FOOD SAFETY: AN ASSESSMENT OF KNOWLEDGE, ATTITUDE, AND PRACTICE TOWARD FAST-FOOD OPERATORS IN MALAYSIA

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Abbreviations

QSR	Quick Service Restaurant
SOPs	Standard Operating Procedure
EUFIC	European Food Information Council
WHO	World Health Organization
KAP	Knowledge, Attitude, and Practice
SPSS	Statistical Package for Social Science
APAC	Asia-Pacific

ABSTRACT

Food safety is an important matter that must be emphasized by all fast-food operators in fast-food restaurants. This is due to preventing the occurrence of food-borne illness. Food safety is linked to proper food handling, preparation, and storage. This is to limit the chances of people becoming ill due to foodborne illnesses. It is possible that these fast-food restaurant branches did not practice proper food handling. This research seeks to study the extent of knowledge, attitude, and, practice of fast-food operators. This study further focused on McDonald's fast-food operators in Malaysia. One-hundred and eighty-one respondents participated in this research project by completing questionnaires given via Google Form. The results showed that the food safety attitude corresponds to the knowledge and practice. On the other side, it also showed that the fast-food operators despite having the knowledge, often fail to practice. Thus, it is important that food safety knowledge is practiced

Keywords: Food Safety, Fast Food, Knowledge, Attitude, Practice

ABSTRAK

Keselamatan makanan merupakan perkara penting yang mesti dititikberatkan oleh semua pengusaha makanan segera di restoran makanan segera. Ini adalah kerana untuk mengelakkan berlakunya penyakit bawaan makanan. Keselamatan makanan dikaitkan dengan pengendalian, penyediaan dan penyimpanan makanan yang betul. Ini adalah untuk mengehadkan peluang orang menjadi sakit akibat penyakit bawaan makanan. Kemungkinan cawangan restoran makanan segera ini tidak mengamalkan pengendalian makanan yang betul. Kajian ini bertujuan untuk mengkaji lanjutan pengetahuan, sikap dan amalan pengusaha makanan segera. Kajian ini lebih memfokuskan kepada pengendali makanan segera McDonald's di Malaysia. Seramai 181 orang responden telah mengambil bahagian dalam kajian ini melalui borang soal selidik yang diberikan melalui Google Form. Keputusan menunjukkan apabila sikap keselamatan makanan sepadan dengan pengetahuan dan amalan. Di laman web lain, ia juga menunjukkan bahawa pengusaha makanan segera walaupun mempunyai pengetahuan, mereka sering gagal untuk mengamalkan. Oleh itu, adalah penting bahawa pengetahuan keselamatan makanan diamalkan dengan betul.

Kata kunci: Keselamatan Makanan, Makanan Segera, Pengetahuan, Sikap, Amalan

CHAPTER 1

INTRODUCTION

1.1   INTRODUCTION

The introduction is branched into four major parts that illustrate the chosen context of food safety, which are knowledge, attitude, and practice. This chapter will also include a problem statement about the issue, research objectives, and research questions. These will be followed by an explanation of the significance of this research at the chapter's end.

1.2   BACKGROUND OF THE STUDY

Malaysia is a multiracial and multireligious country which makes it a food paradise. Along with cultural foods, fast foods have grown in popularity as international fast-food franchises have adopted basic Malaysian food preparation standards. As per the Malaysian Franchise Association (2006), the number of quick-service restaurants has expanded at a rate of more than 15% over the last ten years. It is one of the leading Quick Service Restaurant (QSR) brands according to YouGov APAC Dining & QSR of the Year in Malaysia which was up to 85% (Ramadila, 2021).

Fast food is now a very popular food among Malaysians of all ages as fast-food restaurants are more convenient than cooking at home for the general population, especially in urban regions, where most people are busy working. Even at the global level,

fast food is one of the fastest-growing food categories, providing a convenient, economical, and easily accessible alternative to home-cooked meals according to Goyal and Singh (2007). Most of them prefer fast food as it requires a shorter preparation period, which can save them time, especially if they are working. Data Monitor (2005) explains that fast food is food and drink that is quickly consumed in the field or elsewhere, as it is very convenient and inexpensive for busy lifestyles. Goyal and Singh (2007) proclaim fast food to be among the staple foods emerging in the world. This is due to the fast way of preparation as well as good customer service alongside the convenience of services offered such as takeout facilities. Furthermore, one of the main reasons that influence customers to choose fast food over home-cooked food is the increasingly busy modern lifestyle, especially for families who need to manage children and need go to work (Atkins and Bowler, 2001).

Along with the growth of the fast-food establishment, food safety is one of the important things that must be emphasized by all food operators of these fast-food restaurants because hygiene is a priority for the public to prevent the occurrence of foodborne infectious. Food safety and hygiene can be referred as the numerous circumstances and practices that keep food safe while also preventing infection and foodborne illnesses. Safety is the basis for fast food service due to the massive number of meals served daily and their infectious potential when the conceptual hygiene requirements are not met.

In Malaysia, food-borne illness is one of the most critical public health concerns. Food handlers are essential to guarantee strict adherence to the concept of food safety at various levels, especially in the stages of food manufacturing and storage. According to Mohsen et al. (2020), foodborne illnesses and foodborne outbreaks often originate in restaurants.

Multiple studies on food safety knowledge, attitudes, and practices among restaurant owners have yielded mixed results. Some studies have shown gaps in food safety knowledge and practice among restaurant owners, while others have shown a good understanding and appropriate compliance with food safety requirements. The World Health Organization (2000), describes the importance of understanding the mutual influence of the dominant beliefs about food safety knowledge and practices of food handlers to decrease food-borne incidents. In addition, attitude is crucial in food safety to prevent food contamination trends. Aziz & Dahan (2013) demonstrates the correlation between food handlers' attitude, positive attitude, and ongoing education to maintain safe food handling practices.

As the fast-food restaurant have also become the main choice of Malaysians, therefore food safety, namely knowledge, attitude, and practice, plays a crucial function in the fast-food restaurant industry. Hence, our research is aimed to assess the knowledge, attitude, and practices of food handlers in fast food restaurants, and our particular target area is Malaysia.

1.3   PROBLEM STATEMENT

Food safety should also be emphasized in the consumption of fast food. Food safety is the guarantee that when food is prepared in accordance with its original purpose, it will not make the consumer unwell (Escanciano & Santos-Vijande, 2014). According to the European Food Information Council (EUFIC) (2018), the food or drink may become dangerous when it is infected with disease-causing bacteria, viruses, parasites, or chemicals, food or drink can become dangerous. The Australian Institute of Food Safety

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(2016), mentions that food safety is linked to proper food handling, preparation, and storage to limit the chance of people becoming ill as a result of foodborne illness. This is necessary to assure the safety of fast food. This shows that the safety of food depends on the joint efforts of the food operators involved in the food supply.

Fast food that has been cooked and served food at the right temperature as well as having used the right method for cooking and serving is one of the quite important methods the operators will use to assure the safety of the food as these are the most important ways to prevent food contamination and poisoning. Storing and serving food at the right temperature and time is also important to fast food handlers as the improper temperature may expose the food to germs and bacteria. This is why, it is customary to find a variety of cold and hot storage equipment at each fast food store such as Kentucky Fried Chicken (KFC), McDonald's, and other fast foods. This practice will ensure the safety of fast food on the premises.

It is also possible that these fast-food restaurants do not practice proper food safety throughout the operation of their restaurant. Annually, approximately 30% of humans in industrialized international locations be afflicted by food-borne illness (Abdul-Mutalib et al., 2015). The famous fast-food restaurant, McDonald's has also been involved in this food safety issue. One of McDonald's outlets had to be closed for a few days to be re-cleaned before restarting operations. According to Asli Uçar (2016), the notice to close the McDonald's restaurant was done as a result of the investigation into several food poisoning cases reported in the district and also periodic inspections by the Health Department.

