KNOWLEDGE, ATTITUDE AND PRACTICE ON FAST FOOD CONSUMPTION AMONG NORMAL AND OVERWEIGHT/OBESE INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA KUANTAN STUDENTS

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ABSTRACT

Introduction: Increase in the number of restaurants will directly or indirectly influence the students to consume fast foods. The number of fast food outlets is significantly increased in the area of Bandar Indera Mahkota which is near to International Islamic University of Malaysia (IIUM) Kuantan campus. Hence, students can easily access to fast food. Additionally, fast food consumption may be associated with the body mass index (BMI) of the students. The main objective of this study is to identify the knowledge, attitude and practice of fast food consumption among normal and overweight/obese IIUM Kuantan students. **Method:** This study was conducted by using cross-sectional survey with 176 students (normal: 107 respondents, 55.2 %, overweight/obese: 87 respondents, 44.8 %). The data collection started with the anthropometry measurements (height and weight) by using Tanita weighing scale and stadiometer. Then, followed by answering self-administered questionnaires. The data was analyzed using SPSS

software version 25.0 with the p-value set was < 0.05. **Results:** There was no significant difference on knowledge, attitude and practice between normal and overweight/obese students. Besides, there was no significant correlation between knowledge and attitude towards fast food consumption (p = 0.461). However, there was a significant positive correlation between knowledge and practice (p = 0.006, r = 0.195). **Conclusion:** This study indicates that the level of knowledge, attitude and practice are similar among both normal and overweight/obese students. Apart from that, knowledge did not associate with the attitude level, but knowledge has influenced the practice of fast food. For future research, it is recommended to include open-ended questions in order to identify the root cause of fast food intake and to collect the opinion regarding knowledge, attitude and practice.

KEYWORDS: Fast Food, BMI, Knowledge, Attitude, Practice

INTRODUCTION

Fast food is the food that involve easy and quick preparation then, becoming a quick meal or take away meal which can be obtained from restaurants and snack bars (Daradkeh, Al Muhannadi & Al Hajr, 2018). Fast food is becoming increasingly popular among all age groups. As the demand is increased the fast food industry takes the opportunity to increase the number of outlets. Although the increase number of fast food outlets results in good economic sources, the disadvantages on human health outweighed the benefit. Increases in fast food outlet are associated with higher body mass index (Dornelles, 2019). Fast foods do contain high calorie content, sugar, salt and fat which can increase the risk of developing diseases like obesity, diabetes, hypertension, cardiovascular disease (CVD) and many more (Ipatenco, 2018). This is one of the examples of unresolved issue that occur in society because it is totally depend on the individual itself. People do have knowledge about the effects of fast food intake, but they still practice and consume it. Therefore, practicing the knowledge is important unless the knowledge will become useless and wasteful. It can be supported by the study from El-Gilany, Abdel-Hady and El Damanawy (2016), which emphasized the practicality of knowledge among medical students including knowledge on fast food.

There is no doubt that many people are aware about the disadvantages of the fast food, however, they prefer to neglect the knowledge and attitude for their own practice and preference (Onurlubas & Yilmaz, 2013). Their food preferences are highly related to the common factors like convenient, cheaper and so on. Especially among adolescent and young adult, these two groups are more likely to consume the fast food compared with older people (ALFaris et al., 2015). Hence, it will result in high intake of fast food which can affect their health status. It can be further supported by Benajiba (2016) which stated that university students are the most

frequent group that consumed fast food among adults. Therefore, it is important to identify the intake pattern of fast food among universities students.

In addition, the rise of social media can be certainly affecting one's eating habits. Increase in watching unhealthy food eating will appear to feel their social circles have 'approved' them to consume the food (Hawkins, Farrow & Thomas, 2020). This misconception may lead to misunderstanding among the community and it can influence their mind by claiming the fast food is permissible to eat more and frequently. Therefore, study of knowledge, attitude and practice on fast food consumption has been conducted among International Islamic University Malaysia Kuantan (IIUMK) students. It is to identify the knowledge, attitude and practice of the students regarding the fast foods, plus, to assess the association with the body mass index of students. At the end of study, the difference level of knowledge, attitude and practice between normal and overweight/obese students has been observed. On the other hand, this study will also present the trend of fast food consumption among IIUMK students.

