ASSESSMENT OF NUTRITIONAL KNOWLEDGE AND PRACTICE ON HEALTHY EATING AT HAWKER STALLS CENTRE AMONG ADULTS IN THE CITY OF KUALA TERENGGANU

By

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ABSTRAK

Amalan makan di luar, terutamanya di gerai-gerai makan telah menjadi budaya bagi masyarakat Malaysia. Walaubagaimanpun, ianya tidak jelas sama ada masyarakat Malaysia mempunyai kesedaran tentang amalan pemakanan sihat ketika makan di luar atau tidak. Oleh itu, kajian ini telah dijalankan untuk menilai tahap pengetahuan pemakanan dan amalan pemakanan sihat ketika makan di gerai-gerai makan dalam kalangan orang dewasa di Kuala Terengganu. Kajian ini merupakan kajian kuantitatif dan kajian keratan rentas, borang soal selidik (sosio-demografi, ciri-ciri makan di luar, pengetahuan pemakanan dan amalan pemakanan sihat) telah diberikan kepada responden di dua kawasan gerai makan utama di Kuala Terengganu (Taman Shah Bandar dan China Town). Seramai 137 orang responden, bilangan perempuan adalah lebih ramai (n = 88, 64.2%) berbanding lelaki (n = 49, 35.8%) yang telah melibatkan diri dalam kajian ini. Majoriti adalah kaum Melayu (n = 124, 90.5%) diikuti oleh kaum Cina (n = 11, 8.0%) dan kaum India (n = 2, 1.5%). Kebanyakan daripada mereka juga mempunyai tahap pengetahuan yang baik (n = 128, 93.4%) berbanding tahap pengetahuan pemakanan rendah (n = 7, 5.1%). Amalan pemakanan sihat mereka pula adalah tinggi pada amalan tidak sihat (n = 123, 89.8%) dan rendah pada amalan sihat (n = 12, 8.8%). Namun begitu, hubungan antara pengetahuan pemakanan dan amalan pemakanan sihat adalah signifikan ($p = 0.000$, $p < 0.05$). Kesimpulannya, pengetahuan pemakanan adalah perlu untuk perubahan dalam amalan pemakanan sihat.

ABSTRACT

Eating out, especially at a hawker stalls has been often regarded as a Malaysian culture. However, it is not clear whether people are aware of nutrition and healthy eating practice when eating out at hawker stalls. As such, this study was conducted to determine the nutritional knowledge and practice on healthy eating when eating out at hawker stalls among adults in Kuala Terengganu. This is a quantitative and cross-sectional study, a questionnaire (socio-demographics, frequency of eating out, nutritional knowledge, and practice on healthy eating) was used to collect the data at two main hawker's centre in Kuala Terengganu (Taman Shah Bandar and China Town). A total of 137 respondents, where more female (n=88, 64.2%) than male (n=49, 35.8%) participated in this study. Majority were Malays (n=124, 90.5%) followed by Chinese (n=11, 8.0%) and India (n=2, 1.5%). Regardless of the knowledge of respondents, most of them have a good knowledge on classification foods into group (n=128, 93.4%) and poor nutritional knowledge (n=7, 5.1%). Their practice of eating habits mostly unhealthy practices (n=123, 89.8%) and healthy (n=12, 8.8%). However, findings were significant association between the nutritional knowledge and practices of healthy eating ($p=0.000$, $p<0.05$). Therefore, it can be conclude that nutritional knowledge is necessary for changes in consumer's food behaviours.

1.0 INTRODUCTION

1.1 Background of the Study

Eating out, especially at hawker stalls has been often associated with Malaysia eating habit. Eating out, especially for suppers has been a trend, with growing number of eateries operating around the clock, offering places for hanging out at nights. The increased popularity and availability of food away from home (FAFH) in Malaysia is evidenced by approximately 28,610 road service outlets operating in 2009 to cater the wide range of the populations, taste and preferences. The fast food sector was the leader in new outlets of foodservice sector, predominantly recording the absolute growth of 67% in the period of 2004 to 2009 (Sidik & Rampal, 2009).

This trends of eating out was commonly involved generations Y than the older generations. Generation Y are those who were born between 1977 and 1994 and are currently age between 16 and 33. They are adventurous in trying new foods and places with their unique and often weird eating habit. Each generation has unique expectations, experiences, generational history, lifestyles, values, and demographics that influence their buying behaviours. In Malaysia, generation Y is equivalent to 26.9% of Malaysia's population, and they have better spending power and are savvy consumers (Pawan, Juliana & Kamarul, 2014).