This study will show the extent of fast food operators' knowledge, attitude, and practice regarding food safety to ensure the safety of the food provided.

1.4   RESEARCH OBJECTIVES

1. To examine the knowledge of food safety among fast-food operators in Malaysia.

2. To examine the attitude of food safety among fast-food operators in Malaysia.

3. To examine the practice of food safety among fast-food operators in Malaysia.

1.5   RESEARCH QUESTIONS

1. Is there any relationship between knowledge of food safety among the fast-food operators in Malaysia?

2. Is there any relationship in the attitude of food safety among the fast-food operators in Malaysia?

3. Is there any relationship between the practice of food safety among the fast-food operators in Malaysia?

1.6   SIGNIFICANT OF STUDY

The results of this study will be used to derive significant information that will be useful for the following purposes:

1.6.1 BODY OF KNOWLEDGE

This is valuable as evidence, as it adds to the body of knowledge. The study is handled by the researcher to analyze the knowledge, practice, and attitude among the fast-food operators. This research focuses on the knowledge, practice, and attitude of these operators on food safety. Furthermore, this research also gives vast knowledge about the importance of food safety for both operators and consumers when they refer to and access this journal.

1.6.2 THE COMMUNITY

This report will give beneficial information to fast-food consumers. According to an article by Habib et al. (2011), customers' limited time has led them frequently to fast food restaurants due to long extended hours, hectic lifestyles, careers, and family. Therefore, it can be said that fast food has now become part of the lifestyle of most people. Fast-food operators are the medium between the consumer and fast food which makes their role in food safety significant. The report of this study will help to know the knowledge, attitude, and practice of food safety among fast-food operators. Exposure to this information will help consumers to make smart choices in their food intake.

1.6.3 THE FAST-FOOD OPERATORS

This report will show the extent to which the fast-food operators have gained their knowledge, attitude, and practice regarding food safety. As the consumption of fast food increases steadily, the significance of food safety in the fast-food industry also increases.

Fast food is enjoyed by individuals of all ages, thus to guarantee that everyone is safe, numerous safety procedures must be implemented.

When customers are more aware of food safety, it has an impact on their purchasing decisions, so fast-food operators will work hard to improve, and this research will give information on the betterment of the fast-food operators' knowledge, attitude, and practice which will help to avoid foodborne illness in the fast-food industry. These methods can be used by fast-food restaurants' owners and managers to make sure this growing industry expands without costing anyone's health and safety.

1.7   DEFINITION OF TERMS

In the context of this study, the following terminology is defined for a deeper comprehension of the research.

1.7.1 Attitude

According to Collins's online dictionary, this term refers to the way a person views something or how they tend to act toward it, which is often evaluative.

1.7.2 Fast-food operators

Fast food is defined as inexpensive, frequently hot food cooked and served fast at a restaurant in the Cambridge Academic Content Dictionary. Personnel that handles these types of restaurants are referred to as fast-food operators.

1.7.3 Food safety

All measures employed to keep our food safe are referred to as food safety. (McGrath, 2018).

1.7.4 Knowledge

Knowledge is described as the information, understanding, and abilities gained via education or experience, according to the Oxford Learner's Dictionary.

1.7.5 Practice

According to Oxford Languages, practice refers to the actual application or usage of an idea, belief, or approach, in contrast to theories.

1.8   SUMMARY

For this chapter, to summarise what has been said thus far, the background of the study where the growth of the fast-food industry and its importance of it is explained. Next, the urgency of food safety in the now popular fast food is discussed. Problems that may arise if food safety is not given importance are explained in the next section. After that, research objectives and questions were listed. Finally, the significance of this study is reviewed. This study is important as it provided knowledge regarding fast food, food safety, and food operators. Other than that, this study also gives beneficial information to fast-food consumers as well as fast-food handlers.

CHAPTER 2

LITERATURE REVIEW

2.1   INTRODUCTION

The variables will be discussed in-depth in this chapter. Next, an explanation will be given of how independent variables will influence dependent variables using a conceptual framework will be given. The last section will explain the hypothesis of this study.

2.2   LITERATURE REVIEW

2.2.1 KAP Survey

KAP surveys have been used in several countries for research purposes and so on. It was first developed in the 1950s. In the KAP survey, 'K' represents knowledge about the problem or issue being discussed, the 'A' stands for attitude about issues and problems, then 'P' is about practices to solve problems. According to (Wan et al., 2016) it has been said that a survey is more cost-effective than others. Surveys are the most commonly used research instrument in health-seeking behaviour studies because they reflect a specific

community and gather information about what is acknowledged, accepted, and executed about a specific subject.
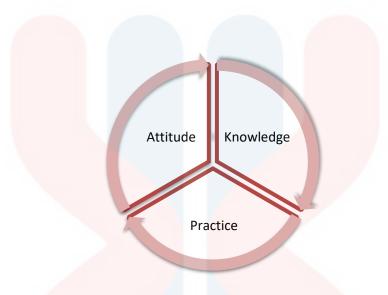
Figure 2.2.1: The action competence: KAP model (Ruth Mach-Zagal, 2009)

2.2.2 KNOWLEDGE

Knowledge is characterised as comprehension or information about a topic acquired through research or experience and possessed by a person or a group of individuals, according to the Cambridge Advanced Learner's Dictionary & Thesaurus. Knowledge is when people or organizations relate information in their minds with its application to reality in a particular context (Dixon, 2000). Besides that, it is also the accumulation of all the knowledge and resources an organisation uses to accomplish its goals (Smith & Webster, 2000).

In the hospitality industry, food safety is one of the essential aspects needed to the knowledge of people that produce food for people. Food handlers with insufficient food safety awareness transmit foodborne germs to the general population during food

processing (DeBess et al., 2009). Various programs are run by the government and private organizations because they recognize the importance of educating food handlers about food safety and hygiene, along with personal hygiene and cleanliness in food establishments. For example, to improve workers' basic knowledge of food safety, training programs in food handling are provided under the Food Act 1983 and the Food Regulations 1985.

Managers with a comprehensive awareness of food safety concerns and active dedication to food safety will have the advantage of being in a favorable position in order to make the organisation to be more profitable over those who lack that expertise and commitment in the field of food safety management (Coleman et al., 2000). In addition, knowledge of food safety is a significant contributor to population increase, possibly due to the unconscious consumption of irradiated food due to physical aspects such as inadequacy of knowledge of food irradiation, incomplete data on food labels, and doubts about the food safety of irradiated food (Tiago Rusin, 2017).

2.2.3 ATTITUDE

The preparation of food in large-scale cookery can increase the chances of contamination of the food provided. Hygiene and safety practices among food service providers must be provided with complete descriptive information under established standards (Feglo & Sakyi, 2012). The attitude of maintaining cleanliness in many aspects, especially personal hygiene refers to bad behaviour and can lead to good hygiene practices and can be emulated (Centre for Disease Control, 2016).

Skill sets are described as personal characteristics or underlying features combined with practical or specialised competencies that enable the transportation of a

job by the Organization for Economic Cooperation and Development (2018). The definitions of skills have been contested. Skills were viewed as outcomes or performance benchmarks by Azevedo et al. (2012), or possibly as a person's aptitudes, attitudes, and personality qualities.

Other than that, the processes and procedures in food business operations should be reviewed and implemented following food safety standards. In addition, training on food safety and hygiene rules should be provided to both service staff and food handlers in restaurants. According to McCabe-Sellers and Beattie (2004), food will remain safe as long as important attitudes and behaviours in food handling are observed. As a result, all food handlers and managers who serve food and beverages must receive training in hygiene, and employees must be given the necessary support. For fast-food restaurant operators, a track record that can lead them to adopt more hygienic attitudes and behaviours remains important.

