RESEARCH ARTICLE

Online survey Knowledge, Attitude and Practice on food safety amongst food truck handlers in Shah Alam, Selangor.

Mazqhairea Azman, Mohd Izwan Masngut[*],

Centre of Environmental Health and Safety, Faculty of Health Sciences, Universiti Teknologi MARA Cawangan Selangor Kampus Puncak Alam, 42300 Bandar Puncak Alam, Selangor, Malaysia

[*]**Corresponding Author**

Mohd Izwan Masngut
Email:
izwan7698@uitm.edu.my

Abstract:

In this cross-sectional study, 130 respondents from food truck handlers had answered questionnaires distributed through a social network; Whatsapp Group. This study achieved a good score for Knowledge, Attitude and Practices (KAP) which indicates it is satisfactory level among food truck handlers in Shah Alam. The findings of this study may help in planning health intervention programs for food handlers to improve of knowledge, attitude and practice towards food-borne disease and food safety. Educational training and creating motivation to promote knowledge and turning it into practice seem necessary.

Keywords: Food truck handler, Food hygiene, Knowledge, Attitude and Practice, (KAP)

1. INTRODUCTION

Mobility and flexibility are something that modern Malaysians are looking for in 21st-century thus influenced the evolution of the food truck business in Malaysia. According to Mokhtar et al., (2018), food truck phenomenon has to go on a revolutionary path and achieved its popularity worldwide. The food truck industry in Malaysia started to boom in 2014 and still continued develop rapidly with more variety of food offered. However, despite its popularity, food safety and hygiene prepared and sold from food truck are still a major issue as taste and food appearance overshadowed the hygiene and safety of the food itself (New et al., 2017). Previous study by Auad et al., (2019) revealed that poor hygienic-sanitary practices among food truck handlers with high risk level due to unhygienic conditions.

Lack of knowledge and poor handling among food handler in food preparation are the major contribution of food poisoning event. This was supported by Ismail et al., (2016), claiming that attitude and sociodemographic status among food truck handler are one of the factors that can influence their knowledge in food safety. Apart from that, Okumus et al., (2019), stated that the issue of poor sanitation practices among food truck vendor including lack of water source supply and absence of functioning toilet nearby had caused a difficulty in protecting utensils hygiene, protect food product and improper cleaning of dishes. Consequently, these factors may contribute to cross-contamination incident that may contribute to the foodborne disease.

KAP on food safety study is a helpful way to enhance food safety and quality in protecting public health and consumer interest. Determination of KAP on food safety is critical in ensuring there is no incident of foodborne illnesses. Most of the previous research conducted are on food premises and cafeterias, with limited numbers focusing on food trucks despite its scale. In order to address this issue, this research offers to identify the level of knowledge, attitude and practice amongst food truck handler in a local authority area. Based on different sociodemographic status. A set of questionnaire was disseminated among food truck operators in Shah Alam, where the findings obtained from this study may help to improve understanding of food safety KAP among them in order to minimize the occurrence of foodborne disease.

According to Firdaus Siau et al., (2015), adequate food safety knowledge is needed for food handler who involve in handling with food as it will reflect the act of attitude and practice among the food handler itself. The findings from this study may help the authority to improve the existing general food safety standards as well as enhance appropriate interventions which clearly address the behavior that could be associated with food safety norms. Through the result analysis, it also can be used as a strong evidence to convince the food handler regarding the hygienic level of their premises. Therefore, the measures taken shall help in eliminating and reducing the probability the emergence of foodborne outbreak.

2. MATERIALS AND METHODS

2.1. Research Design

This is a cross-sectional study design. The goal of this research is to seek the extent of knowledge, attitude and

practices among food truck handlers by using online questionnaire approach. The purpose and protocol of the study will be explained to the participants in the front page of questionnaire before starting the procedure.

2.2. Research Setting and Population

The study was conducted at Shah Alam, Selangor. This online survey employs a snowball technique where the participants were recruited by distributing the questionnaire to a social network through Shah Alam Food Trucker Whatsapp Group, consisting of the food truck handlers operated in Shah Alam, Selangor. The data collected was stopped when the data from respondents have reached its saturated point to be analysed. In total, respond from 130 respondents were recorded and analyzed.

