubungan yang positif dengan sikap/tabiat. Norma subjektif telah dibuktikan bahawa ianya adalah faktor dominan terhadap keinginan seseorang untuk mengamalkan tabiat pemakanan secara vegetarian. Kajian ini secara empirikalnya dinilai berdasarkan kesan terhadap sikap pengguna, norma subjektif, tanggapan kawalan tingkah laku ke arah keinginan seseorang untuk mengamalkan pengambilan makanan secara vegetarian. Oleh itu, persepsi masyarakat dan pandangan mereka telah dinilai untuk disesuaikan dengan model yang boleh diterima pakai serta hubungkait di antara pemboleh ubah dan keinginan. Ini merumuskan bahawa pengamal vegetarian berpendirian kukuh bahawa

tabiat pengambilan makanan vegetarian amat mempengaruhi dan meningkatkan gaya hidup yang lebih sihat. Oleh itu, usaha perlu dipergiatkan dalam bentuk peningkatan kempen oleh semua pihak berkepentingan seperti industri makanan, agensi kerajaan, badan kesihatan, dan pengguna.



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LIST OF ABBREVIATIONS

PCH	Perceived Control of Health
PHS	Perceived Health Status
PBHPB	Perceived Benefit of Health Promoting Behaviors
PBHPB	Perceived Barriers of Health Promoting Behaviors
SN	Subjective Norm
PBC	Perceived Behavioral Control
TRA	Theory of Reasoned Action
TPB	Theory of Planned Behavior

CHAPTER 1

INTRODUCTION

1.1 Background of the Study

Good dietary habits, especially vegetarian diet play an important role to lead a healthy life. Daily food consumption habit is the key driver of the healthy or unhealthy life as most of the illness comes in via mouth. Now-a-days, several diseases and mortality have been reported around the world because of unhealthy diet and living styles. For instance, contemporary food consumption tendency among young Malaysians is to eat fast food which contains high cholesterol and calories (Mohamed, Terano, Yeoh, & Iliyasu, 2017). While, in the world, vegetarians are increasing, and vegetarianism has been reported popular.

There are a variety of reasons for using a vegetarian or vegan diet, including moral, ethical, spiritual, or religious reasons as well as those concerning animal rights and animal welfare, or social or environmental concerns related to intensive animal husbandry or sustainability (Fox & Ward, 2008).

It is reported by Gan et al. (2018) that mostly Buddhists and Hindus are practicing vegetarianism in Asia. This claim can be considered as a threat to Malaysia as it's a Muslim dominate country. However, according to Yin Yin Boey "even though the community of vegans in Malaysia is small, it is surely thriving" (The Malaysian Reserve, 2018). Although vegetarian diet consumption trends in Malaysia is slow but it can help those vegetarians to have lower risks of chronic diseases such as coronary heart disease, hypertension, diabetes, obesity and cancer, as well as having a longer lifespan than the non-vegetarians (Melina et al., 2016; Mahrshahi et al., 2017). Therefore, above scenario of Malaysia grew the significant interest to study about the intention of Malaysian toward vegetarian diet.

In broader term, vegetarian diet includes a variety of dietary practices. For instance, a vegetarian diet must be without meat (including fowl), seafood, and any products that have seafood and meat (Craig & Mangels, 2009). However, it is different from dairy products e.g. lacto-vegetarianism or ovo-vegetarianism that do not include all flesh, sometimes honey, egg foods, and dairy. Plant-based nutrition is preferable than vegan nutrition by the several campaigners and dominant lobby organizations. Due to having both the varied heterogeneous ranges of dietary practice and non-uniform use of terminology creates complexity of the topic (Kessler et al. 2016).

To consume a vegetarian or vegan diet, numbers of reasons considered e.g. animal rights, ethical, social, religious, animal welfare, environmental, and in general greater sustainability (Fox & Ward, 2008). Another important fact is to live healthy that could create special identities and certain types of lifestyle (Ruby et al. 2013). Therefore,

health advantages might influence the public to use a vegetarian or vegan diets. For example, research shown that health benefits influence people to consume vegetarian and vegan diets (Huang, Huang, Hu, & Chavarro, 2016).

