



**UNIVERSITI PUTRA MALAYSIA**

***FOOD SAFETY KNOWLEDGE, ATTITUDE AND PRACTICES OF FOOD  
HANDLERS IN FOOD COURTS, PUTRAJAYA, MALAYSIA***

***MOHD FIRDAUS SIAU BIN ABDULLAH***

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By

**MOHD FIRDAUS SIAU BIN ABDULLAH**

**Thesis Submitted to the School of Graduate Studies, Universiti Putra  
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Science**

**October 2015**

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfillment of the requirements for the degree of Master of Science

## **FOOD SAFETY KNOWLEDGE, ATTITUDE AND PRACTICES OF FOOD HANDLERS IN FOOD COURTS, PUTRAJAYA, MALAYSIA**

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**MOHD FIRDAUS SIAU BIN ABDULLAH**

**October 2015**

**Chairman : Professor Son Radu, PhD**  
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The roles of food handlers were very important in preventing food contamination during its preparation and maintaining the cleanliness of food premises. Food handlers knowledge, attitude and practice in food safety is a key public health concern, because a large number of people take their meals outside the home and are potentially exposed to food borne illnesses. This cross sectional study aimed to explore the pattern of socio-demographic distribution, to assess the level of knowledge, attitude and practice of food safety; and the KAP relationship with the level of premise cleanliness in the food courts at Putrajaya. This study was conducted in two stages from May 2013 to July 2013. In the first stage, 274 food handlers were involved in this study via a self-administered questionnaire to assess their food safety knowledge, attitudes and practices. In the second stage, the cleanliness level of 64 food stall premises was determined through observation using recent inspection score done by the Health Authorized Officer from the Putrajaya Health Department. All completed questionnaires were validated manually and data analysis carried out by computer using SPSS version 20.0 software package. Distribution of food handlers socio-demographic profile was Malaysian (62.0%), male (70.4%), working experienced in food industry (82.0%) and attended food handler training (85.0%). The mean age was 28.7 years and 85.4% having income not less than RM 1,500 monthly. 78.5% of the food handlers had as primary/secondary school education. In respect to their participation in food sanitation trainings, 15.0% of all respondents had not attended any training. The findings reveal that food handlers' knowledge, attitudes and practices were high with a mean percentage score more than 79.0%. However, the level of food safety practices (41.6%) among food handlers in Putrajaya needs to be improved to avoid negative views and to maintain the image of Putrajaya as Malaysia Administration Centre. The majority of the food courts in Putrajaya had consistently moderate level of cleanliness (63.5%) with the mean of 83.03%. Only 27.4% of the food courts were in the level of clean situation (>89% of premise cleanliness score) and

9.1% were not in the clean condition (<70% of premise cleanliness score). The findings of this study may help the health authorities in planning health intervention programs for food handlers to improve their KAP towards food safety and personal hygiene. Furthermore, this will in turn reduce the morbidity and mortality rate caused by food-borne diseases in the future.

**Keywords:** Food handlers; knowledge (K), attitudes (A) and practices (P); food safety; cleanliness; food courts.



Abstrak tesis yang dikemukakan kepada senat Universiti Putra Malaysia  
sebagai memenuhi keperluan untuk Ijazah Sarjana Sains