However, it is a known fact that hawker's stalls are favourite among Malaysian. The finding shows that close to 97% of the respondents that have been surveyed in Kuala Lumpur and Johor Bahru aged between 18 years and 60 years ate out at hawker food. They ate out at least once a week, while more than half of them ate hawker food at least three times per week. A total of 34% of Malaysian consumers were also found to be eating away from home on daily basis. Apart from the frequency of eating out in general, it was

food that there was consistent different in terms of frequency between different income groups (Hafiz, 2005).

Eating out was practiced at the many food premises (including those operating 24 hours a day), available widely in the urban setting. Several studies in Bandar Baru Bangi (Selangor), Jitra (Kedah), and Segamat (Johor) found that the practice of eating out had become a trend among urban workers, students, and even families because they could not go home to eat or there was no food at home. Restaurants, food courts and food stalls were servicing not only those who wanted to eat during main times, but also those who wanted to enjoy food with friends/ family members in a festive and relax manner outside in middle times. However, lack of consideration of nutrient contents, irregular eating time, poor food quality and premises cleanliness might expose the practitioner to health, social, familial and even safety risks (Noraziah & Azlan, 2012).

Although there are risks to be considered, eating out is not all bad, as studies have indicated that eating out promoted various positive outcomes from certain perspectives. Eating out have been associated with social gathering. Besides, family usually used eating out as way of engaging with their family members. As a consequences, families who usually eat out tend to have lower depressive symptoms and lead to improve another outcomes including empathy, family cohesion, communication skills and family attitudes (Cook & Dunifon, 2012). This is because the routine of family meals can generate feelings of closeness and comfort. Even when mealtimes feel hectic or disorganized, comfort is taken by the fact that the simple act of regular mealtimes may be providing a children with stability. From a family's point of view, parents can connect with and share important information with their children (Cook & Dunifon, 2012).

1.2 Problem Statement

Healthy eating is one of the ways of disease prevention especially related to non-communicable diseases (NCDs) such as ischemic heart disease, cerebrovascular disease, type II diabetes and certain types of cancer (María *et al.*, 2015). In May 2004, the World Health Organization (WHO) has adopted the "Global Strategy on Diet, Physical Activity and Health" by improving the two major factors which are diet and physical activity (WHO, 2006). Since, Malaysians often consider eating out as favourite pastime (Tan, 2010), it is not clear whether people are aware of nutrition and healthy eating practice when eating out.

Frequent and consistent eating out of certain meals is associated with various health issues, most commonly is obesity (Ma *et al.*, 2003). Food consumed outside of home are perceived, as contributors to obesity rates because of the fat calorie and fat content, which increase customer's total calorie consumption (American Cancer Society, 2014). A study in Brazil indicated that eating out also positively associated with overweight and obesity among men, but not among women. This is because soft drinks and hawker's meals had the highest frequencies of consumption away from home (Bezerra & Sichieri, 2009). Study in Malaysia also indicated association between eating out with several health diseases, such as cardiovascular diseases, diabetes, and obesity. Around 59% of Malaysians eat at restaurants at least once a week but this figure is expected to higher today (Euromonitor International, 2007).

Although many evidence implicated the increasing use of food prepared outside the home as a risk for obesity is largely to the western country like in the US. It is unknown whether a high frequency of eating out is associated with obesity or weight gain in other population, for example, in Asian countries (Swinburn *et al.*, 2004). However, possibilities of similar scenario taking place in Asian countries is high because similar

eating habits are indicated. In Malaysia, impact of eating out is subject to both positive and negative impact on various aspects, including health and social, but association between hawker's food and health outcomes is somewhat limited at the moment.

Eating out also often associated with foodborne illness like typhoid fever and it occurred at the urbanization area. The prevalence of Salmonella spp. in sliced fruits from hawker stalls was three times higher than those from hypermarket. This might be attributed to the attitude and food safety knowledge of hawkers in Malaysia. An informal study by the City Hall of Kuala Lumpur (DBKL) confirmed a lack of knowledge of good food handling and failure of hawkers to fulfil the health requirements (Toh & Birchenough, 2000).

Consuming safe food can be also associated with healthy eating because consumers make informed choice, especially taking into account the safety of the food. Although there are many research indicating that consumers are becoming more and more conscious about healthy eating. To date, it is quite unclear if Malaysian consumers regard healthiness of the food consumed at hawker's stalls. Uncovering consumer's eating behaviour on healthy eating is crucial because there are many adverse effects associated with it, such as obesity and diabetes.

1.3 Research Objective

1.3.1 General objective

To determine of nutritional knowledge and practice on healthy eating when eating out at hawker stalls among adults in the city of Kuala Terengganu.