Vegetarian diet might be associated with a reduction in body weight, a lower incidence of the metabolic syndrome or diabetes, improvements in blood pressure and dyslipidemia and a lower incidence and/or mortality related to ischemic heart disease (indicating particular benefits for cardiovascular outcomes) (Orlich & Fraser, 2014). Other studies also linked vegetarianism and veganism to a reduced incidence of cancer (Dinu et al. 2017); however, a vegetarian, and especially vegan diet, might also be related to health risks including nutritional deficiencies such as vitamin B12, (Pawlak, Lester & Babatunde, 2014) zinc and iron (Foster, Chu, Petocz, & Samman, 2013). Few studies have investigated the prevalence of vegetarian and vegan nutrition. The reported prevalence rates have been highly variable, ranging from 0.77% in China (Mao, Shen & Tang, 2015) to 0.79% in Italy (Ponzio et al. 2015), 2.4% to 3.3% in the US (Jaacks, Kapoor & Singh, 2016), 3% to 8% in South Australia (Worsley & Skrzypiec, 1998), 3.8% to 15.6% in Scandinavia (Larsson et al. 2001), up to 33% in South Asia (Jaacks, Kapoor, & Singh, 2016), and 36% in India (Agrawal, Millett, Dhillon, Subramanian, & Ebrahim, 2014).

Although, cultural and religious elements have substantial impacts on vegan diets and on vegetarian, methodological issues cannot be ignored. Methodological issues are how it defines and measure vegetarian diets (e.g. analyses of food frequency), and multiplicity of study population (e.g. region, financial status), and some reports lacks methodology. Jaacks, Kapoor, and Singh (2016) concerned that much of research has been done more than a decade. While plant-based forms of nutrition have great attention day by day and increasing its popularity. Therefore, these issues require further research to get recent, robust, and generalizable information to understand the commonness of vegetarian forms of nutrition.

Presently, health and well-being are now being considered among the important socio-economic factors in all civilized societies. A healthy lifestyle involves ensuring and maintaining adequate physical and mental wellbeing and encouraging environmentally friendly initiatives. According to Leonard (2012), healthy living is multidimensional and can be affected by social and environmental factors such as food habits, religion, social circumstances and risky behaviors like tobacco consumption, practicing dieting in an unhealthy way, excessive alcohol consumption, and irregular physical exercise. Human health can be described as an individual's quality of life and the impacts of such living pattern on the development of the individual's social and economic aspects (Pohjolainen, Vinnari, & Jokinen, 2015).

However, the general wellbeing and the healthy living practices are now subjected to the challenging lifestyles of this modern era. Healthy living is a complex network due to its connection with other health related drivers. For instance, healthy diet and access

to professional preventive and diagnostic care depend on an individual's surrounding and income (Roberto et al., 2015).

In the course of the last 20 years, rapid and sustainable economic growth along with political stability witnessed in Malaysia have made the country's economy one of the most promising in the Southeast Asian region. This rapid development also extends to the socio-economic sector of the country and has led to remarkable improvements especially in the populace standard of living such as their eating habits and food purchasing power. Furthermore, rising urbanization has also given more pressure on the available services such as the healthcare services in city area; thus, Malaysian consumers are now becoming more conscious and sophisticated (Hadi et al., 2013).