2.3. Questionnaire Design

Structured multiple-response questionnaire adapted from previous study Auad et al., (2019) consists of 41 items that were divided into four sections for the purpose to collect the socio demographic status of food truck handler and measure their level of food safety KAP; socio demographic status (11 items), food safety knowledge (10 items), food handler practices (10 items) and food handler attitudes (10 items).
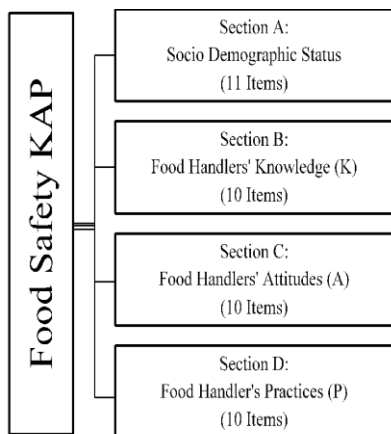
2.4. Data Collection

The data were collected from February 2021 until March 2021 by distributing the questionnaires among food truck handler in Shah Alam. Google Form was used to create a link for the questionnaire and then be distributed through mobile application in WhatsApp group consisting of food truck handlers.

2.5. Data Analysis

Data is analyzed using the IBM SPSS version 25.0 software. In this research, descriptive analysis was used to measure the mean, median, and mode by using frequency analysis to help users interpret the outcomes and draw conclusions (Winter, 2016). A possible discrepancy between the scores of the KAP among the variables considered was performed using the independent t-test with Levene's Test for categorical variables with two groups and Kruskal–Wallis test for variables with three or more categories (Auad et al., 2019).

3. RESULTS AND DISCUSSION

3.1. The level of food safety knowledge, attitude and practice (KAP) among food truck handlers in Shah Alam.

Results from table 1 indicate that the level of food handlers' knowledge is good with mean of 2.79, higher than threshold value of 1.5 as indicated in Jores et.al., (2018). This indicates that the independent variable of knowledge gives a positive presence of behaviour on the level of food safety knowledge among respondent. In the knowledge context of this study, the respondents are very knowledgeable towards hand hygiene. High proportion of the respondents (100%) answered that the knowledge regarding washing hands before handling foods can reduce the risk of food contamination.

Table 1: Score on Level of Knowledge, Attitude and Practice among respondent.

Items	Knowledge	Attitude	Practice
Mean Value (M)	2.79	2.43	3.80

*T-test
** Threshold level at 1.5 (Jores et.al 2018)

This statement was supported by Jores et al., (2018) which reported that 100% of their participants also answered correctly to the questions related to hand washing, indicating good knowledge with respect to this theme. Moreover, this study has revealed positive feedback from respondents who are aware (74.6%) that food handlers with cuts or wounds should not be placed in prepared foods. To clarify this, another question was design in negatively form, nevertheless more half of the respondent proved that they read thoroughly on the given negatively formed question. Similarly, study by Hakim et al., (2014) found that most of their respondents (82.8%) were conscious of the danger of touching food with the cut hands. In addition, Nee & Sani (2011) also mentioned that 55.4% of respondents agreed with this statement, which indicates a better understanding concerning the impacts of preparing food with the cut hand. Accordingly, it can be said

the level of food safety knowledge among food truck handlers in Shah Alam is in a good term where the findings demonstrated all 10 questions asked were positively answered by more than 50% of respondents for each questions.

Meanwhile, the overall average mean for variable of food safety attitude is 2.43. This indicates positive results in term of attitude level among the food truck handler in Shah Alam when handling foods. With reference to the attitude part, 95.6% of respondents agreed with the statement relating to improper food storage may pose risk to health. This was consistent with Asmawi et al., (2018) and Nee & Sani (2011) who found that their respondents also showed a good attitude to the statement regarding improper storage of food might be harmful to health risk. Nevertheless, although the mean of attitude level was in a good term, there are still several variables that revealed poor attitude among the food handlers. As referred to questions regarding attitudes about food thawing and refreezing practices, results by the respondents were found to be unsatisfactory. More half of the respondents answered falsely and do not remember indicating they were unclear to the statement asked regarding on attitude questions. This statement supported by Abdullah Sani & Siow. (2014), stated about 83% of their respondents are uncertain about the statement that discuss on thawing and refreezing of food. If this attitude is wrongly being practiced, it will increase the potency in increasing the number of microorganism in the food item, which might cause hazards. Consequently, the findings for attitude context showed although the food handler have a good score for their level of attitude, yet there are few variables that need to give more intention for an improvement.

In the context of practice level, it has the highest mean value (M=3.80) recorded compared with other sections, indicating a good practice applied by the food truck handler in Shah Alam. If the food handlers themselves did not practice good personal hygiene or proper handling, they can be a host for bacteria growth and pose health risks to the consumer. These good practices are proven as the respondents (80.6%) answered "always" on the statement concerning to the hand washing practice after using the bathroom. Moreover, in this study, the respondent (76.1%) answer "always" on the statement concerning sanitization on workplace consistently after ending a day consistent with results by Mustaffa et al., (2017) that found received a good scoring from their respondents (93%) about statement workplace sanitization after work.