**PENGETAHUAN, SIKAP DAN AMALAN KESELAMATAN MAKANAN  
PENGENDALI MAKANAN DI PUSAT MAKANAN, PUTRAJAYA, MALAYSIA**

Oleh

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Peranan pengendali makanan sangat penting untuk mengelakkan pencemaran makanan semasa penyediaan makanan dan untuk mengekalkan kebersihan premis makanan. Pengetahuan, sikap dan amalan pengendali makanan berkaitan dengan keselamatan makanan merupakan masalah utama dalam kesihatan awam, kerana majoriti orang makan di luar rumah dan berpotensi terdedah kepada penyakit-penyakit bawaan makanan. Kajian ini bertujuan untuk menerokai corak pengagihan sosio-demografi, untuk menilai tahap pengetahuan, sikap dan amalan keselamatan makanan; dan hubungan KAP dengan tahap kebersihan premis di pusat makanan di Putrajaya. Kajian ini dijalankan dalam dua peringkat dari Mei 2013 sehingga Julai 2013. Dalam peringkat pertama, 274 pengendali makanan telah terlibat dalam kajian ini melalui soal selidik untuk menilai pengetahuan keselamatan makanan, sikap dan amalan mereka. Dalam peringkat kedua, tahap kebersihan di 64 premis gerai makanan telah ditentukan melalui pemerhatian dengan menggunakan skor hasil pemeriksaan terkini yang dijalankan oleh Pegawai Berkuasa Kesihatan dari Jabatan Kesihatan Putrajaya. Semua borang soal selidik yang lengkap akan disemak dan analisis data akan dilaksanakan dengan menggunakan perisian SPSS versi 20.0 pakej perisian. Profil sosio-demografi pengendali makanan adalah seperti berikut warganegara Malaysia (62.0%), lelaki (70.4%), pengalaman bekerja dalam industri makanan (82.0%) dan telah mengikuti latihan pengendali makanan (85.0%). Umur purata adalah 28.7 tahun dan 85.4% mempunyai pendapatan lebih dari RM 1,500 / bulan. 78.5% daripada pengendalian makanan mempunyai tahap pendidikan sekolah rendah / menengah. 15.0% daripada pengendali makanan tidak pernah menghadiri program latihan makanan pengendali. Hasil kajian mendapati pengendali makanan mempunyai pengetahuan, sikap dan amalan yang tinggi dengan peratusan mean skor lebih daripada 80.0%. Walaubagaimanapun amalan keselamatan makanan (41.6%) di kalangan pengendali makanan perlu dipertingkatkan untuk mengelakkan pandangan negative dan menjaga imej Putrajaya sebagai Pusat Pentadbiran Negara. Majoriti daripada gerai di medan selera di Putrajaya mempunyai tahap kebersihan yang sederhana (63.5%)

dengan mean 83.03%. Hanya 27.4% daripada gerai makanan berada di tahap keadaan bersih (>89% markah kebersihan premis) dan 9.1% tidak berada dalam keadaan yang bersih (<70% markah kebersihan premis). Hasil daripada kajian ini akan membantu pihak berkuasa kesihatan dalam perancangan program intervensi untuk penambahbaikan pengetahuan, sikap dan amalan pengendali makanan berkaitan dengan keselamatan makanan dan kebersihan diri. Disamping itu, ia dapat mengurangkan morbiditi dan mortaliti akibat penyakit-penyakit bawaan makanan di masa depan.

**Kata kunci:** Pengendali makanan; pengetahuan, sikap dan amalan; keselamatan makanan; kebersihan; medan selera.



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I certify that a Thesis Examination Committee has met on 9 October 2015 to conduct the final examination of Mohd Firdaus Siau bin Abdullah on his thesis entitled "Food Safety Knowledge, Attitude and Practices of Food Handlers in Food Courts, Putrajaya, Malaysia" in accordance with the Universities and University Colleges Act 1971, and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Master of Science.

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## LIST OF ABBREVIATIONS

ASEAN	Association of Southeast Asian Nations
CDC	Centers for Disease Control
FDA	Food and Drug Administration
IBM	International Business Machines Corporation
KAP	Knowledge, Attitudes and Practices
MOH	Ministry of Health Malaysia
NY	New York
SPSS	Statistical Package for the Social Sciences
UiTM	Universiti Teknologi MARA
USA	United State of America
WHO	World Health Organization

# CHAPTER 1

## INTRODUCTION

### 1.1 Introduction

This chapter gives an introduction to the current study which aimed at determining the relationship of Knowledge, Attitudes and Practices (KAP) in food safety among food handlers and the cleanliness level of food courts in Putrajaya. The chapter comprises of the following sections; background of the study; problem statement; research objectives; significance of the study; the study's scope; operational definition of term and organization of the study.

### 1.2 Background of the Study

KAP study was conducted to investigate a certain topic to identify what people know (Knowledge), how they feel (Attitude) and what they do (Practice) related to human behaviour. A KAP survey is a representative study to collect information on what is known, believed and done in relation to a particular topic of a specific population (WHO, 2008).