1.3.2 Specific Objective

- To determine the association between socio-demographic and nutritional knowledge of adults who dine out at hawker stalls in Kuala Terengganu.
- To determine the association between frequency of eating out and nutritional knowledge among adults who dine out at hawker stalls in Kuala Terengganu.
- To determine the association between socio-demographic and practice of healthy eating among adults who dine out at hawker stalls in Kuala Terengganu.
- To determine the association between frequency of eating out and practice of healthy eating among adults who dine out at hawker stalls in Kuala Terengganu.
- To determine the association between nutritional knowledge and practice of healthy eating among adults who dine out at hawker stall in Kuala Terengganu.

1.4 Research Question

- Is there any association between socio-demographic and nutritional knowledge of adults who dine out at hawker stalls in Kuala Terengganu?
- Is there any association between frequency of eating out and nutritional knowledge among adults who dine out at hawker stalls in Kuala Terengganu?
- Is there any association between socio-demographic and practice of healthy eating among adults who dine out at hawker stalls in Kuala Terengganu?
- Is there any association between frequency of eating out and practice of healthy eating among adults who dine out at hawker stalls in Kuala Terengganu?
- Is there any association between nutritional knowledge and practice of healthy eating among adults who dine out at hawker stall in Kuala Terengganu?

1.5 Research Hypothesis

1.5.1 Hypothesis 1

Null hypothesis (H_o)

There is no significant association between the socio-demographic and nutritional knowledge of adults who dine out at hawker stalls in Kuala Terengganu.

Alternative hypothesis (HA)

There is significant association between the socio-demographic and nutritional knowledge of adults who dine out at hawker stalls in Kuala Terengganu.

1.5.2 Hypothesis 2

Null hypothesis (H_o)

There is no significant association between the frequency of eating out and nutritional knowledge of adults who dine out at hawker stalls in Kuala Terengganu.

Alternative hypothesis (H_A)

There is significant association between the frequency of eating out and nutritional knowledge of adults who dine out at hawker stalls in Kuala Terengganu.

1.5.3 Hypothesis 3

Null hypothesis (H_0)

There is no significant association between the socio-demographic and practice of healthy eating of adults who dine out at hawker stalls in Kuala Terengganu.

Alternative hypothesis (HA)

There is significant association between the socio-demographic and practice of healthy eating of adults who dine out at hawker stalls in Kuala Terengganu.

1.5.4 Hypothesis 4

Null hypothesis (H_o)

There is no significant association between the frequency of eating out and practice of healthy eating of adults who dine out at hawker stalls in Kuala Terengganu.

Alternative hypothesis (H_A)

There is significant association between the frequency of eating out and practice of healthy eating of adults who dine out at hawker stalls in Kuala Terengganu.

1.5.5 Hypothesis 5

Null hypothesis (H_o)

There is no significant association between the nutritional knowledge and practice of healthy eating of adults who dine out at hawker stalls in Kuala Terengganu.

Alternative hypothesis (HA)

There is significant association between the nutritional knowledge and practice of healthy eating of adults who dine out at hawker stalls in Kuala Terengganu.

1.6 Significant of Study

The findings of this study can highlight adult's eating habits and health concerns, especially when eating out at hawker stalls. The information can be crucial for business owners who may want to cater to their customer's needs and wants, especially in terms

of nutrition and healthy menus. Besides, government bodies could use the data to prepare guidelines on serving food in a few of salt, sugar, fat, calorie content and portion size for food business entities in order to advocate and promote a healthy eating.

Government had variety of nutrition guidelines. For example was Malaysian Dietary Guidelines (MDG) that was launched in 2010 which consists of 14 messages and 55 recommendations to healthy diet. In general, the guideline's objectives were to promote Malaysians to eat healthily, exercise regularly and make effective use of nutrition information on food labels (E-Seong, 2011). Then, consumers more aware of the healthier options and they will be more selective when dining out.

The population's unhealthy eating habit has prompted the government via the Ministry of Health (MOH) to implement various policies and campaigns to promote a healthier eating behaviour among the public. For example, the National Plan of Action for Nutrition of Malaysia, NPANM II (2006-2015) has been developed to tackle the issues of unhealthy eating practices in Malaysia. With regard to the campaigns launched at national level, some of the campaigns include "Healthy Lifestyle Campaign", "Reduce Sugar Intake Campaign", and "Guidelines on the Implementation of Healthy Eating in the Public Sector" (Sharkawi, Mohamed, & Rezai, 2014).