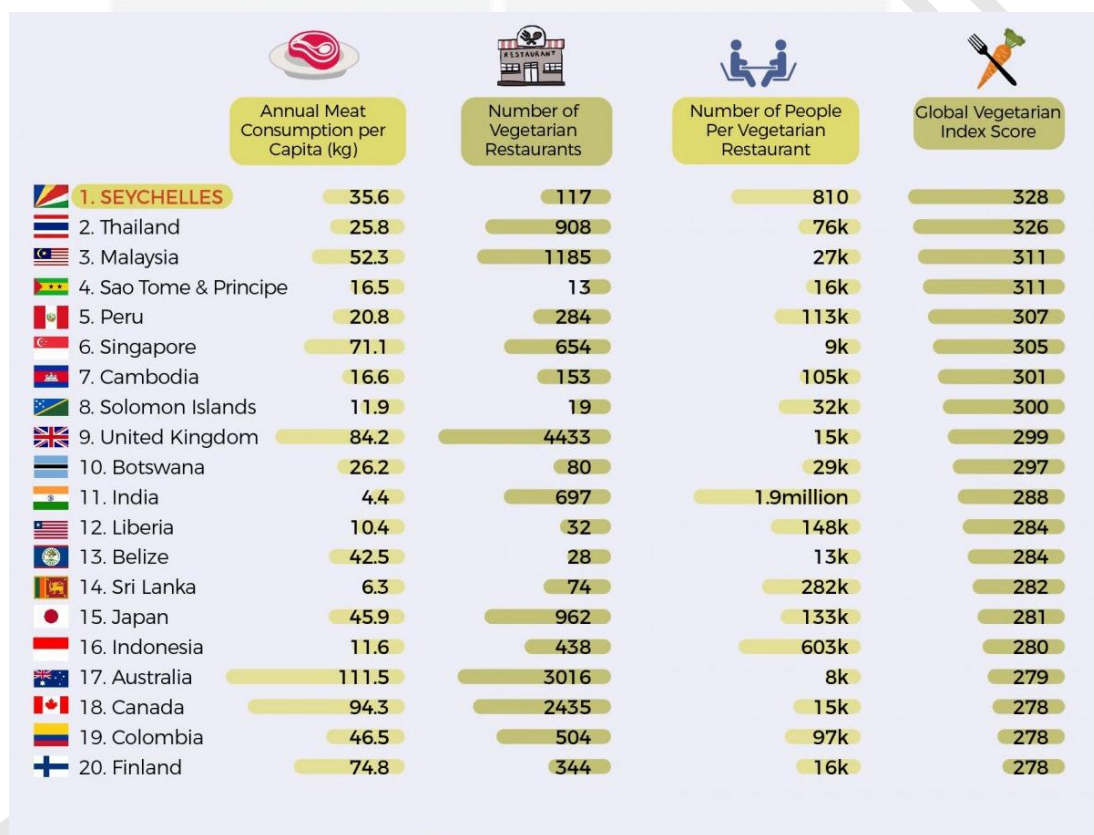


Figure 1.1 : Top 20 Vegetarian Friendly Countries
(Source: Oliver's Travels, 2017)

As shown in Figure 1.1, the African nation of Seychelles was found to be the most vegetarian-friendly nation in the world, followed by Southeast Asian destinations Thailand and Malaysia. Malaysia boasts more vegetarian joints, with 1,185. It also has more restaurants per head, but Muslim-majority Malaysia also enjoys eating meat, with 52.3kg consumed each year on average as Malaysia is considered to be vegetarian friendly nation.

The rapid changes in consumers' lifestyle and food choices will play important roles in the development food sectors in Malaysia. Additionally, these changes will also assist in reducing the food and nutrition-related problems being faced by Malaysians since the last few decades. The concepts of quality, healthy, green, and natural food and drinks are becoming prominent in the country (Rezai, 2012). Malaysia is one of the Southeast Asian countries in which the populations comprise of different ethnicity.

The population of Malaysia consists of three major ethnic groups, which are Malays, Chinese and Indian. As a result, variety of foods are available in Malaysia. Since the beginning of this century, consumers' expectations with regards to food choice have moved from common fulfillment of hunger, they are now more concerned about their wellbeing and give greater priority to the quality of food they consume. Some have chosen to consume vegetarian diet. One of the benefits of vegetarian diet is the absence of detrimental fats and cholesterol. Vegetarian food is rich in essential nutrients such as vitamins, minerals, and important phytochemicals. The consumption of vegetarian food is associated with several health benefits and also effective against chronic disease conditions such as heart diseases, digestive problem, and diabetes.

In contrary, unhealthy diet indirectly can trigger several health issues such as; coronary heart disease, hypertension, diabetes, obesity and cancer. Moreover, according to Malaysian Diabetes Association (Diabetes Malaysia, 2016), at least 6.2 million people in Malaysia have high cholesterol levels, 2.5 million are obese, and 5.8million suffer from depression. about 20% of the adult population in Malaysia suffers from pre-diabetes. Around 50% of Malaysians are facing a central or abdominal obesity problem. Approximately 15% and 30% of the Malaysian population aged 25 to 64 years old face general obesity or are overweight, respectively.

1.2 Problem Statement

Ministry of Health in Malaysia has been encouraging healthy dietary practices such as adequate consumption of vegetables and fruits which are necessary to ensure healthy living. But majority of Malaysians take their meals in restaurants which can be found easily at every locality in the country. Based on this, practicing vegetarianism in Malaysia is somewhat difficult as the local cuisine usually contain meat, chicken, and fish-based items. Moreover, Malaysians tend to eat fast food which contains high cholesterol and calories (Mohamed, Terano, Yeoh, & Iliyasu, 2017). These food habits indirectly increase the prevalence of many chronic diseases such as cancer and diabetes.

Many countries in the world have shown the prevalence of vegetarian but there is **no published national data** showing the percentage of vegetarians among Malaysians (Gan et al., 2018). This shows the inadequacy of the real number of the vegetarian and their perception towards vegetarian diet in Malaysia. Though, there are some studies

conducted about the vegetarian diet in Malaysia but those were either **limited to the comparison of vegetarian and non-vegetarian** food consumer, only among the Chinese community, or from the religion point of view.