2.2.4 PRACTICE

Practice is the act of practicing a behaviour over and over to help learn and ultimately master a skill. In addition, practicing is usually also part of a profession that can improve skills. The practice consists of the rules and principles to which the actors adhere and based on which they are responsible for their actions (Lammi, 2018). Food Safety and Standards Authority of India (2017) stated that to guarantee that food given to the customer is safe to eat, everyone who handles food should maintain appropriate practices related to personal and food hygiene, at all stages of food handling. This is crucial to avoid contaminating the food served.

According to Hirschmann (2021), in 2019, approximately 166,000 food poisoning cases have been reported in Malaysia. According to Yun et al., (2017), bacteria like Escherichia coli (E. coli) and Staphylococcus aureus are frequently discovered in the hands of food workers. Through cross-contamination, food handlers' hands can be used to transfer hazardous bacteria (Abdullah Sani & Siow, 2014). Food poisoning, often known as foodborne illness, is characterised by vomiting, diarrhea, and stomach cramps. Food poisoning symptoms usually resolve within a few days but also can lead to death. For example, in Terengganu, Malaysia, there is an issue in the practice of preparing Foam Pudding that causes food poisoning involving 99 victims from 20 different families and costing one life.

Studies have shown that food poisoning is also often linked to inappropriate handling of food (Ncube et al, 2019). According to Uçar et al (2016), heating of food, such as undercooking, reheating, and others can cause foodborne disease. Food poisoning may also happen due to improper food handling methods such as inaccurate temperature while preparing and storing. For instance, egg preparation temperature should be done at a temperature less than 71 °C, not stored at a temperature between 2- 4 °C, and served in less than 4 hours (Mohd Soffian, 2020).

Abdullah Sani & Siow (2014) state the effectiveness of the training in food safety through support organizations and sufficient resources will potentially improve food handling and safety practices in the workplace. Aside from adequate information and strict enforcement, food handlers' practices can also help to reduce outbreaks of foodborne diseases.

2.2.5 FOOD SAFETY

Food safety is defined as the circumstances and actions that must be in place throughout the manufacturing, processing, storing, delivery, and preparation of food to guarantee that it is safe and edible. Food safety is a vital element for development since it improves public health, increases food security, and protects the environment. According to Mohsen et al. (2020), The World Health Organization has identified food safety as a global public health priority for controlling and preventing foodborne infections.

According to Zulkifly et al. (2016), food safety knowledge is important to prevent foodborne infections. A particular responsibility of the food service industry is the avoidance of foodborne diseases. There was widespread agreement among authors that good food safety awareness among food handlers and the efficient implementation of such information in food handling was essential in maintaining the security of any food service operation that produces food.

According to Mohsen et al. (2020), food operators play a critical role in providing communities with safer food. They can passively spread germs from contaminated sources, acting as a reservoir for foodborne illness during and after active disease outbreaks. Furthermore, they might be asymptomatic and function as disease vectors. Food safety knowledge, such as foodborne illness transmission processes, sources of contamination, proper food storage, food processing techniques and handling, personal cleanliness, environmental safety, and sanitary equipment, can all contribute to enhancing community food safety practices. Outbreaks of foodborne diseases continue to be of concern and have significant consequences for individuals, the food sector, and the economy (Egan et al., 2007).

Food safety, on the other hand, is an important part of food production as mishandled food can lead to food contamination and foodborne illness in society. For example, it has been disclosed that online customers of Puding Buih in Terengganu got ill after eating and that food poisoning at a boarding school was caused by meals prepared by the school canteen (Abd Razak, Ying Tuan & Teck Chai, 2022).

2.3   CONCEPTUAL FRAMEWORK

Referring to Adom et al. (2018), the theoretical and conceptual framework clarifies the purpose of a study and anchors it to theoretical concepts. The ultimate mean of the framework is to put together the research findings in a more meaningful, agreeable way to theoretical conceptions in the research field, and able to be generalised. They contribute to research stimulation while also enabling knowledge development by offering direction and energy to the research inquiry.

The research model used for this analysis is to examine the knowledge, attitude, and practice of food safety among fast-food operators in Malaysia. The knowledge, practice, and attitude dictate the awareness of food safety among fast-food operators in Malaysia which will be used in this study in order to test the hypothesis.
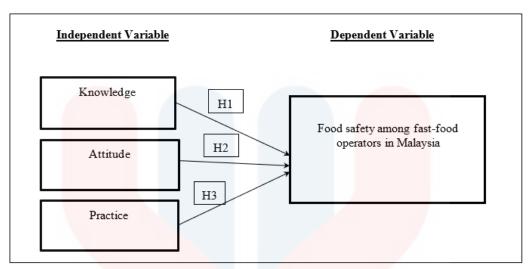
Figure 2.2: Conceptual Framework

Source: Framework adopted from Yusof (2016)

2.4   HYPOTHESIS

According to the literature review, the independent variables are knowledge, attitude, and practices. This study will assess the knowledge, attitude, and practice of food safety toward fast-food operators in Malaysia. Based on the reviewed literature, the hypothesis of this investigation can be summarised as follows:

Hypothesis 1

H1   There is a significant relationship between food safety knowledge towards the fast-food operators in Malaysia.

Hypothesis 2

H2   There is a significant relationship between food safety on the attitude toward the fast-food operators in Malaysia.

Hypothesis 3

H3   There is a significant relationship between food safety practices towards the fast-food operators in Malaysia.

2.6   SUMMARY

In summary, this chapter reviews the variables of this study such as food safety, knowledge, attitude, and practice. Prior to that, the background KAP survey is explained as well as its advantage of it. Next, the conceptual framework that clarifies the purpose of a study and anchors it to theoretical concepts is given. Finally, the hypothesis of the study are listed.

CHAPTER 3

METHODOLOGY

3.1   INTRODUCTION

This chapter describes and discusses the methodology or approaches associated with accumulating data for this study. This chapter is divided into nine sections, beginning with the introduction and followed by the research design. The third section explains the target population. The sample size and sampling method are presented in the fourth and fifth sections. The next section will be for data collection and then followed by the research instrument. Section eight depicts the data analysis, which can also investigate clear measurement and unwavering quality tests. Finally, the ninth section summarizes this chapter.

This study was designed to assess the knowledge, attitude, and practice toward fast-food operators at McDonald's in Malaysia. A quantitative approach has been chosen as a research paradigm for studying the relationship between variables. It enables researchers to obtain information about consumer attitudes that would otherwise be difficult to obtain directly (McIntyre, 2005). This will be a cross-sectional and descriptive study.

3.2 RESEARCH DESIGN

Research design addresses vital troubles regarding a study's assignment which includes the cause, area, and sort of the study along with the quantity of researcher intervention, time frame, and the unit of analysis (Khalid et al., 2012). This study will aim to provide a greater understanding of the knowledge, attitude, and practice of food safety among fast-food operators in Malaysia. This study used the quantitative method where self-administered questionnaires were given to the respondents who are food handlers in a fast-food restaurant. Quantitative research is the systematic exploration of phenomena through the collection of quantifiable data and the application of statistical, mathematical, or computational methods. This will be a cross-sectional and descriptive study. It will take place in an unpretentious setting.

3.3 TARGET POPULATION

According to Amir (2021), by 2021, McDonald's was recognized as the best QSR (quick-service restaurant) brand in the country in the YouGov APAC Dining & QSR Rankings. Thus, the target populations chosen were Malaysian McDonald's employees. This study aims to reach a large number of respondents. To identify an objective population that will be involved in a testing outline, the selection of a sample is important. A detailed definition of the target population and the sample size in the next section goes through the tools that will be used in this analysis.

3.4   SAMPLE SIZE

The sample size can be determined by using the population numbers. Priscilla (2005) stated the level of accuracy desired, the statistical power required, the researchers' ability to gain access to study participants, the degree to which the population can be stratified and the selection of the appropriate units of analysis are the factors in sample size. This study is conducted to find the relationship between knowledge, attitude, and practice toward fast-food operators in food safety. The researcher is focusing on McDonald's fast-food handlers in Malaysia.