The National Plan of Action on Nutrition in Malaysia was developed in 1996 to achieve and maintain nutritional well-being of Malaysians. The policy aims to provide access to adequate, nutritious, safe and quality food for all. The National Plan of Action for Malaysia (NPANM, 2006-2015) promotes and supports strategies for the practice of healthy eating. The policy will integrate and synergize efforts from relevant stakeholders in planning, implementing and evaluating food and nutrition programmes that are effective and sustainable (Plan, 2010). Traders of hawker stalls also can know the market

for healthy food and they will come up with healthier recipes to meet customer's need, in addition to expend their business with venturing into 'healthy food' concept.

1.7 Conceptual Framework

This figure provide framework for the study to measure factors that influencing consumers on the practice of healthy eating when dining out at hawker stalls.

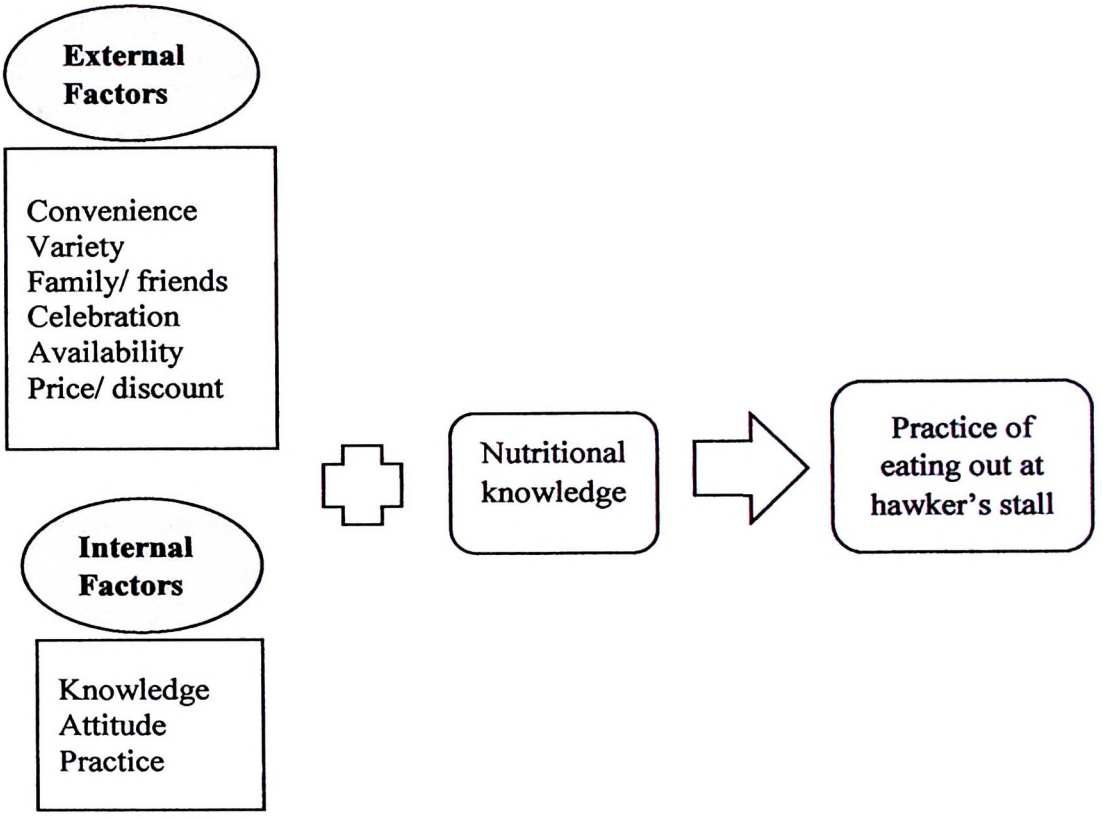

Figure 1: Nutritional Knowledge and Practice of Eating Out At Hawker Stalls

2.0 LITERATURE REVIEW

2.1 Definition of Hawker Food

Street vendors or hawkers are found throughout the world and carry wares on their persons or use carts or stalls which are often mobile (Hays-Mitchell, 1994). Their distribution reflects customer traffic and some are centralised in officially designated market areas or unofficial semi-permanent sites. Food is commonly sold (Dunnett, 2003) and has been labelled street food (Tinker, 1997), activity being greatest in less developed regions (Yasmeen, 2001).

The definition of Street food in Thailand is very similar with the other developing countries that referred to ready to eat food that the vendors and hawkers prepare or sell in the public places, for example, school, hospital, rail way station, etc. (FAO, 2005).