For instance, recent study by Mohamed et al., (2017) studied the opinions of non-vegetarian consumers among the Chinese community in Malaysia toward vegetarian food and diets. In other study, Gan et al., (2018) focused only to the Buddhist organization to compare the nutritional status of vegetarians and non-vegetarians. Moreover, Gan et al., (2018) studied only in Kuala Lumpur with a small sample size which might **lack of accuracy** of generalize the result.

Vegetarian foods play an important role in healthy eating as they offer several health benefits and provide protection against certain diseases. Vegetarian foods have been acknowledged by several researchers, government agencies and health organization due to their numerous health benefits such as the reduction in the risk of cardiovascular diseases. In Malaysia growing prevalence rate of these diseases are reported. Vegetarian foods ensure smooth and effective digestion process and also provides the body with the necessary nutrients. The diets contain less fat and are rich in important nutrients such as fiber, complex carbohydrates, antioxidants and phytochemicals. The vegetarian eating pattern also adheres to the optimal diet guidelines which are formulated to reduce the risk of chronic diseases.

The prevalence of vegetarianism appears to be increasing in Malaysia. This practice is associated with animal welfare, environmental protection, and health concern. Majority of Malaysians take their meals in restaurants which can be found easily at every locality in the country. Based on this, practicing vegetarianism in Malaysia is somewhat difficult as the local cuisine usually contain meat, chicken, and fish-based items. Vegetarianism is also highly constrained in Malaysia due to the unavailability of sufficient vegetarian consumers and lack of adequate knowledge regarding the advantages of vegetarian foods. For instance, the consumption of vegetables in Malaysia is very low compared to the developed countries. Since dietary patterns are often not static, the dietary changes need to be explored as both vegetarians and non-vegetarian differs in their food related motivations, opinions, and practices.

Thus, gaining insights into the Malaysian consumers' attitudes towards vegetarian foods will reveal important information about their dietary beliefs which can be employed towards improving the dietary practices in the country. Improving the dietary practices will require the collective efforts of all stockholders such as the food industry, government agencies, health bodies, and consumer groups.

Above scenario shows that still in Malaysia, there is a lack of appropriate study which can reflect the intention of the Malaysian population toward the vegetarian diet. Given the potential implications of vegetarian and vegan nutrition on health and well-being, a better understanding of vegetarian and vegan diet use for health reasons is warranted.

This study therefore, aimed to identify the perception and attitudes towards vegetarian diet in Malaysia.

1.3 Research Questions and Objectives of the Study

Based on all the benefits of vegetarian foods outlined above and the small number of vegetarian consumers in Malaysia, questions and objectives of this research are as follows:

1.3.1 Research Questions

The present research consists of the following research questions:

1. What are the socio-demographic characteristics of respondents which can affect their intentions towards consumption of vegetarian foods for healthy eating lifestyle?
2. What are the factors that affect consumers' intention of consuming vegetarian foods with regards to healthy eating lifestyle?

1.3.2 General Objective

To examine consumers' intention about vegetarian diet in pursuing healthy life style in Malaysia.

1.3.3 Specific Objectives

1. To identify the socio-demographic characteristics of respondents which can affect their intentions towards consumption of vegetarian foods for healthy eating lifestyle.
2. To determine the influence of various factors towards intention of consuming of vegetarian foods with regards to healthy eating lifestyle.

1.4 Significance of the Study

This study intends to examine consumers' intention and attitude towards vegetarian foods with regards to healthy eating lifestyle. The study will contribute to the existing knowledge by providing important information about consumers' beliefs about vegetarian foods. The results of the study will give a clear and constructive picture of Malaysian consumers' perception of vegetarian foods with regards to healthy eating lifestyle and also reveal the various factors influencing vegetarian food consumption which can be adopted for future health promotion campaigns.

1.5 Summary

The chapter presents the background of the study. It outlines several benefits associated with vegetarian foods such as protection against cardiovascular diseases, obesity, and others. It also reveals some important factors limiting vegetarian food consumption and the difficulties of being a vegetarian in Malaysia such as lack of information about the advantages of vegetarian foods, insufficient vegetarian restaurants as meat, fish, and chicken-based items are important parts of the local cuisines and unavailability of sufficient vegetarian consumers. Finally, the chapter presents the research objectives, the research questions, problem statement and the significance of the study.



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