As stated by the Department of Statistics Malaysia (2020), there are 310 McDonald's outlets in Malaysia. According to Malaymail (2021), McDonald's employs 15,000 employees throughout Malaysia. According to Krejcie and Morgan (1970), for a population of more than 15,000 the required sample is 375. Thus, in this research, the researcher will select a total number of 375 McDonald's fast-food operators as the sample size of the survey object.

Table 3.1: Table for determining the sample size of a known population.

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	246
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	351
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	181	1200	291	6000	361
45	40	180	118	400	196	1300	297	7000	364
50	44	190	123	420	201	1400	302	8000	367
55	48	200	127	440	205	1500	306	9000	368
60	52	210	132	460	210	1600	310	10000	373
65	56	220	136	480	214	1700	313	15000	375
70	59	230	140	500	217	1800	317	20000	377
75	63	240	144	550	225	1900	320	30000	379
80	66	250	148	600	234	2000	322	40000	380
85	70	260	152	650	242	2200	327	50000	381
90	73	270	155	700	248	2400	331	75000	382
95	76	270	159	750	256	2600	335	100000	384

Note: "N" is population size
        "S" is sample size.

Source: Krejcie and Morgan (1970)

3.5   SAMPLING METHOD

The sampling frame for this study is non-probability sampling which is a convenience sampling method. A non-probability sampling strategy known as convenience sampling involves selecting samples from the population only on the basis of their accessibility to the researcher. Testing a sample that is representative of the population is preferable in research. The population is too large to research and take into account everyone, but, in many other studies. Convenience sampling is the most popular non-probability sampling technique, and it is used by researchers because it is quick, affordable, and easily accessible. The researchers give the questionnaire to all available McDonald's fast-food operators in Malaysia who are willing to answer.

3.6   DATA COLLECTION

Data collection is the process of finding or collecting all relevant sources of information that can be used to find solutions to issues, information as well as answer related problems, as well as testing hypotheses, and analyze the results of the information. Respondents will also review or survey individually according to the questionnaires that have been studied or made, the questions will observe the opinion of each particular person.

This research focuses on McDonald's employees in Malaysia. This is because it is to implement or conduct this research, then the researcher obtains data through the

distribution of questionnaires using the Google Form application to the targeted respondents to collect primary data. The link to the Google Form was distributed to an internet alternative via WhatsApp application to further spread the questionnaire. It was very convenient to minimize cost, save time, and significantly applicable during this pandemic outbreak.

3.6.1 PILOT TEST

A pilot study, pilot project, pilot test, or pilot trial is a small-scale preliminary study that will be conducted to assess the knowledge, attitudes, fast food, and also related to fast food handlers before implementing this research project on a full scale. This pilot test was conducted to get as many respondents as possible at McDonald's in Kelantan, Terengganu, Pahang & Selangor. This pilot test will be conducted in the same method as the research where 30 questionnaires in Google Form were distributed via Whatsapp application to the McDonald's employees in the specific states.

Table 3.2: Demographic Profile

Construct	Items
Gender	o Male
	o Female
Age	o 18-22 years old
	o 23-25 years old
	o 26-30 years old

Race	o Malay
	o Chinese
	o Indian
	o Others
Religion	o Muslim
	o Christian
	o Buddha
	o Others

Table 3.3: Demographic attitudes of respondents about fast food

The average number of buy the fast food	Frequency	Percentage (%)
Once/month		
Once/week		
Twice/week		
Daily		

3.7 RESEARCH INSTRUMENT

A research instrument is used to collect, measure, and analyse data about the value of research. In the health sciences, social sciences, and education, these instruments are commonly used to assess patients, clients, students, teachers, and staff. Questionnaires adapted from previous research by Siau, Son, et al. (2015) were given to the respondents.

There are 49 questions, in the questionnaire, and is divided into five parts, demographic profile, respondents' food safety knowledge, attitudes, practices, and finally food safety.

The questionnaire was prepared in two languages, namely Malay and English. This is because some food operators are not good at English and want to hurry because they are too busy. Therefore, they can answer the questionnaire easily by using the Malay language. In addition, the questionnaire is split into five sections which are sections A, B, C, D, and E. The first section of the questionnaire, Section A, requested the demographic profile of respondents, age, gender, race, status, education level, income level, and prior working and training experience to study the background of respondents. For Sections B, C, D, and E, the questions were directed more towards the dependent (food safety) and independent variables (knowledge, attitude, and practice). This questionnaire used the format of multiple choices (yes or no) and 5-point Likert scales of agreement. The Likert scale consists of numbers one (1) to five (5) indicating 1 = strongly disagree, 2 = disagree, 3 = slightly agree 4 = agree and 5 = strongly agree. The Likert scale was used because it was easy to conduct, use, measure, and easy for respondents to understand and answer the questionnaire.

Table 3.4: Measurement of Likert Scale

Strongly disagree	Disagree	Slightly agree	Agree	Strongly agree
1	2	3	4	5

3.8 DATA ANALYSIS

The data collection analysis will use the Statistical Package for the Social Sciences (SPSS) version 25.0 as this study collects quantitative data. Several statistical techniques will be utilized in the SPSS program to examine the data, including using reliability analysis (Cronbach's Alpha) to verify the consistency and internal dependability of the research instrument. Based on the acquired data, this technique will aid in generating descriptive statistics, graphs, trends, charts, tabulated reports, and distributed plots. To analyse this study, a pilot test, descriptive analysis, and Pearson correlation will be used.

The next step is to meet the research objective. In this step, a statistical test method will be used. This method is used to efficiently explore and examine data. The use of descriptive analysis also allows for providing concise and accurate statistics, range, and standard variation.

3.9 SUMMARY

This chapter concluded by discussing the research methods that will be employed in this research. This study used the quantitative method where self-administered questionnaires using the Google form application were distributed to food handlers in fast-food restaurants. The questionnaire used the format of multiple choices (yes or no) and 5-point Likert scales of agreement. The sampling frame for this study is non-

probability sampling which is a convenient sampling method. There were four types of data analysis used in this study, namely frequency analysis, descriptive analysis, reliability test (Cronbach's Alpha), and Pearson correlation analysis.

CHAPTER 4

DATA ANALYSIS

4.1 INTRODUCTION

This chapter explains how the data analysis was carried out by the researcher. Aside from that, the result and outcome of the analysis are also shown in this chapter. The Statistical Package for Social Science (SPSS) version 25.0 was used to analyze the obtained data.

RESPONSE RATE

The expected sampling size for a population of more than 15,000 people is 375, according to Krejcie and Morgan (1970). In research by Ali et al. (2020), a 100% response rate is rarely obtained because researchers rely on respondents' willingness to engage in the survey. The number of respondents that answered the questionnaire of this research was 181 which made the research have a response rate of 48%. According to Baruch (1999), the response rate in academic studies of behavioral science commonly has a lower response rate. In the social sciences, a reasonable response rate range could be anywhere from 30% to 70% (De Vaus, 2013). To examine whether the sample size is sufficient to provide enough accuracy to make confident conclusions based on the findings, a reliability test was carried out.