Putrajaya has been known for unique hospitality with varieties of tourist attraction sites and foods. Based on the statistics given by Putrajaya Corporation, there were 64 food stalls located at 8 food courts in Putrajaya where tourists and residents enjoying foods at these food courts every day. The method of preparation, safety of prepared or sold food and personal hygiene practice of food handlers in these food courts become important issues since they are located in the centre of government administration and attractive tourist place in Malaysia. Food safety is required in food production processes, storage, preparation and distribution, it can be defined as necessary steps and precautions to make sure such food or products are safe and suitable for human consumption. Several vital factors in safety food are method of storage, food preparation, handling process, personal hygiene of food handlers and cleanliness of food premises. Foodborne illness is a major health threat resulting in an economic burden for individuals and their employers, illness, and even death.

Food is a one of the basic need for human and to avoid food poisoning it is very important to serve foods that are free from contamination for human consumption. The roles of food handlers were very vital in maintaining the cleanliness of food premises and preparing safe food for human consumption to avoid food contamination. Everyday foodborne illness cases are reported in countries all over the world, from developing to developed countries. The true dimension of the problem is unknown, as most of the foodborne illnesses are not reported (Royal Society of Chemistry, 2001). Many die and million people become ill as a result of eating unsafe food. Each year, foodborne illness

affected up to one third of the population in developed countries (FAO/WHO, 2002).

Microorganisms required source of nutrients that are rich in foods to grow and the major sources of contamination in foods are from employees, air, water, insects, rodents, dust, equipment and sewage that can cause illness. (Siow and Norrakiah, 2011).

67% of Malaysians dine at restaurants at least once a week according to a survey conducted by The Nielsen Company in 2010 (MIFB, 2013). The popularity of eating out amongst Malaysians had increasing with the result of changing lifestyle with an evident increase in dining out in food stalls. These food stalls normally charge lower price as they cater to customers with lower to middle income. Consumers would have less time to prepare their food, instead they will opt to eat away from home (Shazali and Dayang, 2006).

Most people take advantage of buying ready-made food and eating outside due to the fast pace living (Haryani et al., 2007). Good sanitary handling practice and personal hygiene at work are an essential part. Most outbreaks of food poisoning have been implicated to human handling errors (Greig et al., 2007). Furthermore, the tourism industry is attracting 25 million tourist arrivals to Malaysia in 2012 (World Tourism Organization, 2013). In recent decades, food plays a prominent role as an attraction for tourists and the expansion of food tourism. Attention also given to food within a tourism context appears to have intensified around the world (Hall, 2003). A process of (re)socialization which, among their things, was manifested in their choice of food, in a change of cultural practices, and emergence of new belief are naturally desired to undergo by tourists (Fox, 2007).

According to market report by Frost and Sullivan (2009), global demand for food and beverages is likely to reach \$15 Trillion in 2014. Development of new food and beverage ingredients will play a key role in the food industry. By 2014, Asia Pacific is the fastest growing region for food and beverage products and it is likely to surpass one-third of total global food & beverage spending.

In many countries, foodborne disease has emerged as an important and growing public health concern and economic problem (Rocourt et al., 2003). Food safety culture is an emerging concept, and the ways and means to best to influence and nurture that culture remains largely unexplored (Douglas et al., 2011).

The Putrajaya Corporation will take various initiatives to turn Putrajaya into a prime tourism and administrative centre said it's President Tan Sri Aseh Che Mat. Putrajaya is one of the tourist attraction place in Malaysia with 87,100 populations and 1.7 million tourists visited Putrajaya every year since 2010 (Bernama, 2012). Food was viewed as merely an element of an entire destination image and food was claimed to be an influential tool for differentiation and imparting impact on tourists' emotion (Quan and Wang, 2004; Henderson, 2009).

Malaysia has been known as the Food Heaven. Food safety issue had become priority with the changed of Malaysians lifestyle eating outside and the increasing number of tourists coming in Malaysia. The image of Putrajaya will be ruined if foods provided are not safe and dirty food premises are operating as usual without any effort to change it.

In order to minimize the occurrence of foodborne illness, the understanding of the interaction on prevailing food safety beliefs, knowledge and practices of food handlers are very important (WHO, 2001). Food handlers play an important role in food safety throughout the chain of production, processing, preparation and storage of food.