Another study defined, hawker food as a group of small stalls, each specializing in one or two dishes, has now been transplanted to indoor settings. Some are little more than open-fronted galleries with stalls lining the edge of their floor area with tables set in the middle. Others are particularly in the smart shopping malls, are likely the food courts found in malls. Unless specified, indoor hawker stalls tend to open between 10 am to 10 pm daily, a few Muslim-run stalls close on Fridays. Some outdoor stalls opens early, providing breakfast for people on their way to work, while others don't kick off until 6pm or 7pm, but then stay opened until 2am (Ledesma, Lewis & Savage, n.d).

2.2 Prevalence of Dining Out

2.2.1 Prevalence of Dining Out Around the World

In Brazil, the overall prevalence of out of home eating was 40.3% and it was greater among men compared to women which is 46.8% and 34.5% respectively. In general, eating out prevalence decreased with age and increased with income. Data showed a high proportion of sit-down meals eaten out of home, which are usually healthier than fast food or deep-fried snacks (Bezerra & Sichieri, 2009). Employed adults and students tend to consume more street food than managers/ professionals, housewives, and the unemployed (Boon, 2014).

Frequency of street food consumption varied widely between countries and areas (Steyn *et al.*, 2013). In Mali, for example, street foods were consumed on a daily basis (Ag Bendech *et al.*, 2000). Similarly, a study in Nigeria indicated that street foods provided more than 60 % of daily food intake (Oguntona & Tella, 1999), while in urban Kenya the intake appeared to be less with 53–78 % of households consuming street foods at least once weekly (Van't Riet, den Hartog, & van Staveren, 2002). However, street food consumption was high in rural areas of Kenya, with schoolchildren eating street foods about twice daily (Gewa, Murphy, & Neumann, 2007). A national study in South Africa reported that Africans were the most common consumers of street foods with 19 % consuming them at least twice weekly (Steyn & Labadarios, 2011).

2.2.2 Prevalence of Dining Out In Asia

According to a study on Japanese eating habits, more than 80% of Japanese usually have dinner at home with their family, but as for what they actually eat, over 60% of Japanese rely on home meal replacement food, which include ready-to-eat food that it

bought outside and taken home at least once or twice a month. More than 70% enjoyed eating out at least once or twice monthly (Online Survey, 2002). Besides that, people in Philippines also prefer to dine out because they cater to their needs for convenience, quick preparation, and ready-to-eat meal options. From only 14% in 2012, the number of respondents who frequently eat out of their houses rose to 25% in 2014 (Gavilan, 2014).

2.2.3 Prevalence of Dining Out In Malaysia

Malaysians have traditionally apportioned the largest amount of household expenditures on food products. This includes consumption of food-at-home (FAH) and food-away-from-home (FAFH). However, while spending on FAH has declined steadily from a share of 33.7% in 1973 to 22.2% in 1999, spending on FAFH rose from 4.6% in 1973 to 10.9% in 1999 (Department of Statistics Malaysia, 2000). This reflects the changing lifestyle of Malaysian households, whereby, having a meal at home is becoming less often while eating out has become more frequent (Lee & Tan, 2006).

Previous study also found that only 36% of Malaysians prefer to eat at home, with 12.5% taking at least one meal outside the home a day and a whopping 64% eating out more than once daily (Alif, 2014). These food includes any paid meal eaten away from the home, including fine and casual dining, cafes, hawker stalls and fast food outlets. Malaysia, although prefer to eat at home, more than half indicated that they eat outside in that particular study.

2.3 Consequence of Dining Out

2.3.1 Overweight/ obesity

Vietnam and India have the lowest rates of obesity in Asia Pacific (1.7% and 1.9% respectively). Malaysia has the highest obesity prevalence at 14% in the South East Asia region, with Thailand next in line (8.8%). These figures fall far behind those in the Oceanic countries, with 26.8 % obesity rates in Australia and 28.3 % in New Zealand. The prevalence of obesity in these countries is similar to rates seen in the United Kingdom (26.9%) and US (33%) (Cheong, 2014). Another study was review to describe the trend in overweight and obesity rates among adults in Malaysia. Results shows the prevalence of overweight adults has increased from 20.7% to 29.1%, and an ever larger increase in obesity levels has been observed from 5.5% to 14.0% which from 1996 to 2006 (Khambalia & Seen, 2010).

The practice of eating out has health implications due to over eating, irregular eating, late eating and imbalanced diet. Hypertension, heart diseases, cancer, and diabetes are closely related to obesity and unhealthy food consumption. The nature of the current Malaysia food served at food premises are often sweet, oily and fatty, which usually taste good, but not without health implications (Noraziah & Azlan, 2012).