4.2 RESULT OF DESCRIPTION ANALYSIS

4.2.1 KNOWLEDGE

Table 4.2.1 Descriptive Statistics of Knowledge about Food Safety

	N	Mean	Std. Deviation
Improper storage of food may cause health hazards to the customers	181	4.5912	.72167
It is important to know the temperature of the refrigerator/freezer to reduce the risk of food spoilage	181	4.5359	.57260
The use of caps, masks, protective gloves, and adequate clothing can reduce the risk of food contamination	181	4.5967	.58480
Wearing gloves while handling food to reduce the risk of transmitting infection to the consumers	181	4.4751	.68774
Washing hands before handling food to reduce the risk of contamination	181	4.6022	.58385
Preparation of food in advance is more likely to contribute to food poisoning	181	4.0608	1.00646
Reheating food is more likely to contribute to food contamination	181	4.0055	.99162
An incorrect application of cleaning and sanitization procedures for equipment	181	4.3425	.73319

(refrigerator) increases the risk of foodborne disease to the consumers			
Cross-contamination is the main factor contributing to the food poisoning	181	4.1878	.82870
The safe temperature of cooked food is >141°F or <40°F (>63°C or <-5°C)	181	4.0055	.87240
Typhim-V1 Vaccination can prevent typhoid infection	181	4.2265	.88101
Valid N (listwise)	181		

The mean of the first independent variable, knowledge of food safety is displayed in Table 4.2.1. The highest mean scores are 4.6022 which demonstrates that the majority of survey participants agree that washing hands before handling food lowers the risk of contamination. This outcome is comparable to the research conducted by Afiqah et al. (2018) on Food Safety: Analyzing Knowledge, Attitudes, and Practices towards Street Hawkers Vendors in Jeli, Kelantan. Their study also obtained the highest mean score for the statement "washing hands before handling food reduces the risk of contamination". This shows that despite the food sector, food handlers do understand the importance of washing their hands before dealing with the food. The lowest mean score is 4.0055 which means most of the respondents disagree that reheating food is more likely to contribute to food contamination and the safe temperature of cooked food is >141°F or <40°F (>63°C or <-5°C). According to Mohd. Firdaus Siau et al. (2015), food safety knowledge of the food handlers was poor in safe temperature of cooked food which 52.2% only of the respondent answer correct. This study shows that while food handlers do have basic knowledge regarding food safety, they are unaware of the critical characteristics related to temperature levels and the required cooking temperature to address microbial hazards.

4.2.2 ATTITUDE

Table 4.2.2 Descriptive Statistics Attitude about Food Safety

	N	Mean	Std. Deviation
Food should not be touched with wounded hand	181	4.6464	.61178
Defrosted food should not be refrozen	181	3.9061	1.09393
Separate kitchen utensils must be used to prepare raw and cooked food	181	4.1878	.95340
Raw food and cooked food not necessarily to be separated	181	2.4254	1.52797
The same towel can be used to clean many places	181	2.2486	1.55244
Jewelry (including wedding ring) and a watch can be worn while handling food	181	2.2818	1.47691
We should not rub our hands on our face, hair, etc. while working	181	4.4033	1.05293
We should not smoke while working	181	4.5414	.95725
Apron can be used as a towel to clean hand	181	2.3702	1.50960
We must cover our mouth and nose when coughing sneezing	181	4.5304	.79261
Working with dirty hands should be avoided	181	4.7238	.50656
Hands should be washed before starting to work	181	4.7624	.46419
Valid N (listwise)	181		

Table 4.2.2 presents the mean for the second independent variable which is the attitude about food safety. It can be seen that the highest mean scores are 4.7624 which shows The majority of responders agreed that washing hands before beginning work is a good idea. A study conducted by Iwu et al., (2017) on Knowledge, Attitude, and Practices of Food Hygiene among Food Vendors in Owerri, Imo State, Nigeria, shows that hand washing, according to 93% of respondents, is a crucial way to ensure food safety. Meanwhile, the lowest result mean is 2.2486, where most respondents disagree when asked whether the same towel can be used to clean many places. This is because it can contribute to cross-contamination. The findings in research conducted by Samapundo et al., (2016) which is done on the food safety knowledge, attitudes, and practices of street food vendors and consumers in Ho Chi Minh city, Vietnam show a similar outcome. According to Samapundo et al. (2016), only 17.5%, 30%, and 37.5% of vendors were aware that dish towels could potentially be a source of contamination, that food workers with wounds or abrasions should wear gloves, and that masks lower the risk of food contamination. All of these show that food handlers do have attitudes regarding food safety despite the geographical locations.

4.2.3 PRACTICE

Table 4.2.3 Descriptive Statistics Practices about Food Safety

	N	Mean	Std. Deviation
I touch food that does not wrapped up with bare hand	181	2.0442	1.40958
I refreeze defrosted foods	181	2.6961	1.35869

I use separate kitchen utensils to prepare raw and cooked food	181	3.8619	1.25066
I do not separate the storage of raw food from cooked food	181	2.0994	1.34621
I use the same towel to clean many places	181	2.0608	1.33818
I use jewelry and watch while working	181	2.0331	1.32874
I rub my hand on my face, hair, etc. while working	181	1.7680	1.22078
I smoke while working	181	1.6464	1.22332
I clean the work area before start work	181	4.1436	1.20707
I use my apron as a towel to clean my hand	181	2.1823	1.33538
I chew gum while working	181	1.8619	1.27703
I wash my hand before start work	181	4.4917	.99230
I use a tissue when I am coughing or sneezing	181	4.2486	1.11009
Valid N (listwise)	181		

Table 4.2.3, explains the results of practices regarding food safety among the fast-food operators in Malaysia. It shows that most respondents disagree with the statement "I smoke while working" as it has the lowest numbers of mean with 1.6464. The highest mean in the practice of food safety is 4.4917, where the most respondents agree on "I wash my hand before start work". Refers to research conducted by Nur Afiqah et al. (2018), the result of practices about food safety among street hawkers' vendors in Jeli, Kelantan also showed that food handlers (street hawkers' vendors) mostly agree that they wash their hands before starting work. In their study, food safety procedures had the highest average of 4.3883, with respondents agreeing with the statement "I wash my hands before commencing work".

4.2.4 FOOD SAFETY

Tables 4.2.4 Descriptive Statistics about Food Safety

	N	Mean	Std. Deviation
I follow food safety rules because it is my responsibility to do so	181	4.3260	.60446
Food safety is a high priority to me	181	4.0608	.48495
My supervisor generally gives appropriate instruction on safe food handling	181	3.6298	.65064
Facilities are of adequate quality to follow safe food handling practices	181	3.6630	.65167
It is important to measure the temperature of foods when cooking	181	3.6851	.56298
I keep my work area clean because I do not like clutter and to ensure it is safe	181	3.8619	.44439
Valid N (listwise)	181		

Table 4.2.4, explains the result of food safety among fast-food operators in Malaysia. It indicates that the majority of responders concur with the statement "I follow food safety rules because it is my responsibility to do so" which has the highest mean with 4.3260. The lowest mean in food safety is 3.6298, where the respondents disagree on "my supervisor generally gives appropriate instruction on safe food handling". This result shows the lack of involvement of supervisors when it comes to food safety.

4.3 RESULT OF RELIABILITY TEST

The data for the reliability analysis is gathered from 181 respondents. The goal of reliability analysis was to assess the consistency of the data collected. A few procedures were followed to ensure that the data collected was reliable and that the instrument could be measured. According to Pallant (2007), the rule of thumb for measurement reliability ranges between 0.67 and > 0.94. The Cronbach's Alpha rule of thumb is stated in the table below.

Table 4.3 Rule of Thumb for Cronbach's Alpha

Variables and Item Measurement Reliability	
Poor	<.67
Fair	.67 - .80
Good	.81 -.90
Very good	.91 - .94
Excellent	>.94

4.3.1 KNOWLEDGE

Table 4.3.1 Reliability Statistics for Knowledge about Food Safety

Reliability Statistics	
Cronbach's Alpha	N of Items
.882	11

The reliability analysis for food safety knowledge was shown in Table 4.3.1. The Cronbach's Alpha value was 0.882, which is greater than 0.81. Overall, the questionnaires in this section were good and acceptable.

4.3.2 ATTITUDE

Table 4.3.2 Reliability Statistics for Attitude about Food Safety

Reliability Statistics	
Cronbach's Alpha	N of Items
.727	12

Table 4.3.2 displays the reliability analysis for attitudes toward food safety. The Cronbach's Alpha value was 0.727, which is greater than 0.67. Overall, the questionnaires in this section were fair and could be considered acceptable.