### **1.3 Problem Statement**

Early studies concluded that the level of KAP among food handlers were one of the main risk factor related to the context of food safety. Studies indicated that most outbreaks on foodborne diseases associated with food service establishments can be attributed to improper food preparation practices among food handlers as risk factors (Friedman et al., 2004). Inadequate knowledge and the low of hygiene practices among food handlers are the main risk factors represented by humans in the context of food safety (EFSA, 2010). Studies conducted in Ireland, England, Slovenia, Turkey and Portugal suggested that the level of KAP of food handlers must be improved in order to avoid food contamination by them (Bas et al., 2006; Bolton et al., 2008; Gomes-Neves et al., 2013; Jevsnik et al., 2008; Tokuc et al., 2009; Walker et al., 2003).

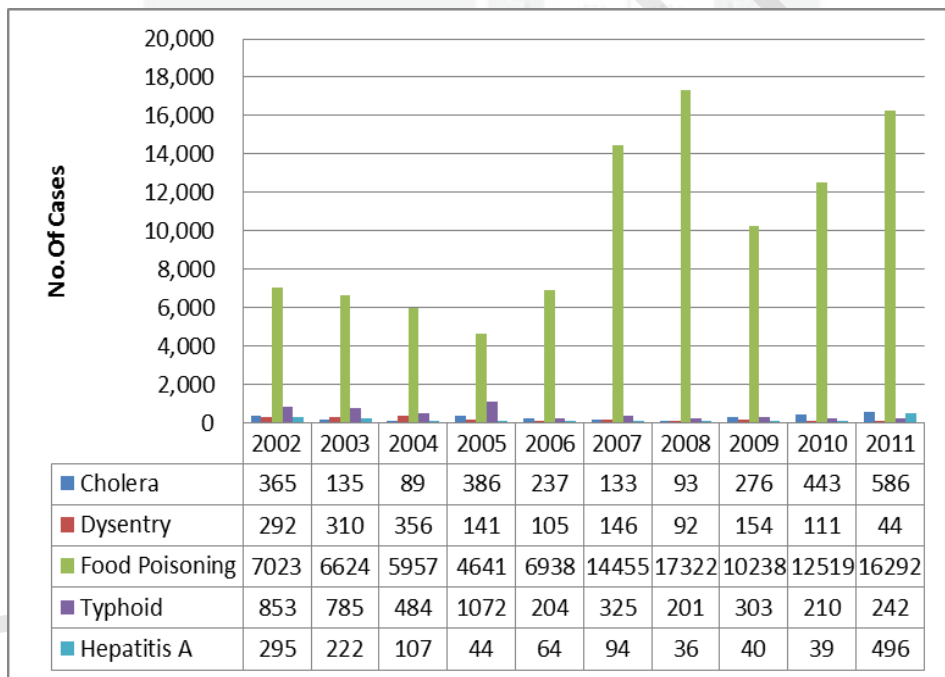
Annually, it is estimated that 1.8 million die from severe food and water-borne illness and one in three people worldwide suffers from a foodborne illness (Othman, 2007). Foodborne diseases caused by major pathogens alone had increased the medical costs and lost productivity which estimated to cost up to \$44 billion annually in the United States (WHO, 2002).

Nowadays, the issue of foodborne is very common in Malaysia. It happened due to bad personal hygiene, improper cleanliness during food service operation, improper food hygiene and dirty restaurant (Sazali, 2011). Food stalls has become an important public health issues and a great concern to everybody.

In Malaysia, the trend of eating away from home had become popular in the past decades. Due to the change of lifestyles many consumers eat out in street food vendors, canteens, fast food outlets and restaurants (Kassem et al., 2003). Indeed, dining out have been constantly associated with the incidence of food borne illness episodes (Cavalli and Salay, 2004; Clayton and Griffith, 2004). With the population of 87,100 in Putrajaya and the high number of people eating out can cause the emergence of foodborne illness by unhygienic foods preparation and lack of KAP towards food safety. 97% of food poisoning cases cause by the inappropriate handling of foods by the food service industry (Greig et al., 2007). Food handlers KAP are the three factors playing major role in the occurrence of food illness (Sharif and Al-Malki, 2010).