Even though the respondents are knowledgeable concerning food handlers with hand cuts should be kept away in handling food activities, the findings in the practice section have revealed 42.6% of respondents still have a bad habit in handling food with cuts on hands. This is opposed with the study by Auad et al., (2019) that found majorly their respondents showed a good practice in avoiding involvement of preparing food with cuts on their hands or fingers. Hence,

this finding had demonstrated a good practice among food truck handlers in Shah Alam, however there are still a small group of respondents who are still neglected in improperly practicing this theme during their food truck operation.

Overall, there are several aspects that require attention for improvement. Though the KAP level were high, participants' scores in some items such as hand hygiene, food thawing, temperature and method for food storage were poor. In the practice section, hand hygiene is the dominant issue of practice for food handlers. Previous studies proved that it is crucial to practice self-hygiene especially hand hygiene because hand is the major agent that transmit microorganisms and intestinal parasites to foods (Nee & Sani, 2011). This issues are the critical point in preparing food and implementing food safety program in order to ensure the food truck offered a better service in term of food safety.

3.2. Relationship between sociodemographic profile of the food truck handlers towards KAP of food safety.

Table 2 showed results for T-Test and Kruskal-Wallis Test for sociodemographic profile of respondents. As for the knowledge section, the p-value variables that showed a significant relationship ($p < 0.05$) to the knowledge are; gender, experience in food service and attending food safety training. The p-value between knowledge and gender is 0.005, where the mean for male is 2.849 that indicates they are more knowledgeable than female (M=2.753). Moreover, the p-value shows a significant association between experience in food services concerning the knowledge (0.013) and attitude (0.008). The finding revealed those who have zero experienced (M=2.717) in food services were prone to have high knowledge compared to those experienced (M=2.840) in food industry. However, it is contradictory for the attitude matter, where those who had experienced (M=2.475) tend to showed a good attitude towards food safety compared those inexperienced (M=2.303) food truck handler. This finding correlates with study by Abdullah Sani & Siow., (2014) who found there is significant relationship between working experience in food services and their attitude of food safety.

Table 2 : Sociodemographic variables and their association with KAP

Characteristic (n: %)	Knowledge		Attitudes		Practices	
	Mean (SD)	p-Value	Mean (SD)	p-Value	Mean (SD)	p-Value
Positions:						
The Owner (61: 45.5)	2.805 (0.240)	0.925	2.479 (0.294)	0.111	3.900 (0.370)	0.052
Food Handler (73: 54.5)	2.808 (0.164)		2.386 (0.361)		3.776 (0.346)	
Food Handling Certificates:						
Yes (90: 67.2)	2.813 (0.229)	0.514	2.549 (0.248)	0.000*	3.820 (0.369)	0.587
No (44: 32.8)	2.7932 (0.126)		2.182 (0.355)		3.856 (0.349)	
Age:						
Below 25 years old (56: 41.8)	2.816 (0.237)		2.475 (0.255)		3.740 (0.348)	
26 - 40 years old (58: 43.3)	2.797 (0.175)	0.377	2.395 (0.378)	0.437	3.908 (0.350)	0.101
More than 40 years old (20: 14.9)	2.810 (0.168)		2.394 (0.348)		3.867 (0.391)	
Gender:						
Male (75: 56.0)	2.849 (0.166)	0.005*	2.451 (0.354)	0.378	3.847 (0.347)	0.572
Female (59: 44.0)	2.753 (0.229)		2.400 (0.307)		3.811 (0.391)	
Marital Status:						
Married (50: 37.3)	2.768 (0.180)	0.086	2.422 (0.335)	0.866	3.947 (0.391)	0.004*
Single (84: 62.7)	2.830 (0.210)		2.432 (0.336)		3.763 (0.326)	
Have Children:						
Yes (47: 35.1)	2.772 (0.185)	0.147	2.445 (0.332)	0.679	3.934 (0.399)	0.023*
No (87: 64.9)	2.825 (0.208)		2.420 (0.337)		3.777 (0.328)	
Income:						
Less than RM 1,000 (2: 1.5)	2.800 (0.000)		1.200 (0.000)		3.722 (0.079)	
RM 1,001 – RM 1,500 (41: 30.6)	2.771 (0.260)	0.745	2.373 (0.344)	0.007*	3.726 (0.399)	0.065
RM 1,501 – RM 2,500 (52: 38.8)	2.814 (0.169)		2.417 (0.291)		3.825 (0.327)	