MATERIALS AND METHODS

Subjects

In total, 194 volunteers (normal weight = 107, overweight/obese = 87) from the International Islamic University Malaysia (IIUM) Kuantan campus were recruited. The inclusion criteria were undergraduate students with normal BMI (18.5 – 24.9 kg/m²) and overweight/obese students (≥ 25 kg/m²). The exclusion criteria were undergraduate students with underweight BMI (< 18.5 kg/m²) and all postgraduate students. In addition, informed consent was obtained from the volunteers. The ethical approval and IREC reference were also received with the ID No: KAHS 13/2020 and IIUM/504/14/11/2/IREC 2020-KAHS/NS respectively.

Study Design

This project involved observational study which is cross-sectional study. This design was used to identify what is happening in a defined population at a particular time (Cherry, 2019). In this case, cross-sectional study was used to identify the knowledge, attitude and practice on fast food consumption and the difference between normal and overweight/obese IIUMK students. In addition, the benefits for this study design were relatively faster and inexpensive.

Sampling Method

Convenience sampling method was applied in this research project. Convenience sampling is one of the non-probability sampling techniques. The subjects were selected according to their availability and accessibility.

Research Instruments

Anthropometry and BMI Classification

Body weight and height were measured by using Tanita weighing scale and Stadiometer. The recorded weight and height were calculated into BMI. After the anthropometry measurement was done, the respondents were given self-administered questionnaires. The questionnaire consisted of five sections which were socio-demographic data, anthropometry measurement, knowledge, attitude and practice questions regarding the fast food.

Socio-Demographic Data

Socio-demographic data consisted of matric number, telephone number, age, kuliyyah, year of study and financial assistance (JPA, MARA, Ummatic Assistantship, Ummatic Scholarship, Yayasan Negeri and others).

Knowledge Section

The purpose of knowledge questions was to assess the level of understanding of students regarding the fast food. Knowledge was measured with eight statements provided which is focusing on the fast food intake and its consequences to human health. All the eight statements used rating options which is Likert scale. For the scoring, the category of knowledge will be divided into two categories which are high level and low level of knowledge. The scale 1, 2 and 3 represented the low level of knowledge while scale 4 and 5 represented high level of knowledge (adapted from Adam, 2016). The level of knowledge either low or high was then calculated into percentage. The percentage of 50 % and above indicated that the subjects were high in knowledge regarding the fast food consumption, while for percentage less than 50 %, it indicated a low level of knowledge.

Attitude Section

Attitude of respondents was analyzed through fourteen questions from this section. The questions were related to the perception and eating behavior of the individual that will influence the practice or their consumption. Plus, this section also contained five scoring options for each listed statement. The scale 1, 2 and 3 indicated that the subjects had positive attitude toward fast food consumption. However, for scale 4 and 5 it indicated the subjects had negative attitudes (Adam, 2016). Then, total of scoring was calculated and converted to percentage forms. For percentage 50 % and above, it indicated that the respondents were having positive attitude towards the fast food consumption, while for < 50 %, it categorized under the negative attitude.

Practice Section

There are seven questions related to fast food consumption. The questions were included the pattern of fast food consumption, frequency and other practice towards fast food. Each statement was scored by subjects with the options 1, 2, 3, 4 and 5. The scale of 1, 2 and 3 showed the low practices while for scale 4 and 5 it was high practices (Adam, 2016). Low practice on fast food consumption has been identified when the percentage of total score is equal to 50 % and more. For less than 50 % (49 % and below), it indicated a high practice on fast food intake.

Pilot Study

Pilot study was performed before the implementation of real data collection. 50 copies of questionnaires have been distributed to the 50 students from the IIUMK (International Islamic University Malaysia) campus. The result was 0.732 and it falls within the range of acceptable reliability (0.7 – 0.95). This pretest study helped in discovering the problems of question. Thus, adjustment has been done for the real study.

Statistical analysis

The statistical analysis of results included descriptive analysis, independent t-test and Pearson correlation test by using SPSS version 25.0. Descriptive statistics were used to analyze the socio-demographic data which include age, year of study, course, gender and financial assistance. Descriptive analysis was also used to analyze each of knowledge, attitude and practice questions. Next, independent t-test was used to compare numerical variable (scoring of knowledge, attitude and practice) between two independent groups (normal and overweight/obese students). Data has been analyzed and compared with significant level 0.05. When the p-value was less than 0.05, the null hypothesis has been rejected and thus, accepted the alternative hypothesis which is the hypothesis for this study. In addition, for correlation test, correlation or association between two variables represented based on the p-value. For two-tailed significant test, there is significant linear relationship when the p-value is less than 0.05.