Another study in the America indicates higher proportion of consuming breakfast eating away from home, and this was significantly associated with increased risk of obesity compared to those who rarely ate away from home (Yunsheng *et al*, 2003). Eating out of dinner also associated with obesity but eating lunch away from home was associated with a reduce risk of obesity. Overall, it was concluded that frequency of breakfasts, lunches, and dinners eaten away from home was simultaneously related to obesity. The study also reported that both breakfasts and dinners eaten away from home were significantly higher in terms of total calories, percentage of calories from total fat,

and percentage of calories from saturated fat and lower in percentage of calories from protein, percentage of calories from carbohydrate, and fiber than were breakfasts or dinners eaten at home. Lunches eaten away from home were significantly higher in total calories and the percentage of calories from total fat, but lower in the percentage of calories from protein than lunches eaten at home. About the association between eating patterns and overweight also essentially the same as for obesity findings (Yunsheng *et al*, 2003).

2.3.2 Food Poisoning

World Health Organization (WHO) has mentioned the popularity of street food stalls as a contributory factor to food-borne illness globally (WHO, 2002), and poor sanitation/attitudes of hawkers have been associated with reports of foodborne illness in Malaysia (Meftahuddin, 2002).

In Malaysia, a wide variety of local foods sold by street hawkers is a major source of ready-to-eat (RTE) foods for the locals. On the other hand, hypermarket is an emerging modern setting in the country for the locals to purchase foods. However, the hygiene status of street hawkers is questionable. Previous studies conducted locally (Ponniah *et al.*, 2010) and in other countries (Nyenje *et al.*, 2012) found high a prevalence of foodborne pathogens in street foods. The hygiene level of food courts in the hypermarket settings is generally assumed to be better. However, the foodborne pathogens and L. monocytogenes had been reported to be isolated frequently from raw and RTE foods sold in the hypermarkets in Malaysia (Ponniah *et al.*, 2010). Therefore, the occurrence of this pathogen in various types of RTE foods, sold by hawkers and hypermarkets could pose a significant public health risk to the consumers (Hossein, Lay, & Kwai, 2013).

Street food also is always associated with food borne illness. From the incidents it can be noticeable that the vendors do not pay enough attention to food safety (Hanashiro *et al.*, 2005), or they probably are lack of education which influence the lack of sanitary knowledge (Muyanja *et al.*, 2011).

2.3.3 Healthy Eating Habits

When people choose foods that are healthy, then they will have healthier body weight and slowly adopt a healthy lifestyle. For example, if they are choosing on a local foods can help increase the availability of fresh fruits and vegetables with can help balance the tendency in our society to eat highly processed 'fast foods' that can cause heart disease, diabetes and other diet-related illnesses. Since most food travels so far, increasing the use of local food can reduce reliance on fossil fuels and related carbon emissions. Besides, eating out can improve the community development by created spaces for people to gather, socialize, learn, and enjoy life as a community. People also will get the healthy socialization life (Lanford, 2011).

In recent years, the health and wellness trend has played an important role to people who eating outside of home. For example, Indonesian consumers, especially the middle-to-upper income urban population, who are better educated, hence pay more attention to their health and usually demand for healthier food and drink (Indonesia the Foodservice Industry, 2013).

2.3.4 Increase the Economic Growth

Hawkers are a tourist resource in some destinations, and the presence of cooked and uncooked food sellers brings life and colour to locations, drawing visitors as

observers if not as customers. The vendors and their dishes have been hailed as symbols of local identity and difference, embodying aspects of the societies and cultures in which they work (Pang & Poh, 2008). Malaysia is one of the well-known countries in South East Asia of having vast gastronomy products (food, beverage and food culture) that can be offered to the international tourists (Jalis, Zahari,& Othman, 2007).

Data from Statistics Canada and additional sources that track sales at restaurants, bars, caterers and other foodservice operations, the Canadian Restaurant and Foodservices Association (CRFA) estimates that the restaurant industry will generate more than 60 billion in sales in 2010. This amounts to just under 38% of total spending on food in Canada by consumers, tourists, government, business and industry. In addition, seven in 10 Canadians believe the restaurant industry is an important part of the Canadian economy. They also understand the role that restaurants play in attracting tourists, as 66% agree that restaurants encourage tourism and travel (Restaurant & Foodservices Association, 2010).

2.4 Factor Influencing Dining Out

In a study, result showed that there are many factors which influences people to eat out. Factors includes quick service, availability of food, serves good-tasting food, socializing with family and friends, nutritious foods offered, fun and entertaining (Rydell *et al.*, 2008). Study also stated that eating out was a phenomenon especially among young generation (Pawan, Juliana, & Kamarul, 2014). The study showed that younger generation were very particular in choosing theirs dine out places and they consider factors which are the social factor, price and value (Pawan, Juliana, & Kamarul, 2014). Fast food restaurant seem to be one of the main venue for this generation to socialize with

their friends and also the prices of the meals offered besides its convenience and accessibility. The massive advertisement and promotion by this type of foodservice establishment also had influenced and attract this group (Pawan, Juliana, & Kamarul, 2014).