4.3.3 PRACTICE

Table 4.3.3 Reliability Statistics for Practice of Food Safety

Reliability Statistics

Cronbach's Alpha	N of Items
.887	13

The reliability analysis for food safety practice was shown in Table 4.3.3. The Cronbach's Alpha value was 0.887, which is greater than 0.81. Overall, the questionnaires in this section were good and trustworthy.

4.3.4 FOOD SAFETY

Table 4.3.4 Reliability Statistics for Food Safety

Reliability Statistics	
Cronbach's Alpha	N of Items
.609	6

The reliability analysis for food safety was shown in Table 4.3.4. The Cronbach's Alpha value was 0.609, which is less than 0.67. Overall, the questionnaires in this section were poor.

4.4 RESULT OF INFERENTIAL ANALYSIS

4.4.1 DEMOGRAPHIC PROFILE OF RESPONDENTS

In this section, the demographic profile of respondents was analyzed. The information such as age, gender, race, status, education level, income level, and prior working and training experience were collected in order to study the background of the respondents.

Table 4.4.1: Demographic profile of the respondents

Demographic	Categories	Frequency	Percentage (%)
Nationality	Malaysian	177	97.8
	Non-Malaysian	4	2.2
Gender	Male	107	59.1
	Female	74	40.9
Age	19-29	143	79
	30-49	38	21
	50-69		
	70 and above		
Monthly income	500-999	61	33.7
	1000-1499	64	35.4
	1500-1999	25	13.8
	2000-3999	26	14.4
	4000 and above	5	2.8
Education level	No formal education	6	3.3
	Primary/secondary school	38	21
	Diploma or equivalent, including degree.	137	75.5

Working experience	Yes	159	87.8
	No	22	12.2
Attend training	Yes	116	64.1
	No	65	35.9

4.4.2 NATIONALITY

Table 4.4.2: Nationality of the respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	MALAYSIA	177	97.8	97.8	97.8
	NON-MALAYSIA	4	2.2	2.2	100.0
	Total	181	100.0	100.0	

NATIONALITY (WARGANEGARA)
181 responses

- MALAYSIA
- NON-MALAYSIA

97.8%
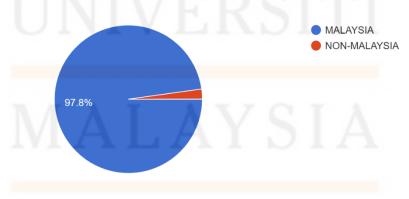
Chart 4.4.2: Nationality of respondents

Table 4.4.2 shows the number of respondents according to nationality. Mostly the respondents are Malaysians. As per data analysis for the nationality, 97.8% of respondents are Malaysian which is equivalent to 177 respondents and 2.2% or 4 respondents are non-Malaysians.

4.4.3 GENDER

Table 4.4.3: Gender of the respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	MALE	74	40.9	40.9	40.9
	FEMALE	107	59.1	59.1	100.0
	Total	181	100.0	100.0	

GENDER (JANTINA)
181 responses
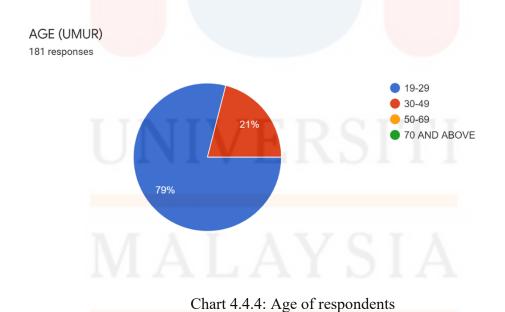
Chart 4.4.3: Gender of respondents

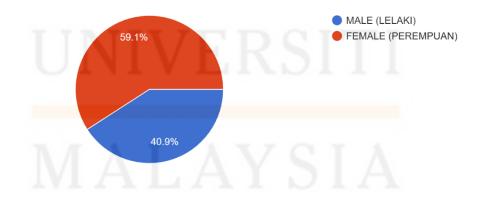Table 4.4.3 has shown the analysis for genders among respondents. Based on the result, the number of female respondents is higher than the number of male respondents. The result shows that 59.1% are female with 107 respondents while 40.9% are male with 74 respondents.

4.4.4 AGE

Table 4.4.4: Age of the respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	19-29	143	79.0	79.0	79.0
	30-49	38	21.0	21.0	100.0
	Total	181	100.0	100.0	

AGE (UMUR)
181 responses

Legend:
- 19-29
- 30-49
- 50-69
- 70 AND ABOVE

Chart 4.4.4: Age of respondents

The analysis of respondents according to their age is presented in Table 4.4.4. Based on the result, the age of respondents between 19 and 29 is the highest with 143 or

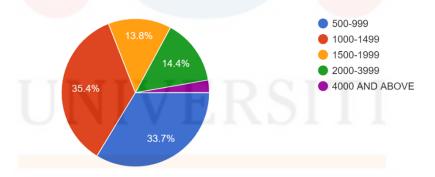79% of respondents. The second highest in the age between 30 and 49 with 38 or 21% of respondents. There are no respondents aged 50 and above.

4.4.5 INCOME

Table 4.4.5: Income of the respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	500-999	61	33.7	33.7	33.7
	1000-1499	64	35.4	35.4	69.1
	1500-1999	25	13.8	13.8	82.9
	2000-3999	26	14.4	14.4	97.2
	4000 AND ABOVE	5	2.8	2.8	100.0
	Total	181	100.0	100.0	

MONTHLY INCOME (PENDAPATAN BULANAN)
181 responses

Charts 4.4.5: Income of the respondents

Table 4.4.5 has shown the income range of respondents. The highest numbers of respondents are 64 of the respondents (35.4%) have an income between RM1,000 to RM1,499. It is followed by income from RM500 until RM999 respondents where 61 of

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the respondents (33.7%) fall in this income range and income from RM1500 until RM1999 have 25 of the respondents (13.8%). Other than that, for the income of RM2,000 to RM3,999 there were 26 of the respondents (14.4%). Finally, for income RM4000 and above the number of respondents was 5 which is (2.8%).

4.4.6 EDUCATION LEVEL

Table 4.4.6: Education level of the respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NO FORMAL EDUCATION	6	3.3	3.3	3.3
	PRIMARY/SECONDARY SCHOOL	38	21.0	21.0	24.3
	DIPLOMA OR EQUIVALENT, INCLUDING DEGREE	137	75.7	75.7	100.0
	Total	181	100.0	100.0	

EDUCATION LEVEL (TAHAP PENDIDIKAN)

181 responses

- NO FORMAL EDUCATION (TIADA PENDIDKAN FORMAL)
- PRIMARY/ SECONDARY SCHOOL (SEKOLAH RENDAH/MENENGAH)
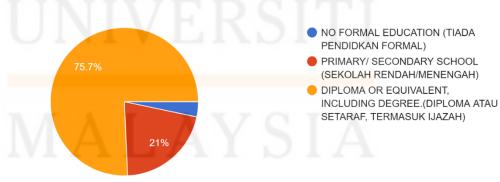- DIPLOMA OR EQUIVALENT, INCLUDING DEGREE.(DIPLOMA ATAU SETARAF, TERMASUK IJAZAH)

Chart 4.4.6: Educational level of respondent

Table 4.4.6 shows the number of respondents according to their educational level. The highest number of respondents are from diploma or equivalent, including degrees category where it shows 137 or 75.7% of respondents. The second highest is from the primary or secondary school category which recorded 38 or 21% of respondents. The lowest is no formal education which recorded 6 or 3.3% of respondents.

4.4.7 PRIOR WORKING EXPERIENCE

Table 4.4.7: Prior working experience of the respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	159	87.8	87.8	87.8
	NO	22	12.2	12.2	100.0
	Total	181	100.0	100.0	

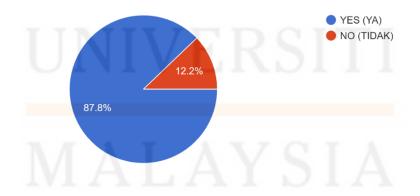WORKING EXPERIENCE (PENGALAMAN BEKERJA)
181 responses

Chart 4.4.7: Prior working experience of respondents

Table 4.4.7 had shown the prior working experiences of the respondents. Based on the result, the number of respondents that have working experience beforehand (159) is higher than the number of respondents that do not have experience working before (22). This indicates that 87.8% of respondents are experienced food operators and 22 or 12.2% of respondents are non-experienced food operators.