RESULTS

Sociodemographic Data

The total number of respondents involved were 194 respondents. The mean and standard deviation for age were 21.3 (1.62). In addition, 107 respondents (55.2 %) were normal in weight while 87 respondents were overweight/obese (44.8 %). Furthermore, there were 71 male respondents (36.6 %) and 123 female respondents (63.4 %). It shows that the number of female respondents was higher compared to male respondents. Moreover, the number of respondents from Kulliyyah of Allied Health Sciences was 86 respondents (44.3 %), followed by Science (52 respondents,

26.8 %), Pharmacy (24 respondents, 12.4 %), Medicine (17 respondents, 8.8 %), Nursing (11 respondents, 5.7 %) and Dentistry (4 respondents, 2.1 %). Kulliyyah of Allied Health Sciences was the majority faculty of the respondents while Kulliyyah of Dentistry was the minority. Besides, majority of the respondents were from Year 1 students (39.2 %) and the least was Year 5 students (2.1 %).

Difference of knowledge, attitude and practice on fast food consumption between normal and overweight/obese students.

There was no significant different in knowledge between normal BMI and overweight/obese students (p=0.340). Both groups are considered to have the same level of knowledge on fast food consumption. Besides, there was no difference in attitude between normal and overweight/obese students (p=0.706). The attitude level seems to be similar for both groups. Next, there was no difference in practice between normal and overweight/obese students (p=0.103).

Table 1 Summary table Independent t-test

Variable	Normal (n= 107)		Overweight/Obese (n= 87)		Mean differences (95 % CI)	t-statistics (df)	p-value
	Mean	SD	Mean	SD			
Knowledge	83.76	20.62	86.35	16.13	-2.5889	-.957	0.340
Attitude	60.88	16.19	61.74	15.48	-.8620	-.378	0.706
Practice	66.61	23.94	71.91	21.05	-5.3003	-1.640	0.103

In Table 2, the frequency and percentage for low and high knowledge regarding fast food consumption is shown. For normal body mass index group, there were 12 respondents (11.2 %) with low level of knowledge regarding the fast food consumption. While 95 respondents (88.8 %) obtained high level of knowledge regarding fast food consumption. Besides, for overweight and obese group, 4 respondents (4.6 %) obtained low level of knowledge while 83 respondents (95.4 %) had high level of knowledge. To summarize, both groups were having high level of knowledge regarding the fast food consumption.

Table 2 Frequency and percentage for low and high knowledge regarding fast food consumption

	BMI Status n (%)	
	Normal	Overweight/Obese
Knowledge		
Low	12 (11.2 %)	4 (4.6 %)
High	95 (88.8 %)	83 (95.4 %)
Total	107 (100.0 %)	87 (100.0 %)

*Descriptive analysis

In Table 3, the number of respondents for attitude level among both normal and overweight/obese students is shown. For normal body mass index group, there were 35 respondents (32.7 %) obtained negative attitude through all the questions. Moreover, 72 respondents (67.3 %) were having positive attitude. It shows that most of the normal weight respondents were having positive attitude toward the fast food consumption. Apart from that, there were 26 respondents (29.9 %) with negative attitude and 61 respondents (70.1 %) with positive attitude. For comparison between normal and overweight/obese students, both groups had higher percentage in positive attitude compared to negative attitude.

Table 3 Frequency and percentage for positive and negative attitude regarding fast food consumption

	BMI Status n (%)	
	Normal	Overweight/Obese
Attitude		
Positive	35 (32.7 %)	26 (29.9 %)
Negative	72 (67.3 %)	61 (70.1 %)
Total	107 (100.0 %)	87 (100.0 %)

*Descriptive analysis

In Table 4, the frequency and percentage for high and low level of practice is shown. For normal BMI, there were 83 respondents (77.6 %) whose obtained the low level of practice, while for overweight/obese students, there were 70 respondents (80.5 %). The percentage for low practice among overweight/obese students were relatively higher compared to normal body mass index. Moreover, there were 24 numbers of respondents (22.4 %) of high fast food practice among normal BMI students. In contrast, for overweight/obese students, there were 17 respondents (19.5 %). The percentage for high practice level among normal students were slightly higher compared to overweight/obese students. However, both groups were having low practice on fast food consumption.

