

The Impact of Food Safety Awareness, Knowledge and Attitude on Consumer Safety Practices: Literature Review

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Abstract— *Food safety is referring to control, preparing, and storing food in a way to reduce the risk of individuals becoming sick from foodborne illness, and food safety is a global concern. Hence, food safety is very important because consumers often buy groceries from supermarket are not aware of the safety and quality of the food or mishandled food at home. This study aims to study the relationship between food safety awareness, knowledge and attitude impacting practices (KAP) among supermarket's consumers in Klang Valley. It has been found that by this literature review it determines the methodologies that was used in past studies and to identify the key questions about this particular topic. Using literature review, this research will help in determining the risk of foodborne diseases in terms of applying food safety control measures by measuring consumer knowledge, attitudes, and practices at home, which will enable the expansion of coordinated, effective, integrated, and cautious approaches in food safety procedures.*

Keywords— *Food Safety, Awareness, Knowledge, Attitude, Consumer, Safety Practices.*

I. INTRODUCTION

Statistics had shown about (50%) and (87%) of the reported foodborne illnesses incidences raised in home because of lack in education and awareness about food safety. Food and drinking water contamination is caused by poor sanitation or preparation, which has resulted in around 2.2 million of deaths each year in the countries that are evolving due to foodborne illnesses (Wafa Ayaz et. al, 2018). According to the World Health Organization (WHO), foodborne disease had caused 600 million cases and 420 000 deaths per year, with 30% of deaths occurring in children under the age of five. The main reason that contributes to foodborne infections in Malaysia were cause by the lack of sanitation and insanitary food handling procedures among food handlers, which have contributed to (50%) of poisoning incidents (Soon et. al, 2020).

Food safety matters has risen due to the growth of science and technology because it is stated that there are many hazardous foods caused by the food chemical that contained in daily food products. Consumers Association of Penang had revealed that Malaysians buying food products that are contain with toxic components that may be harmful for the consumers because it could contribute to cancer or kidney failure and even foodborne illnesses if the food does not well prepared

(Fernandez et. al, 2018). In 2020, Ministry of Health Malaysia had indicated that food poisoning cases were increased 3.2% on 2019. Total of the cases recorded at 516 cases compared to 300 cases in 2018. The ministry looks at this matter seriously and will continue to promote awareness regarding the food safety to consumers and the ministry had taken 20,942 food samples involving raw ingredients and fruits from local market and supermarket. Results have found that out of 853 samples were not meet the terms with the Food Act 1983 and Food Regulations 1985 because among the violations included the uses of chemicals such as formalin to ensure freshness of the products hence therefore the chemicals could lead to food poisoning if consumers not aware about food safety at home (MOH, 2020).

During the Covid-19 outbreak, Malaysia had introduced the Movement Control Order (MCO) on March 2020 because the spread of COVID-19. Based on the survey that had been conducted by Vase.ai in 2020, 83% Malaysians have been stocking up food items and the statistic shown that egg is the highest rank indicate at 83%. Eggs has persisted the most stocked-up food item among the consumers in Malaysia during the Movement Control Order (MCO) period. By this information, The Ministry of Health Malaysia (MOH) in Terengganu had detected 99 cases of food poisoning in Malaysia attributed to spoiled egg causes by the expiration date of the eggs and this has led to lack of consumer's awareness towards food safety (DOH, 2020). Therefore, it is important for consumers practicing and having the essential or common knowledge on food safety practices because they play a significant part in preventing food poisoning and were considered as the last line of defence against foodborne illnesses. Private home and country that are dependent easily link to the proportion of foodborne disease outbreaks and illnesses (Abhinand, 2018). In addition, the study objectives are to find the relationship between the food safety awareness, knowledge, attitude towards practices in food preparation and to study the awareness about food safety among consumers.

II. LITERATURE REVIEW

According to World Health Organization, food safety issues such as unsafe food, poisoned food and food hygiene has a

significant impact on consumer's health and their daily basis of lives for ages. Nevertheless, the existing research regarding food safety had not been effectively examined, especially from the perspective of the consumers. Hence, food safety was defined as the degree of the confidence of the food that had been prepared do not cause any sickness or harm to the consumers (WHO, 2020). The consumers that are practicing their own food safety in preparing food at home because it is believed that by personal's food safety practices with the impulsive level of complication can help in avoiding foodborne pathogens from entering the food chain structure. Consumers in many societies seemed to be unaware with the food safety and most of the consumers are lack in awareness about the different classes of bacteria specifically the pathogenic ones. Plus, this standard had defined the terms by the author that relate to the suitability of the food invention in many areas, and it is binding in developing countries or company whether public or private which carry out the areas of preparation, processing, packaging, storage, distribution, transportation, and handling food supply (Kaiser Mahmood, 2018). The principle of food safety hygiene should be applied and can be minimize the handling of food items. Consumers are expected to observe have proper note the proper food safety hygiene because the chances of food contamination are depending on their health status. HACCP is used as a tool in the system of food safety control and food industries and many countries had implemented HACPP in their legislation.