In many developing countries tourism is growing rapidly, and this can have a profound impact on the consumer demands for safety food. Every year, 1.7 million tourists visited Putrajaya. Food and tourism are inextricably linked (Hall and Mitchell, 2000; Hjalanger and Richards, 2002; Long, 2004) and eating is a physical necessity for every tourist which generates substantial revenues (Au and Law, 2002). About 25.03 million tourists visited Malaysia in 2012 and it has become the country's third biggest earner of foreign exchange (World Tourism Organization, 2013). In Putrajaya, the concerns of serving safe and clean food were rising at locations where travelers eat for convenience and recreation.

Food illness cases are on the rise in Malaysia, despite various attempts made by the Malaysian government in implementing food safety monitoring and programs. The incidence rate of 46.1 cases per 100,000 populations was reported in 2011 and an increasing 2.8 cases per 100,000 from the previous year (MOH, 2013a).



**Figure 1.1: Number of food and waterborne diseases cases in Malaysia, 2002– 2011. (Source: Ministry Of Health Malaysia)**

The recent report on the high food premise closure rate indicates that food handlers still failed to complied with the food hygiene requirements and to ensure the cleanliness of their food premise. According to Ministry Of Health Malaysia, there were 3,447 (2.6%) from the total of 132,528 inspected food premises have been issued closure orders for unhygienic condition in 2012 according to the regulations in Part II of Food Act 1983 (MOH, 2013a). At



Putrajaya, there were 10 (5.0%) out of the 199 inspected food premises have been issued closure orders for unhygienic condition in 2012 (MOH, 2013b).

While the existing literature has discussed on the important of food handlers hygiene and the cleanliness of food premises in food safety extensively, a gap was identified - a lack of understanding on the KAP among food handlers and cleanliness of food courts particularly from the Putrajaya perspective.

To date, previous research has been done on this topic but no efforts were found focusing on food handlers KAP towards food safety handling and the cleanliness of food courts in Putrajaya. While a number of studies assessing the KAP of food handlers related to food safety have been done around the world. Consequently, this research aimed at determining the KAP of food handlers and the cleanliness of food courts in Putrajaya and examining the effect of social demographics on KAP.

#### **1.4 Objectives**

KAP in food safety of food handlers and the cleanliness level of food premises are crucial elements to avoid food illness. Hence, this study aimed to discover the level of KAP in food safety and the cleanliness level of food courts in Putrajaya. Additionally, the influence of socio-demographic profile on the level of KAP in food safety among food handlers in Putrajaya and the relationship of KAP with the cleanliness level of food courts in Putrajaya. The research objectives of this study are as follows:

##### **1.4.1 General Objective:**

To evaluate food handlers' KAP in food safety and the food premises cleanliness score at the food court of Putrajaya.

##### **1.4.2 Specific Objectives:**

- To evaluate the level of knowledge, attitudes and practices (KAP) on food safety among food handlers.
- To determine the relationship of socio-demographic profile of food handlers towards KAP of food safety.
- To investigate the relationship between KAP among food handlers and the cleanliness assessment of food courts.

#### **1.5 Significant of Study**

Food contamination can be prevented by maintaining a high standard of personal hygiene and cleanliness in food preparation. Poor personal hygiene practices and the mishandling of food among food handlers may enable

pathogens to survive and multiply in sufficient numbers to cause illness in the consumer (Zain and Naing, 2001; Askarian et al., 2004).

Based on the data obtained from the Putrajaya Health Department, the cleanliness of food premises in food court at Putrajaya is still at the moderate level. Only 30% of food premises are at the level of clean (score > 79%) during the period of four years from 2009 to 2012 in spite of various efforts undertaken by The Food Authorities in Putrajaya. During these period, an average of 8% of the food premises in the food court in Putrajaya were classified as not clean (score < 50%) and should not be operating as it poses a risk for the food-borne disease illness. Dirty food premises are associated with the KAP of the food handlers. Food handlers knowledge is crucial because lack of personal hygiene has been shown to be significant contributory factors to food-borne illness in various food retails (Taylor et al., 2000; Aarnisalo et al., 2006; Bao et al., 2006; Lucca and Torres, 2006; Lues and Van Tonder, 2007).