Table 4 Frequency and percentage for low and high practice regarding fast food consumption

	BMI Status n (%)	
	Normal	Overweight/Obese
Practice Low	83 (77.6 %)	70 (80.5 %)
High	24 (22.4 %)	17 (19.5 %)
Total	107 (100.0 %)	87 (100.0 %)

*Descriptive analysis

Correlation between knowledge and attitude

Table 5 represent the correlation test between knowledge and attitude for both groups of respondents. P-value is 0.461 which is more than the significant level 0.05. Hence, we fail to reject the null hypothesis. There is no significant relationship between knowledge and attitude on fast food consumption. The value of r is 0.053.

Table 5 Pearson correlation test between knowledge and attitude

	n	Knowledge	
		r	p-value
Attitude	194	0.053	0.461

r=Pearson's correlation

Correlation between knowledge and practice

Result for correlation test between knowledge and practice is presented in Table 6. P-value for the correlation between knowledge and practice is 0.006. It is less than 0.05 significant level. Thus, the null hypothesis can be rejected. There is a significant correlation between knowledge and practice among normal and overweight/obese students. The value of r = 0.195 represented a weak positive correlation.

Table 6 Pearson correlation test between knowledge and practice

	n	Knowledge	
		r	p-value
Practice	194	0.195	0.006

r=Pearson's correlation

DISCUSSION

Knowledge

The study found that both normal and overweight students were having high level of knowledge regarding fast food consumption. It is because the respondents were from science-based students which particularly learned about the anatomy and side effects of dietary intake to the body. Hence, they were able to identify the effect of fast food consumption on the body health regardless there are normal weight or overweight/obese. Based on the study by Thamarai, Sivakumar and Ponniraivan (2015), medical students acknowledged on the consequences of unhealthy food intake to the body. In addition, according to Hoffmann and Lutz (2019), education is significantly associated with healthy lifestyle. Good knowledge influenced the person to be more alert in managing their life including their food intake. Thus, it shows that the health education-based study can influence the level of knowledge of the students.

Then, the hypothesis stated that normal weight students tended to have better knowledge level regarding fast food consumption compared to overweight/obese students was not met. The result stated for the independent t-test showed the p-value = 0.340 which is more than the significant level, 0.05. Hence, there was no significant difference in the knowledge between normal and overweight/obese students. Next, mean and standard deviation of knowledge for normal and overweight/obese respondents were 83.76 (20.62) and 86.351 (16.13) respectively. Thus, it indicated that both groups had same level of knowledge on the fast food consumption. This result is supported by Karimy et al. (2019), which also stated that there is no difference in the knowledge level on fast food consumption among mothers of normal weight and mothers of overweight/obese children. This previous study was different in the population, but it may be relevant to be the evidence for this current study since there is no study found regarding the difference of knowledge level between normal weight and overweight/obese students on fast food consumption. Furthermore, according to Brien and Davies (2006), there was no significant correlation between nutrition knowledge and BMI. Both normal weight and overweight/obese had approximate level of knowledge. Self-learning was one of the factors on why overweight/obese people do acknowledge the consequences of unhealthy behaviors. Plus, the existence of social media helps anyone to gain the knowledge regardless their BMI status.

Attitude

In addition, the hypothesis stated that normal weight students have better attitude than overweight/obese was rejected since the p-value = 0.706 which is > 0.05. This finding indicated that there is no significant difference in terms of attitude between normal and overweight/obese students. Both groups have a similar level of

attitude which is positive attitude. The meaning of positive attitude refers to the negative beliefs on fast food consumption. Most of the respondents agreed that the disadvantages of fast food outweighed the benefit. This finding was different with the result of a study by Karimy et al. (2019) which stated that the attitude level of mother with normal weight children was higher compared to the mother of overweight/obese children. However, it can be further supported by Marty et al. (2017) which stated that there is no difference in preferring any food group between normal and overweight/obese children. They closely shared the same attitude level. Plus, overweight/obese students shown that they were expressly more nutrition-focused compared to normal weight students.