4.4.8 TRAINING

Table 4.4.8: Respondents who attended training

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	116	64.1	64.1	64.1
	NO	65	35.9	35.9	100.0
	Total	181	100.0	100.0	

ATTENDING TRAINING (MENGIKUTI KURSUS LATIHAN)
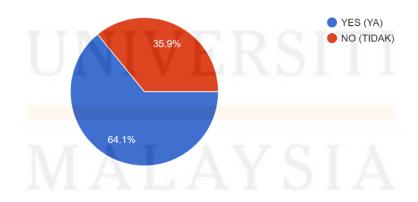181 responses

Chart 4.4.8: Respondents who attended training

Table 4.4.8 shows the number of respondents that have attended the training. Based on the result, the number of the respondents that do not have attending training is

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lower than the number of respondents that have attended the training. The result recorded that 65 or 35.9% of respondents have not attended training while 116 or 64.1% have attended the training.

4.5 DISCUSSION ON RESEARCH

In correlated data, the magnitude of one variable are linked to changes in the magnitude of another variable, either in the same (positive correlation) or opposite (negative correlation) direction. Correlation is a measure of a relationship between variables in a broader sense. The linear link between two normally distributed random variables is measured by the Pearson correlation coefficient.

Correlation coefficients show the strength and direction of a relationship between variables. The relationship gets stronger as the correlation coefficient gets closer to an absolute value of 1, which is scaled from -1 to +1, where 0 denotes the absence of a linear or monotonic link (Schober et al., 2018).

Table 4.5.1   Rule of Thumb for Interpreting The Size of A Correlation Coefficient, Mukaka (2012)

Rule of Thumb for Interpreting the Size of a Correlation Coefficient	
Size of Correlation	*Interpretation*
.90 to 1.00 (-.90 to –1.00)	Very high positive (negative) correlation
.70 to .90 (-.70 to -.90)	High positive (negative) correlation
.50 to .70 (-.50 to -.70)	Moderate positive (negative) correlation
.30 to .50 (-.30 to -.50)	Low positive (negative) correlation

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.00 to .30 (.00 to -.30)	Little if any correlation

Hypothesis 1

H1   There is a significant relationship between food safety knowledge towards the fast-food operators in Malaysia.

Hypothesis 2

H2   There is a significant relationship between food safety on the attitude towards the fast-food operators in Malaysia.

Hypothesis 3

H3   There is a significant relationship between food safety practices towards the fast-food operators in Malaysia.

Table 4.5.2 Pearson Correlation Analysis

		Knowledge	Attitude	Practice	Food Safety
Knowledge	Pearson Correlation	1	.454**	.098	-.027
	Sig. (2-tailed)		.000	.188	.722
	N	181	181	181	181
Attitude	Pearson Correlation	.454**	1	.483**	-.040
	Sig. (2-tailed)	.000		.000	.592
	N	181	181	181	181
Practice	Pearson Correlation	.098	.483**	1	-.031
	Sig. (2-tailed)	.188	.000		.678
	N	181	181	181	181
Food Safety	Pearson Correlation	-.027	-.040	-.031	1

	Sig. (2-tailed)	.722	.592	.678	
	N	181	181	181	181

**. Correlation is significant at the 0.01 level (2-tailed).

Table 4.5.2 was the results of the Pearson Correlation Analysis. This analysis is to determine whether there are any correlations between the independent variables (knowledge, attitude, and practice) and the dependent variable (food safety among fast-food operators in Malaysia).

Based on the Pearson Correlation Analysis, for H_1 and H_3, it is shown that knowledge and practice do not have a significant relationship. This is related to the situation in which food handlers attend food handling courses or have knowledge of food safety but do not apply or practice it in their workplace. A significant issue in theoretical training based on KAP is the notion that information received by people is converted into practices and behaviour. Reducing the use of theoretical underpinnings and lectures, which is a prevalent feature, will allow for a review of the methods used to teach food handlers (Medeiros et al., 2011). Trainers and managers should instill in food handlers motivation and self-efficacy (Al-Shabib et al., 2016). These characteristics will ensure that all good practices are followed even when there is no supervision.

As for H_2, it is supported for both knowledge and practice. Because attitudes include ideas, behaviours, values, and dispositions, thus it is linked to their knowledge and real hygienic practices (Kwol et al., 2020). Some form of incentive mechanism is essential to promote favourable attitudes about hygiene and sanitary food handling (Zanin et al., 2017).

4.6 SUMMARY

In short, in this chapter, the researchers have provided interpretation as well as a clear and detailed explanation of the analysis of the data. Firstly, descriptive analysis was used to analyze the variables related to food safety such as knowledge, practices, and attitudes toward fast-food operators in Malaysia. Next, a reliability test was conducted using Cronbach's Alpha to make sure the data collected was reliable and that the instrument could be measured. Then, inferential analysis was carried out. This analysis was also used for the demographic profile of the respondents to understand their background. Finally, the Pearson Correlation method was used to examine the correlation between the variables.

CHAPTER 5

CONCLUSION

5.1 INTRODUCTION

This last chapter will provide a summary of the study as well as the outcome of this research, the assessment of knowledge, attitudes, and practices on food safety among fast-food operators in Malaysia. This chapter will be able to explain various information about the limitations of the study along with recommendations to subsequent fast-food handlers and researchers. The last part of this section will summarize this research regarding the extent of knowledge, attitude, and practice of fast-food operators on food safety.

5.2 RECAPITULATION OF THE FINDINGS

The findings of the study were used to determine the percentage of fast-food handlers in relation to the questionnaire. The results were used to see the level of knowledge, attitude, and practice about food safety separately. Then, the findings were to measure the relationship between the three variables; knowledge, attitude, and practice toward fast-food operators.

Based on this study, it is shown that knowledge and practice do not have a significant relationship. However, average knowledge of fast-food safety shows good results among fast-food handlers. The results suggest that optimistic food handlers may also underestimate some protocols and that may endanger food. This means that knowledgeable and highly educated people can also ignore the correct standard operating procedures (SOPs) in food safety while handling food and also use food utensils as well as being handled cleanly and also safely. This is related to the situation in which food handlers attend food handling courses or have knowledge of food safety but do not apply or practice it in their workplace. A significant problem in theoretical training based on knowledge, attitude, and practice about food safety is the notion that people transform the knowledge they receive into actions and behavior. It is important to assess the methods utilised to instruct food handlers by reducing the use of theoretical concepts and lectures, which is a common feature (Medeiros et al., 2011). Trainers and managers should instill in food handler's motivation and self-efficacy (Al-Shabib et al., 2016). These characteristics will ensure that all good practices are followed even when there is no supervision.

On the other hand, attitude has a significant relationship with both knowledge and practice. Because attitudes include ideas, behaviours, values, and dispositions, thus it is linked to their knowledge and real hygienic practices (Kwol et al., 2020). To generate positive attitudes toward hygiene and sanitary food handling, some sort of motivational mechanism is required (Ko, 2013).

5.2.1 KNOWLEDGE

Overall, 68.0% of the respondents (123 respondents) strongly agree that improper food storage may pose a health risk to customers. Washing hands before handling food lowers the chance of contamination, according to 118 respondents, or 65.2%. The likelihood of food contamination can be decreased, according to the respondents, by wearing a cap, mask, protective gloves, and proper clothing.