Management Science University (MSU) has conducted a cross sectional study which researchers aims to define the relations of knowledge, attitude, and practices (KAP) of food labelling on cardiovascular diseases (CVD) risk amongst university students. Referring to this study, researcher found that there was a significant between the attitude in usage of the food label and CVD risk factors, but it is resulted that there is no significant between practice of using food labelling and the risk factors of CVD. In addition, expired date was the factor as the subject refer to the 'most important' hence it was found that low knowledge, but medium attitude and practice of food label usage was shown among university students in Selangor and most of the respondents in this study reported that 'they sometimes' used food label when making food purchase which had indicated that the subjects have time constrained to read food label during purchase of food products (Evelyn, 2020).

Referring to a study, researchers had analysed the factors that affecting intention to purchase towards green and Halal foods which focuses on chicken meat industry in Malaysia. Trends had shown there is an occur rising of organic food product consumption among consumers all over the world. Moreover, this had shifted in purchase behaviour which had attributed in increasing the consumer awareness of food safety and health concerns. Results findings showed consumer usually purchases green and Halal chicken meat because of its natural content, convenience, halal concern and reasonable price (Toong, 2017).

According to the researchers, metals are absorbed by plankton and algae in the seas, which are then consumed by smaller herbivorous fish, which are then eaten by larger fish until the food chain reaches its last consumer, humans. Three

majority of ethnic group in Malaysia have high consumption of processed fish, with Malays on top of the list, followed by Chinese and Indians with percentages of 73.13%, 70.59%, and 69.18%, respectively. The goal of the study is to determine the health risk to Malaysian women from ingesting certain heavy metals from processed seafood. Findings had demonstrated that the concentration of heavy metals in digested seafood samples was adjusted to account the dilution issue and sample bulk. According by the findings, the salted four-finger thread fin had the greatest content of mercury (Hg), with a geometric mean of 0.88 (SE 0.09mg/kg), which was much greater than the allowed value for Hg in Malaysian Food Regulations (1985) (0.5mg/kg) (Jeevanaraj, 2020).

A study was conducted by researcher that focuses on the usage of food label information among supermarket consumers in Shah Alam, Malaysia. It is stated that the consumer does not read the food label information in the account of they do not understand the terms and less awareness about food label importance. Among the five categories expiry date, manufacturing date, ingredients list, quality symbol, and nutrition information most the food products shoppers buy main concern is on the expiry date while buying any of the food products. This study discussed that the major reason shoppers did not read the food label is that they don't understand the food label information which is sometimes printed with small fonts, use of scientific terms and use of long texts and results shows that less than 50% of the shoppers' read the food label every time (Ponnudurai, 2019).

III. RESEARCH METHODOLOGY

This research used the literature review as the main source of data, secondary data is obtained through previous findings on the research topic. For this study, the presented comprehensive explanation on the research topic. Theoretical and empirical review of the literature was performed to develop the study variable. Further discussion will be presented in the next session.

IV. FINDINGS & DISCUSSION

Food safety awareness impact towards food safety attitude

Referring to an empirical study by Kaiser Mahmood (2018), the study investigates the awareness of food poisoning in Penang, Malaysia among the foreign students. It is stated that foreign students are concerned about the safety of the food which expose them to high food poisoning risk and this study focuses on assessing their awareness in University Science Malaysia (USM) and practices about the food safety. The results of this study mostly female's students presented good understanding about the main indication of foodborne illnesses, respondents still display that they were incapable to understand the actual signs of the food poisoning shows it is due lack of understanding and awareness concerning food safety. According to the author, the study had found that food handling awareness, particularly hand washing before handling food which was also assessed with statistically significant results and also that the correlations between food safety awareness and their food safety attitudes as well as affecting food safety practices that were positive and the overall score of male

respondents shows that it was higher than female respondents in terms of food handling knowledge and awareness (Mahmood, 2018).

Food safety knowledge impact towards food safety attitude

Based on a study conducted in some urban areas in Zimbabwe which were known as a lower middle-income country. Study aimed to determine the food safety knowledge, attitude and self-reported and to observe practises of the food handlers in 22 urbans areas. Findings had shown positive significant correlations between the food safety knowledge, attitude, and practices among the food handlers. It indicates that Zimbabwe’s food safety laws should be revised and reviewed specifically in correcting the way of an adequate method in thawing plus the hygienic way of handling raw food among the food handlers (Ncube et al., 2020).

A study had been directed to the relationship between food safety knowledge, attitude, commitment, and the behaviour among restaurants food handlers in Dubai. In addition, the aim of the study is to appraise the food safety and the effect which influences food safety knowledge and attitude plus the food safety behaviour among the employees. Results findings of this study had shown that the food safety knowledge among the food handlers had positive significant of influences which focused on commitment of food handler and the relationship between food safety knowledge and attitude is statistically significant. Study also found that food handling commitment is the mediator between food safety knowledge, attitude, and behaviour of food handlers (S. Taha et al. 2020).