2.4.1 Demographic Factors

Demographic factors also influence people to eating out, especially at hawker stalls. A comparison study which was conducted showed that consumers aged 55 years and older compare to those aged 16 to 24 years were less likely to eat outside because of the nutrition factors, but were more likely to agree because family/ friends like it and it was among women. Besides, higher level of education were more likely to eat out, because they were too busy to cook food. Those who are not working liked to eat out because eating out was considered are fun and entertaining, a way to socializing with friends and family, or because their family or friends like it (Rydell *et al.*, 2008).

Demographic factors like financial status of parents influenced their children to eating out, besides, they have less time to prepare food since both parents were working. The children were introduced to eating out, whether at fast food chains or local hawker stalls, by their family members when young. It is unlikely the children's food choices will change, unless they are supported by their parents who themselves need to be encouraged to make more healthy food choices (Moy, Gan, & Zaleha, 2006).

2.4.2 Growth of Food Industry

The growth of the food industry is attributed to introduction of technological innovations like vacuum packaging, improved preservatives, deep-freezing, and

microwaves over time. These innovations allow restaurants as well as companies to be able to move food to the consumer safely and quickly and without a great additional cost to the producer or the consumer (Stroebe, 2009; Epter, 2009).

The structural and functional development in the urban areas reflects the changing lifestyle of the urban population. The local authorities in their local plan is subjected to build not only more residential units but also more shopping complexes, open courts for food services and periodical markets. Hence, there are more eating outlets available at government offices, school and manufacturing industries, while restaurants and stall are operating in neighbourhood and at the city centres, where variety of food premises and cooked food services are available (Noraziah & Azlan, 2012).

2.4.3 Economic Growth

When food industry grows, economic also automatically will increase. Economic growth has spurred rapid urbanization in Malaysia and triggered changes in diet, lifestyle, and disease trends (Boon, 2014). Economic growth in the urban areas is one important factor that enables the urban populations to spend more on food. Besides, food varieties offered in the urban environment where are indoor and outdoor, by accessible food premises also influence the urban populations to eat outside more often than before (Noraziah & Azlan, 2012).

2.4.4 Food Choices

Previous research found nine different factors that influence food choice including healthfulness, taste or sensory appeal, price, convenience, tradition or familiarity, mood, and weight control. It is likely that many of these factors that influence making an

individual food choice would also be a contributing factor in making the choice to eat outside the home (Malloy *et al.*, 2006; Epter, 2009). American customers also are more satisfied and have more positive behavioural intentions when basic utilitarian components such as cost, taste, or menu options are satisfied. Although the cost of food relatively high or food portion is small or large, they might not consider these as determinant factors to revisit the restaurant (Jooyeon & Soocheong, 2010).

Besides, children at US admitted that they are likely to eat at buffets restaurants because it was featuring over 100 items. They liked the variety of food offered and the ability to choose whatever they wanted to eat in whatever quantities. Usually they choose food based on how it looked, smelled, their familiarity with the item, and what they had the feeling for. Some children mentioned that their families influenced what they choose, as one said that their mother ask them to get some meat and just like something healthy and stuff. Other children said their food choices make because their mother make they get it (Dammann & Smith, 2010).

2.4.5 Choosing Not to Cook

In today's world, cooking or not cooking is often a choices. Often, people make the choice to use pre-prepared foods when cooking, but people also make the choice not to cook at all. Understanding why people make the choice to eat out from the perspective of why people do not want to cook is equally important to understanding why people make the choice to eat out. This is important because it shows if either eating out or not having to cook is more influential in the decision to eat food prepared outside the home (Epter, 2009).

A number of reasons that young adults made the choice not to cook in a completed of longitudinal study assessed with a food frequency questionnaire and what they found was that 23% of males and 18% of females cited inadequate cooking skills as a main reason for not cooking meals for themselves. In addition to a lack of cooking skill, they also found that 36% of young adults felt that the most common barrier to food preparation was a lack of time (Epter, 2009).

2.4.6 Socialising/ Togetherness

The togetherness or social aspect of eating outside the home is a very important factor in making the choice to eat outside the home. It is generally a rarity to see an individual eating out at a restaurant alone. A survey focused on eating out found that 75% of people agree with the statement "I dislike eating alone." Eating out represents a way to become better acquainted with a stranger, to build or maintain romantic relationships, and to celebrate important events with friends and family. In general, eating out can fulfill one's social needs (Warde *et al.*, 2001; Epter, 2009).