Previous study indicates that improving food preparation practices of food handlers' was needed to reduce the incidence of foodborne illness. With regard to food handlers, KAP were the three major important factors in the incidence of food poisoning (Angelillo et al., 2001; Patil et al., 2005). The food handlers revealed a discrepancy between attitude and practices towards food safety and also have insufficient knowledge regarding the basic of food hygiene. Food handlers should have excellent hygiene practice in protecting the consumers from foodborne illness. Knowledge is essential as part of food handlers needs to ensure they practice personal hygiene and food safety precaution while handling food (Martins et al., 2012).

In Malaysia, insanitary food handling procedures identified as the main contributing factor to foodborne disease which accounted for more than 50% of the food poisoning episodes (MOH, 2007c). Food poisoning can be prevented if food handlers play a major role during the preparation of food (Soon et al., 2011). Human handling errors have been identified as source of the most outbreaks of food poisoning (Greig et al., 2007).

Until now, there has been no study on the KAP among food handlers and the level of food premises cleanliness in Putrajaya. It is imperative that Putrajaya food handlers' knowledge, attitudes and practices in food safety are determined to improve general food safety standards as well as create appropriate interventions that will adequately address behaviours that could /be in variance with food safety norms.

The findings of the study also can be used as a guide by the Local Health Authority to improve and prepare a better guideline to increase the level of KAP among food handlers and subsequently to ensure the cleanliness of food premises in Putrajaya achieving the expectation of visitors. Further, this study offers new insight and examination of this important area and thus makes an original contribution to the literature for future study.

## 1.6 Scope of the Study

The scopes of the study are as follows:

- i. This study focused on the socio-demographic profile that will influence the KAP of food handlers in food safety and the relationship of KAP to the level of food courts cleanliness.
- ii. The selection criteria for the participants were narrowed to food handlers at food courts.
- iii. The study was carried out in Putrajaya only.
- iv. The attributed surveyed in this study were limited to the objectives of the study.

## 1.7 Operational Definition of Terms

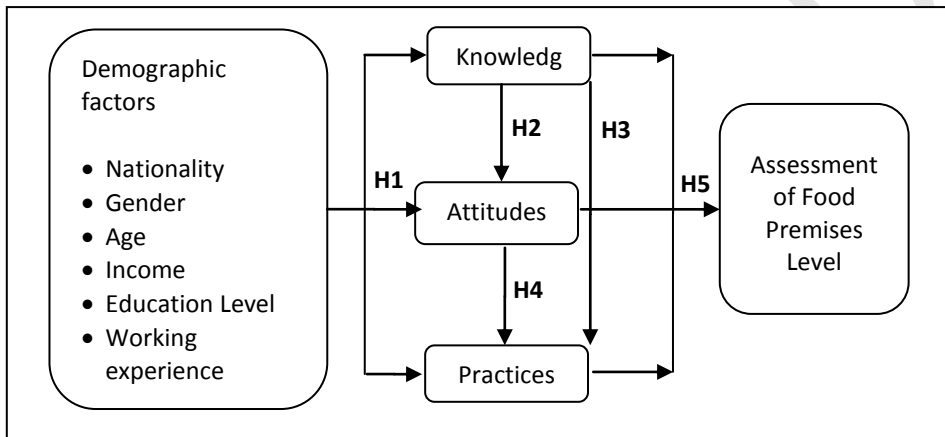
The following terms were operationally defined for the purpose of this study:

- i. **Cleanliness** - the condition of being clean and free of contaminants (FAO/WHO, 2003b).
- ii. **Cleaning** - the removal of soil, food residue, dirt, grease or other objectionable matter (FAO/WHO, 2003b).
- iii. **Contamination** - the introduction or occurrence of a contaminant in food or food environment. (FAO/WHO, 2003b).
- iv. **Food courts** - an area, such as a section of a mall or an alleyway, in which vendors sell food at stations about a common eating space for self-serve dining (The American Heritage Dictionary of the English Language, 2007).
- v. **Food hygiene** - Conditions and measures necessary for the production, processing, storage and distribution of food designed to ensure a safe, sound, wholesome product fit for human consumption (FAO/WHO, 2003b).
- vi. **Food Hazard** - A biological, chemical or physical agent in, or condition of, food with the potential to cause an adverse health effect (FAO/WHO, 2003b).
- vii. **The KAP study** - is to examine and evaluate what people know about certain things, how they feel and how they behave (Gumucio et al., 2011).
- viii. **Food handler** - is any person who is directly involve in the preparation of food, comes into contact with food or food contact surfaces and handles packaged or unpackaged food, or appliances, in any food premises (Percetakan National Malaysia Bhd., 2010).
- ix. **Foodborne illness** - as an illness caused by consuming food contaminated with pathogenic bacteria or chemical (Khair., 1998).
- x. **Food safety** - food safety refers to the conditions and practices that preserve the quality of food to prevent contamination and foodborne illnesses. It includes the production, processing, preparation and handling of food to ensure it is safe to eat (Griffith, 2005).
- xi. **Personal Hygiene** - those protective measures primarily with the responsibility of individuals which promote health and limit the spread of infectious disease chiefly those transmitted by direct contact, such

measures encompasses washing hands with soap and waters and keeping the body and cloths clean by sufficiently frequent soap and water bath (Rasool, 2012).

## 1.8 Theoretical Framework of this Study

A combination of theories such as socio-demographic profile, KAP in food safety and the cleanliness level of food courts adopted and used to design the conceptual framework of this study. The study's conceptual framework is shown in Figure 1.2.



**Figure 1.2: Conceptual framework of the relationships between socio-demographic profile, KAP and food premise assessment level.**

Socio-demographic profiles were proven to have impact on the KAP of food handlers. Hence, the following hypotheses were proposed:

H1: There is a significant mean difference in KAP of food handlers with regard to socio-demographic profiles.

H1a: There is a significant mean difference in nationality on KAP of food handlers.

H1b: There is a significant mean difference in gender on KAP of food handlers.

H1c: There is a significant mean difference in age categories on KAP of food handlers.

H1d: There is a significant mean difference in monthly income on KAP of food handlers.

H1e: There is a significant mean difference in education level on KAP of food handlers.

H1f: There is a significant mean difference in working experience on KAP of food handlers.

H1g: There is a significant mean difference in training on KAP of food handlers.

The level of KAP in food safety was incorporated in this study to determine the relationship between its. The following is the proposed hypothesis:

H2: The knowledge of food handlers will significantly influence the attitudes level towards food safety.

H3: The knowledge of food handlers will significantly influence the practice level towards food safety.

H4: The attitudes of food handlers will significantly influence the practice level towards food safety.

The theory of KAP in food safety and the level of premise cleanliness were incorporated in this study to determine the relationship with the socio-demographic profile. Therefore the following hypothesis was suggested:

H5: There is a significant mean difference in cleanliness of food courts with regard to KAP.

H5a: There is a significant mean difference in knowledge on cleanliness level of food courts.

H5b: There is a significant mean difference in attitudes on cleanliness level of food courts.

H5c: There is a significant mean difference in practices on cleanliness level of food courts.

## **1.9 Organization of the Study**

Knowledge is associated with current practices, which in turn affects willingness to change current practices if it is learned that current practices are unsafe (McIntosh et al., 1994). Many program planners believe that by enhancing knowledge or altering attitudes, they can induce behavioural change (Shaw, 2003).

Most researchers reported that respondents' demographic profiles such as gender and race or ethnic origin reflected the differences in knowledge and attitude (Unusan, 2007). The scores of food safety knowledge and attitude does not significantly impact by race or ethnic origin.

This thesis is divided into five chapters. The first chapter highlights the factors related to food illness in food safety as well as justified the focus of the study, states the objectives of the research and provide a theoretical background for the research framework and proposed hypotheses. Chapter 2 reviews the extent literature. Chapter 3 will delineates the research approaches and methods used in this study. Chapter 4 presents the influence of socio-demographic profile on KAP in food safety among food handlers and the cleanliness level of food courts. The empirical findings about the relationship between knowledge with attitudes and knowledge with practices. The final chapter addresses the conclusion of this study as well as the recommendations and implication for both KAP in food safety and the cleanliness level of food courts. The following chapter will provide an overview of the literature regarding KAP in food safety and the cleanliness of food courts.

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