Practice

Moreover, p-value for practice is equal to 0.103 which is more than 0.05. It represented that the level of practice for normal and overweight students were in the similar level and there is no significant difference. The result was contradicted with the previous study by Abraham et al. (2018), which stated that the practice level of overweight/obese students were higher compared to normal weight students. However, it different with the result obtained from the study by D'Addesa et al. (2010) which stated that normal weight adolescents tend to eat more food compared to overweight/obese adolescents. However, at the same time this group also did more physical activity. Thus, the excessive input of energy can be balanced through this physical activity.

Correlation between knowledge and attitude

Furthermore, for the correlation test between knowledge and attitude, the result obtained for p-value was 0.461 which is more than 0.05. Thus, there is no significant relationship between the level of knowledge and attitude. It is different with the finding from the previous study by Choi (2007) which stated that the level of knowledge was positively associated with the dietary attitude level. Moreover, it is also contradicted with the study by Shabanian et al. (2018) which found that the attitude scores of the students increased after improving the knowledge level through education. Apart from that, the result for this current study also different with the study by Allen et al. (2014). Allen et al. (2014) said that higher level of knowledge through education increased the attitude level of the students. In addition, the result for this study is also different with the previous study by Min et al. (2018) which stated that nutritional knowledge can influence the Americans' perception. Overall, the finding for this current study is different with the other previous studies. The reason might be due to the students are in denial stage that fast food consumption is unhealthy. Or their addiction to the fast food influenced the negative attitude even they have high level of knowledge regarding the fast food consumption. Plus, peer pressure might be one of the reasons towards the negative

attitude. In order to feel accepted by friends, they choose to eat same as their friends, for example fast food.

Correlation between knowledge and practice

Besides, the finding of correlation between knowledge and practice was presented and the value of p was 0.006. It was less than the significant level 0.05. Hence, there is a significant correlation between the knowledge and practice. High level of knowledge influenced the low intake of fast food among the students. This finding was different with the study by Onurlubas and Yilmaz (2013) which stated that 97.4 % of students continued to consume fast food regardless their high knowledge on fast foods consequences. However, it is supported by Nani (2016) which stated that better nutrition knowledge influenced the college students to choose the better food choices. It can be further supported by Parmenter et al. (2000); in which the researchers mentioned there was an association between knowledge and practice on healthy eating. It means that better knowledge regarding food intake influenced the practice of food intake of an individual. Besides, Kolodinsky et al. (2017) also stated that nutritional knowledge influenced the food choices. Thus, by increasing the level of knowledge, the low practice on fast food consumption can be achieved. Knowledge level can be increased by implementing educational programs related to the side effects of fast food consumption. It can be supported by Shabanian et al. (2018) which declared the educational program is one of the efficient strategies to reduce the intake of fast food. Moreover, Khalaj and Mohammaddi Zeidi (2006) also said that the level of knowledge and practice improved after the educational program is completed.

CONCLUSIONS

For the conclusion, the knowledge, attitude and practice level on fast food consumption among normal weight and overweight/obese students were not significantly different. Next, both groups had positive level of attitude towards the fast food consumption which means that majority of them were aware and agree that the fast food consumption can lead to health problems. For practice, normal and overweight/obese students had low level of practice on the fast food. In addition, the level of knowledge was not having any relationship with the level of attitude. However, there is a significant correlation between the knowledge and practice which indicated that high level of knowledge influenced the low intake of fast food. For future research, it is recommended to include open-ended questions in order to identify the root cause of fast food intake and to collect the opinion regarding knowledge, attitude and practice. This study also has limitations. Firstly, the study on the knowledge, attitude and practice on fast food consumption is limited in sources especially among young adult and university students. It is because most of

the KAP study on fast food focused on school children and adolescents instead of university students, adults and older. It is due to the rising childhood and adolescent obesity rate in Malaysia (Hua, 2014) and also worldwide as stated by the World Health Organization. Plus, the rise of the rate associated with fast food as an obesogenic factor (Pell et al., 2016). Thus, it is difficult to find evidence-based to support this study's finding which is related to university students. For the strength of the study, the questionnaire provided only required less time (below than 10 minutes) for respondents to answer all the questions.

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