The majority of the respondents in another study acknowledged that they eat out with their friends or family, but more often they went out to have a conversation with their friends. They also agreed that dining out is one of the enjoyable activities of their life, for example, it was the place to watch sport displays on a large screen especially friends (Pawan, Juliana & Kamarul, 2014). However, certain researcher do not look eating out at restaurant will give a positively effect as a place for socialization (Epter, 2009).

Research has indicated that the setting of a restaurant is a positive environment for social interaction. This is because the restaurant creates an environment that can be

used by many individuals for social interaction without any individual pressure over the actual location of a meeting (Epter, 2009). It also does not have a negative impact on family socializing and in a lot of cases it can improve the sociality of a family through the different meal experiences a family goes through over time (Epter, 2009).

2.4.7 Conveniences

Often, convenience can motivate an individual to make the choice to eat out. For example, research among 700 individuals living in New Jersey to determine if they think about health and nutrition when they eat outside home. It was found that when individuals were most concerned with the convenience of obtaining their meal, they were 17% more likely to go to a fast food restaurant for a meal. Convenience was the third most important attribute to the choice to eat out and the second most important reason for choosing a particular restaurant. They also found that convenience along with time were major factors when making the choice to eat out and that these factors can often outweigh the desire for a healthful meal. Overall, they found that convenience was a critical factor in both making the choice to eat out as well as the particular restaurant chosen to eat at (Stewart *et al*, 2006; Epter, 2009).

In addition, people who eating out also said for convenience purpose, they prefer restaurants that can be easily accessed and worth their time to dine out or they went to the restaurant near to their house. Dining in these places is selected save time rather than eating at home to (Pawan, Juliana & Kamarul, 2014).

2.5 Definition of Healthy Eating

According to the Keystone Forum Report (2006), individuals who eat out frequently consume more calories and fewer fruits and vegetables that those who eat out less frequently. An increased incidence of health problems contributes to developing public interest in healthy eating and increasing the demand for healthy foods (World Health Organization, 2004; Kang, Jun, & Arendt, 2015). Although there is more public interest, the definition of healthy foods has not acquired consent in research and the industry because people perceive it differently. For example, some define healthy food as foods low in sugar or low sodium, whereas others may be referring to low-fat or low-calorie foods. It is because customers are mainly concerned about fat and calories in menu items (Chen *et al.*, 2006; Kang, Jun, & Arendt, 2015).

Certain people used certain recurring words and terminology to describe healthy eating and these included nutritional terms and words, which might have originated from health promotional messages, such as a 'balanced diet'. Eating a balanced diet with the recommended daily allowance of protein, fibre, carbohydrate and vitamins and minerals. Definitions of healthy eating were broadly in line with current recommendations. It included foods or nutrients which reported to be increased, such as fruit and vegetables, and food which should be reduced, such as salt, processed foods, fast foods and food high in fat (Lake *et al.*, 2006).

2.6 Factors Influencing of Healthy Eating

Lappalainen *et al.*, (1997) presented the barriers into nine categories include lack of time, self-control, resistance to change, food preparation, cost of food unpleasant food, influence of other people, lack of knowledge/ expert consensus, and selection influences.

Michaelidou, Christodoulides, & Torova, (2012) classified the barriers into two distinct categories such as physical (external) and psychological (internal) barriers. Some of the examples of physical barriers are time, cost, unavailability and prices, while eating habits and willpower are examples of psychological barriers (Ismawati, Zainalabidin, & Golnaz, 2014).

In addition, other research said, taste, price and satiation were seen as key barriers to current healthy options. Certain people also wanted to see healthy items on the menu in terms of time of day, time of the week and occasions. Country, age and gender had large influence on preferences also, while personal factors such as diet type, family status and food reactions had minimal influence (Newson *et al.*, 2015).

2.6.1 Lack of Knowledge on Healthy Eating

Another study on obese adults seeking treatment revealed lack of knowledge factor was made up of four items associating with the lack of knowledge in estimating the food's calorie and content, in estimating portion sizes, in eating food to lose weight, and in preparing healthful food (Welsh et al., 2012). A study was conducted in Malaysia on adult's level of understanding of five key messages in the update MDG 2010 revealed that their understanding of the five key messages was moderate with 52% to 93% of them did not understand key words in the dietary guidelines such as serving size, sedentary habits, blended vegetable oil and shortenings (Norimah *et al.*, 2010; Ismawati, Zainalabidin, & Golnaz, 2014).

Many students enjoy eating out as an alternative despite its negative effects and they are not aware of the negative side effects associated with poor nutrition. There is lack of nutrition education in high school and college curriculum. In addition, many