However, one of the respondents which are 0.6% stated that reheating food is more likely to contribute to food contamination. Other than that, some others which are 2 respondents 1.1% said that strongly disagreed with the statement "preparation of food in advance is more likely to contribute the food poisoning". Almost 5% of the food handler in the fast-food restaurants has some confusion regarding the importance of Typhim-V1 and the main factor contributing to the food poisoning is cross-contamination. 2.2% of respondents disagree cross-contamination is the main factor that caused food poisoning and typhoid infection can prevent by the Typhim-V1 Vaccination. But at the same time, 91 respondents which is (50.3%) strongly agreed that the food handler needs to get the Typhim- V1 vaccination while handling the food to make sure it prevented the virus's foodborne illness or bacteria. Typhoid injection is a vaccine for typhoid fever. Based on Watson & Edmunds (2015), Typhoid fever is an acute and often fatal febrile illness characterized by fever, headache, malaise, anorexia, splenomegaly, and relative bradycardia. *Salmonella enterica serovar Typhi is the causative organism; S. enterica Paratyphoid* fever is caused by Paratyphoid A and B, a less common but clinically similar enteric fever. The main sources of infection are contaminated food and water. Following ingestion of contaminated food or water, the first stages of infection involved bacterial survival within the acidic content of the stomach, followed by passage into the small intestine, and finally passage across the mucosal barrier.

Based on the result presented that most of the food handlers in the fast-food restaurant have knowledge of food safety because most of them agreed with the questionnaire and it means they have the knowledge, especially for a basic thing in food safety. For instance, 104 respondents, or 57.5 percent, agreed that using gloves when handling food lowers the danger of infecting consumers.

5.2.2 ATTITUDE

The outcome showed positive responses from the respondents regarding their attitude toward food safety implementation. The highest percentage of respondents, 77.9% strongly agreed that the hands of fast-food handlers should be washed before starting working. Next, 135 respondents which are equivalent to 74.6% strongly agreed that working with dirty hands should be avoided by fast-food handlers. Another question regarding hands also has a higher response, 70.7% of respondents strongly agreed that fast food handlers should not touch food with wounded hands. These responses show that fast food handlers have the attitude to have clean hands while working with food.

Remarkably, 132 respondents (72.9%) strongly agreed with the question, that the (fast food handlers) should not smoke while working. For questions related to self-hygiene, 63.5% and 64.6 % strongly agreed that fast food handlers should not rub their hands on their face, hair, etc. while working and cover their mouth and nose when coughing and sneezing respectively.

But some of them have a little confusion about whether they can use an apron as a towel to clean their hand. Out of 181 respondents, only 79 (43.6%) of them strongly disagreed the apron can use as a towel to clean the hand while 47 (25.9%) of them agree

with the statement. In research by Geppert et al. (2019), food pathogens can spread if infected hands are wiped on tea towels or aprons, increasing the possibility of food contamination. However, 51.4% strongly disagreed for ask whether the same towel can be used to clean many places.

The most common reason behind food-related occurrences is cross-contamination and undeclared allergies (Soon, Brazier and Wallace, 2020). The cross-contamination-related questions have a positive response. For instance, when asked whether separate utensils must be used to prepare raw and cooked food, 49.5% strongly agreed and 34.8% agreed. In total 61% of the respondents were 74 of them strongly disagreed and 38 of them disagreed with the statement that raw food and cooked for not necessary to be separated.

5.2.3 PRACTICE

Based on the research, many respondents practice the right rule of food safety during working. From this study, 104 respondents, or 57.5% strongly disagreed with the question which is "I touch food that does not wrap up with a bare hand". Next, 45 or 24.5% of McDonald's fast-food operators also strongly disagreed that "I refreeze defrosted foods". Next, fast-food operators strongly agreed with the question "I use separate kitchen utensils to prepare raw and cooked food" with 69 or 38.1% of respondents. Other than that, other questions regarding the right rule of food safety, 82 or 45.3% of respondents strongly disagreed with the question "I do not separate the storage of raw food with cooked food".

Next, 88 or 48.6% of fast-food operators disagreed with the statement "I use the same towel to clean many places". For the question "I use the jewelry and watch while working", 93 or 51.4% of respondents disagreed with it.

The question "I rub my hand on my face, hair, etc. while working" recorded 109 or 60.2% of respondents while the question "I smoke while working" recorded 127 or 70.2% the highest percentage strongly disagreed with both questions. Next, fast-food operators strongly disagree with "I use apron as a towel to clean my hand" which records by 76 or 42.0% of respondents. 106 or 58.6% of respondents strongly disagreed with the question which is "I chew gum while working".

Next, fast-food operators strongly agreed with the question of "I clean the work area before starting work" which was recorded by 98 or 54.1% of respondents. For the question "I wash my hand before starting work" recorded 128 or 70.7% of respondents strongly agreed with it. Lastly, 103 or 56.9% of fast-food operators strongly agreed with the question "I use a tissue when I am coughing or sneezing".

5.3 LIMITATIONS

This study has several inherent limitations that should be considered when interpreting the results and implications. The first limitation is researchers hard to get cooperation from the fast-food operators as they are busy working to serve customers properly. This causes slow data retrieval. Therefore, the researcher made an appointment with food operators to distribute questionnaires and obtain data. Furthermore, the researcher also asks food operators to share the questionnaire with their colleagues through mobile applications so they can answer outside their working hours.

Apart from that, the study of food safety practices is difficult to evaluate as it is one of the sensitive issues that the fast-food operators have to share with other people. This statement was supported by Ovca et al. (2018) who point out the self-reported practice that the investigation or study is risky behaviour because the investigation does not provide an accurate result due to the bias of the respondent's good at researchers.

5.4 RECOMMENDATION

The recommendation is a suggestion for the next researcher to continue this research, as well as the researcher's recommendation or opinion on how to solve the problem stated in this research. The suggestion is divided into two parts directing to two different groups: the food handler and future research to continue this research.

5.4.1 RECOMMENDATION FOR THE FOOD HANDLERS

These are some recommendations to solve the problem in this research which is, improving practices and food services. The existence of substantial knowledge motivating proper practices justifies the need for training. A crucial component of safe food handling procedures is knowledge (Walker, Pritchard & Forsythe, 2003). Nevertheless, it is important to examine training methods by limiting often used theoretical elements stated by Medeiros et al., (2011). Food handlers should receive workplace training to increase their grasp of procedures, according to Da Cunha et al. (2013). A tutor can effectively reaffirm theoretical concepts in the workplace. In addition,

it should involve the owner, manager, or supervisor of the property in good practices initiatives. A knowledgeable supervisor can aid in the monitoring and correction of unethical practises (Egan et al., 2007). Last but not least, the owner of the food business owners should create an appropriate environment for the food handler complete with the necessary resources, equipment, and utensils for the implementation of good manufacturing practices (Tracey, Tannenbaum, & Kavanagh, 1995).

Furthermore, authorities must conduct periodic inspections to ensure that all food handlers follow all of the established food safety regulations in the food safety law. This is necessary to ensure that society has access to clean food and to prevent food poisoning. This can also give customers more confidence in purchasing food from a fast-food restaurant.

5.4.2 RECOMMENDATIONS FOR THE FUTURE RESEARCHERS

The researchers should conduct additional research in other rural areas, such as fast-food restaurants outside of the city because most of them have knowledge in the field but do not practice it to see how society, particularly food handlers, practices their knowledge about food safety while working. Aside from that, the researchers must observe how the food handlers practice and handle the food in order to obtain the true result, as opposed to simply analyzing the questionnaire results or asking them to answer the question. Some of them lie during the questionnaire to make themselves look better, but the truth is the opposite. This is because some of the respondents were baffled while attempting to comprehend the survey.

5.5   SUMMARY

In conclusion, this chapter concludes this entire study. The recapitulation of the finding shows the results of the analysis that are done in this study. Justification of the results has been given along with clear explanations. Following those limitations of this study as well as ways used to overcome the limitation have been stated. Finally, recommendations for the main group in this study revolve around which is the fast-food handlers have been given. Finally, recommendations for future researchers have been given to help them further study this area of research.

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