Food safety attitude impact towards food safety practices

A study by Soon in 2020, the respondents demonstrated that they have a high degree of knowledge, attitudes, and self-reported activities. This study revealed that the researcher has new empirical findings on thermometer usage among Malaysian consumers prefer to use visual cues to determine whether the food is fully cooked or not, with difficulty in using the device being the main barrier. It is stated that attitude was a significant component in affecting food safety practices, and that a minor relationship between knowledge and attitude has been suggested to be the attributes that independently effect food safety practices. (Soon et al. 2020).

Referring to the study by Naeem in 2018, the author stated that the results had shown that the incompatible link between knowledge of household women with their attitude and practices plus the disposition to modify the behaviour is influenced by their attitude. Findings shows that there is a significant relationship between attitude and practices while other relationships show significant correlation such education towards food safety attitude, education towards food safety knowledge, education, and practice (Naeem, 2018).

Based on research conducted in identifying the true practices and behaviour among culinary students in terms of food hygiene practices and food safety (FHS) perspectives. Research shows that by contributes to a better understanding of the impact of FHS on culinary students. Culinary students with prior culinary expertise and awareness of FHS are wary of its application. In terms of FHS implementation, the influence of a culinary internship has a substantial impact on students' habits.

Researcher concluded that if the internship location develops and establishes a HACCP system, GMP, Halal certificate, or other FHS-related system, the impact will be greater (Jeinie, 2017).

Food safety attitude mediates between food safety awareness and food safety practices

A study about the awareness of purchasing and consumption of street vended foods in South Africa has resulted that consumers are less aware about the food safety when buying street food in spite of being conscious of the food safety hazards and few of the respondents in this study had revealed that the consumers are not aware of food safety issues but majority are not worried or concern regarding the food safety hazards when buying food (Asiegbu, 2015).

In 2019, a study that had been conducted focuses in investigating mediating role of food handler’s attitudes. Author highlighted that the hypothesis was evaluated by SPSS macro (Hayes, 2013). Hypothesis implied that the food safety knowledge has exerts a positive effect on food handler’s attitude which was empirically supported but for hypothesis which had suggested that the attitudes between hygiene practices was not supported. The study resulted all hypothesized relationships were sufficiently supported. Specifically, in the study hypothesis had proposed and received that food handler’s attitude shows sufficient empirical support related to their kitchen hygiene. In addition, hypothesis which had proposed a forthright impact to food handlers received an acceptable support based on their disease control of measure. Study also shows that the relationship mediating roles of food handler’s attitude between food safety knowledge and personal hygiene towards kitchen hygiene. Findings shows the disease control measure was significant with partial mediator of the relationship between food safety knowledge and kitchen hygiene (Kwol,2019).

Food safety attitude is a mediator between food safety knowledge and food safety practices

Based on finding it shows that there a supported hypothesis by indicating the hypothesis that the food safety attitude was mediated between the food safety knowledge and behaviour. (Sanlier, 2019). From the past study by the researchers (Sayuti et al., 2020) it shows that students at Management Science University (MSU) had sufficient knowledge in food safety, attitude and study had reveal that they have good practices. Results also had shown that the meditation testing of knowledge and practices mediated by attitude, and both reveal positive significant by the hypothesis testing. However, it is moderately supporting that attitude would meditate the relationship between food safety knowledge and practices of university students in terms of food safety.

Previous study relates to food knowledge and the food handling practices among migrant’s food handlers in Peninsular Malaysia had shown that respondent have low knowledge of food safety practices and resulted with average of knowledge on food handling practices. It has been classified that the connection between food handling practices and demographic variables were supported through the Chi-square based on the cross tabulation and relationships among the multiple variables.

Based on the study that was conducted by (Dina, 2019), the level of food safety knowledge, attitudes and practices correlates with food handler training which shows the level of food safety knowledge among food handlers had a large impact on their practices and attitudes in handling food safely. These findings are supported by others whose findings also show a positive correlation among knowledge, attitudes, and practices (Sani & Siow, 2014; Al-Shabib et al., 2016).

Another was supported by the hypothesis indicates that there is a consequential impact between the mediating role of food safety attitude, knowledge, and practices. The study emphasis a structural modelling approach on food shopping attitude, food safety knowledge and safety kitchen practices among Romanian's consumers. The results had stated that the model of SEM displays a notable correlation between food shopping attitude which favourable to food safety and food safety knowledge.

V. CONCLUSION

Each of the elements in KAP towards food safety do have impact towards practices and the model development of knowledge affecting the attitude towards food safety will bring changes to the practices of food safety. This has indicated that consumer's food shopping attitude begin to correlate when food safety knowledge of the consumers improves because on the food safety aspects based of the tips on food safety offered by food suppliers. It has been recognized that food safety knowledge, attitude and practices is an essential to safe food handling in food buying and preparation. Many studies have focused on the consumer's food safety practices to improve the knowledge and awareness among the consumers in food safety thus from the perspective of the consumers, it is the exterior barriers that affect handwashing because in such atmosphere and hygiene need improvement through structured food safety and educating consumers.

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