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More than RM 2,500 (39: 29.1)	2.836 (0.172)		2.564 (0.227)		3.957 (0.341)
Level of Education:					
Primary (Elementary) (0: 0)	-		-		-
Secondary (High School) (62: 72)	2.826 (0.176)	0.386	2.410 (0.373)	0.916	3.706 (0.302)
Tertiary (Graduate) (72: 53.7)	2.790 (0.220)		2.444 (0.299)		3.940 (0.375)
Experience in Food Services:					
Yes (98: 73.1)	2.840 (0.160)		2.475 (0.315)		3.861 (0.331)
No (32: 26.9)	2.717 (0.268)	0.013*	2.303 (0.357)	0.008*	3.753 (0.428)
Related to the Owner:					
Yes (15: 11.2)	2.827 (0.198)		2.367 (0.335)		3.763 (0.475)
No (64: 47.8)	2.808 (0.154)	0.582	2.372 (0.358)	0.048*	3.828 (0.328)
I am the owner (55: 41.0)	2.800 (0.249)		2.511 (0.291)		3.855 (0.368)
Attend Food Safety Training:					
Yes (84: 62.7)	2.832 (0.219)		2.577 (0.227)		3.851 (0.358)
No (50: 37.3)	2.764 (0.160)	0.040*	2.178 (0.338)	0.000*	3.800 (0.367)
Received training in the last 6 months:					
Yes (41: 30.6)	2.763 (0.270)		2.581 (0.279)		3.927 (0.406)
No (93: 69.4)	2.826 (0.160)	0.174	2.361 (0.336)	0.000*	3.790 (0.334)
Periodical medical examination					
Yes (49: 36.6)	2.767 (0.251)		2.553 (0.269)		3.962 (0.376)
No (85:63.4)	2.829 (0.163)	0.125	2.357 (0.348)	0.000*	3.757 (0.332)

Continuation of additional p-value column:

	p-value
Level of Education	0.000*
Experience in Food Services	0.127
Related to the Owner	0.4492
Attend Food Safety Training	0.436
Received training in the last 6 months	0.042*
Periodical medical examination	0.001*

*significant level at p<0.05

*Kruskas-Wallist test

Furthermore, the p-value between shows a significant association between attend food safety training about the knowledge (0.040) and attitude (0.000). Where it showed respondent who attend the food safety training are prone to develop better attitude and good practice of food safety.

Apart from that, in attitude section, this study found that the attitude p-value scores were significantly associated with variables; food handling certificate (0.000), income (0.007), experience in food service (0.008), related to owner (0.048), attend food safety training (0.000), received training in the last six months (0.000) and periodical medical examination (0.000). In term of food handling certificate, those not owned any food handling certificate (M=1.811) have a better attitude in food safety compared to respondent who have the certificate (M=1.434). Meanwhile, the p-value between attitude and received training is 0.000, where the respondents who received (M=2.581) training in the last six months revealed they are more prone in developed a good attitude compared those who unattended (M=2.361).

In addition, for practices section, the variables that significantly showed relationship with the practice theme are; marital (p=0.004), having children (p=0.023), level of education (p=0.000), received a training (p=0.042) and periodical medical examination (p=0.001). Similar to the attitude context, those not attending any training actually have shown that they have a good practice towards food safety and hygiene. In terms of level of education, the respondents from tertiary level (M=3.940) showed a good practice compared the secondary level (M=3.706). It can be stated that the higher the level of education of food handlers, the more understanding towards knowledge of food safety to translate into practice. Thereby, this results correlate with the previous study by Halim et al., (2014) who also found an association between education level and food safety practice among food handlers in their study.

Accordingly, this study's findings demonstrated a few sociodemographic variables that revealed the significant relationship between the knowledge, attitude, and practice among food truck handlers. All these points are critical to acknowledge which sociodemographic variables affect the KAP food safety of food truck handlers in Shah Alam. Any further improvement can be made by focusing on the group who showed the lower reading. Therefore, this kind of study needs to be conducted in the future as it assists the study in tackling which group needs the most attention to be improved.

4. CONCLUSION

To be concluded, the overall score on knowledge, attitudes and practice among respondents showed a good reading, however several aspects need to give extra attention for improvements in terms of hand hygiene, food thawing, appropriate temperature and method for food storage. The improvements suggested is intentionally crucial as the poor practices in preparing food may potentially harm the vulnerable families who tend to buy food from the food truck. Therefore, it is proposed that responsible authorities such as Shah Alam City Council or any association related to food trucks are indeed to advocate activities to develop awareness among food truck handlers towards food safety and hygiene aspects.

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